

LilyPond

The music typesetter

LilyPond Regression Tests

The LilyPond development team

Introduction

This document presents proofs for LilyPond dev. When the text corresponds with the shown notation, we consider LilyPond Officially BugFree (tm). This document is intended for finding bugs and for documenting bugfixes.

In the web version of this document, you can click on the file name or figure for each example to see the corresponding input file.

TODO: order of tests (file names!), test only one feature per test. Smaller and neater tests.

Regression test cases

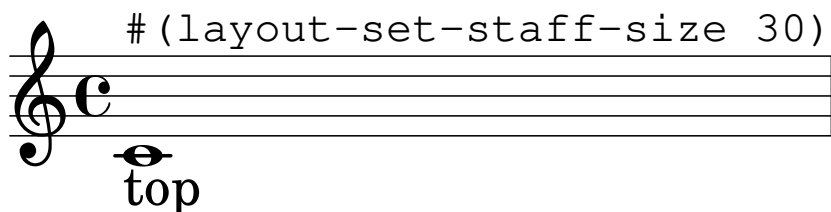
`to-staff-space` produces identical output for different settings of `set-global-staff-size` and `layout-set-staff-size`.

For the tests we use `\abs-vspace`, which in turn calls `to-staff-space`.

`absolute-dimensions-size10-layout30.ly`



bottom

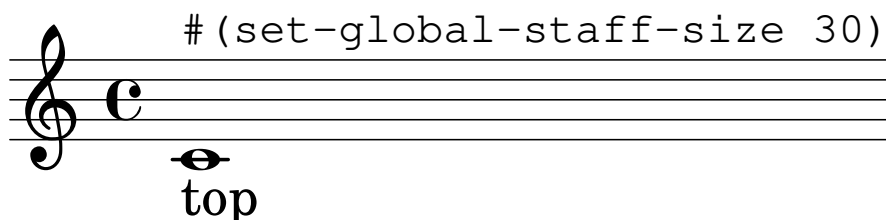


bottom

`to-staff-space` produces identical output for different settings of `set-global-staff-size` and `layout-set-staff-size`.

For the tests we use `\abs-vspace`, which in turn calls `to-staff-space`.

`absolute-dimensions-size30-layout10.ly`



bottom



bottom

Natural signs don't displace accents.

accidental-accent.ly



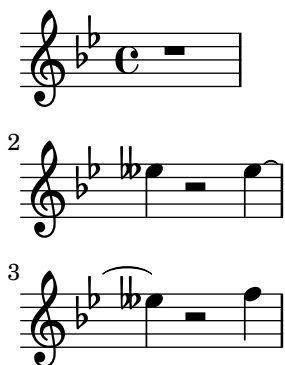
Accidentals are available in different ancient styles, which all are collected here.

accidental-ancient.ly



When a tie is broken, the spacing engine must consider the accidental after the line break. The second and third lines should have the same note spacing.

accidental-broken-tie-spacing.ly



Test if cautionary accidentals have the same horizontal spacing correction as regular accidentals.

accidental-cautionary-horizontal-spacing.ly



Test if Scripts are placed over notes with accidentals the same way as over notes with cautionary accidentals.

accidental-cautionary-script-placement.ly



Cautionary accidentals may be indicated using either parentheses (default) or smaller accidentals.

accidental-cautionary.ly



Accidentals are invalidated at clef changes.

accidental-clef-change.ly



accidentals avoid stems of other notes too.

accidental-collision.ly



Several automatic accidental rules aim to reproduce contemporary music notation practices:

- 'dodecaphonic style prints accidentals on every note (including naturals)
- 'neo-modern style prints accidentals on every note (not including naturals), except when a note is immediately repeated
- 'neo-modern-cautionary style acts like neo-modern, adding cautionary parentheses around accidentals.
- 'teaching prints accidentals normally, but adds cautionary accidentals when an accidental is already included in the key signature.

Both scores should show the same accidentals.

accidental-contemporary.ly







gⁿ g[#] g^b gⁿ

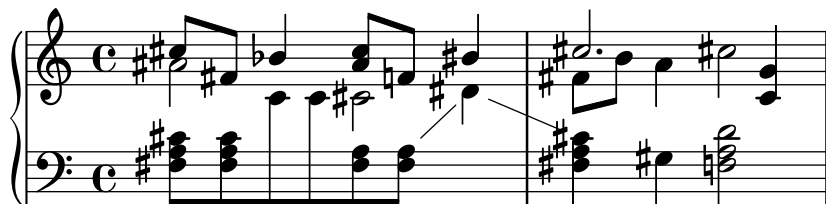
Test all available accidental styles.

accidental-styles.ly

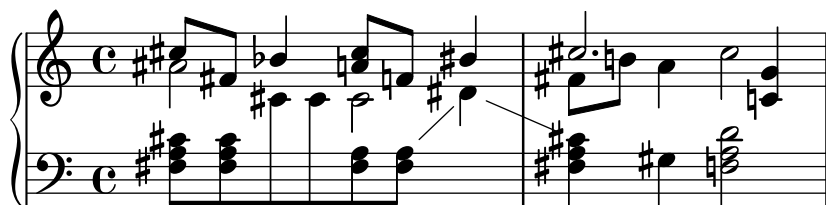
default



voice



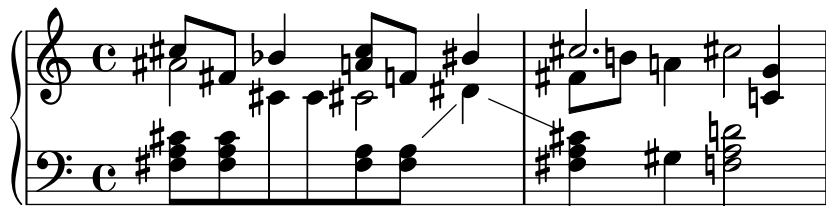
modern



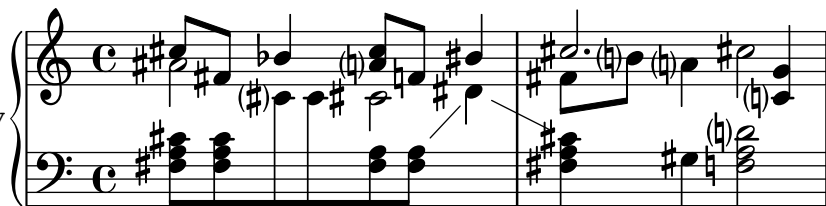
modern-cautionary



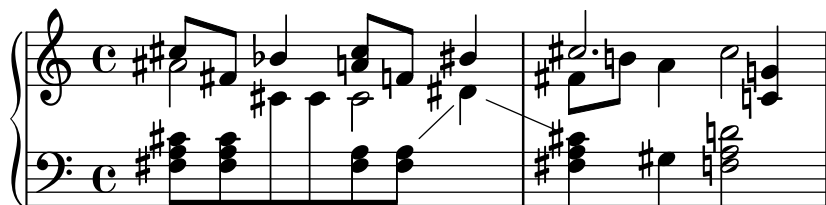
modern-voice



modern-voice-cautionary



piano



piano-cautionary

Musical score for piano-cautionary style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef starts with a quarter note G4, followed by eighth notes A4, B4, and C5. The bass clef accompaniment features a steady eighth-note pattern in the right hand and a more complex pattern in the left hand, including chords and single notes.

choral

Musical score for choral style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

choral-cautionary

Musical score for choral-cautionary style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

neo-modern

Musical score for neo-modern style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

neo-modern-cautionary

Musical score for neo-modern-cautionary style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

neo-modern-voice

Musical score for neo-modern-voice style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

neo-modern-voice-cautionary

Musical score for neo-modern-voice-cautionary style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

dodecaphonic

Musical score for dodecaphonic style. It consists of a grand staff with a treble clef on the upper staff and a bass clef on the lower staff. The time signature is common time (C). The key signature has two sharps (F# and C#). The melody in the treble clef is similar to the piano-cautionary style. The bass clef accompaniment is more rhythmic and chordal, with a strong emphasis on the right hand's eighth-note pattern.

dodecaphonic-no-repeat

dodecaphonic-first

teaching

no-reset

forget

setting the `suggestAccidentals` will print accidentals vertically relative to the note. This is useful for denoting Musica Ficta.

`accidental-suggestions.ly`

The second and third notes should not get accidentals, because they are tied to a note. However, an accidental is present if the line is broken at the tie, which happens for the G sharp.

The presence of an accidental after a broken tie can be overridden.

`accidental-tie.ly`

3 g# f f f f# g#

6 g#

Space is allowed for the actual size of accidentals on tied notes.

accidental-unbroken-tie-spacing.ly

4

This shows how modern cross voice auto cautionary accidentals are handled. The first two fisses get accidentals because they belong to different voices. The first f gets cautionary natural because of previous measure. The last f gets cautionary natural because fis was only in the other voice.

accidental-voice.ly

f# a f f# a

c f# f c f

Accidentals work: the second note does not get a sharp. The third and fourth show forced and cautionary accidentals.

accidental.ly

force

d# d# d# d#

Accordion register symbols are available in the (lily accreg) module as \markup and as standalone music events.

accreg.ly

`\add-grace-property` can be used at various context levels in order to override grace properties. Overrides in different parallel contexts are independent.

`add-grace-property.ly`

`add-stem-support` can be removed or implemented only for beamed notes.

`add-stem-support.ly`

This is a test of combining post-events with various constructs. Problems are reported on the stderr of this run; there are no images produced.

`added-post-event-test.ly`

`\addlyrics` should be able to attach itself to named and unnamed `Voice` constructs. For all tests where this succeeds, the noteheads will be red.

`addlyrics-existing-context.ly`

`\addlyrics` may get used on a `Staff` context and will then consider all note events created below it for synchronization.

`addlyrics-to-staff-context.ly`

Life is love, live life.
No more let sins and sorrows grow.

Delayed post-events and other types of music can be created with `\after` and `\afterGrace`.
`after.ly`

one four
two
three

A warning is emitted when the context specified in `alignAboveContext` or `alignBelowContext` does not exist, such as when the context having the `alignAboveContext` or `alignBelowContext` property is created before the context that this property refers to.

`alignment-order-unfound-context.ly`

Newly created contexts can be inserted anywhere in the vertical alignment.

`alignment-order.ly`

below first staff

this above staff

6

staff last

Alignments may be changed per system by setting `alignment-distances` in the `line-break-system-details` property

`alignment-vertical-manual-setting.ly`

System 1: Three staves, each with a treble clef and a common time signature (C). Each staff contains a single whole note on the second line (G4).

System 2: Three staves, each with a treble clef. The top two staves are grouped by a bracket with a '2' above it, containing two whole notes (G4 and A4). The bottom staff contains a single whole note (G4).

System 3: Three staves, each with a treble clef. The top staff has a bracket with a '3' above it over a whole note (G4). The bottom two staves are grouped by a bracket with a '3' above them, containing two whole notes (G4 and A4).

By default, certain staff contexts for ancient music do not forbid line breaks between bar lines. The output should have a break at a point without a bar line.

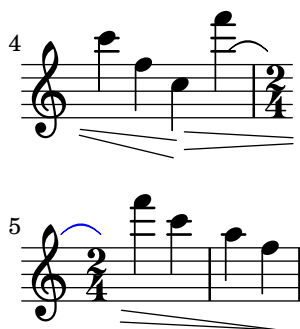
`allow-break-ancient.ly`

The `\allowBreak` command inserts a break point regardless of bar lines, unbreakable spanners, etc. This test should have a break in the middle of a measure.

`allow-break.ly`

The command `\alterBroken` may be used to override the pieces of a broken spanner independently. The following example demonstrates its usage with a variety of data types.

`alter-broken.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`alteration-glyphs.ly`

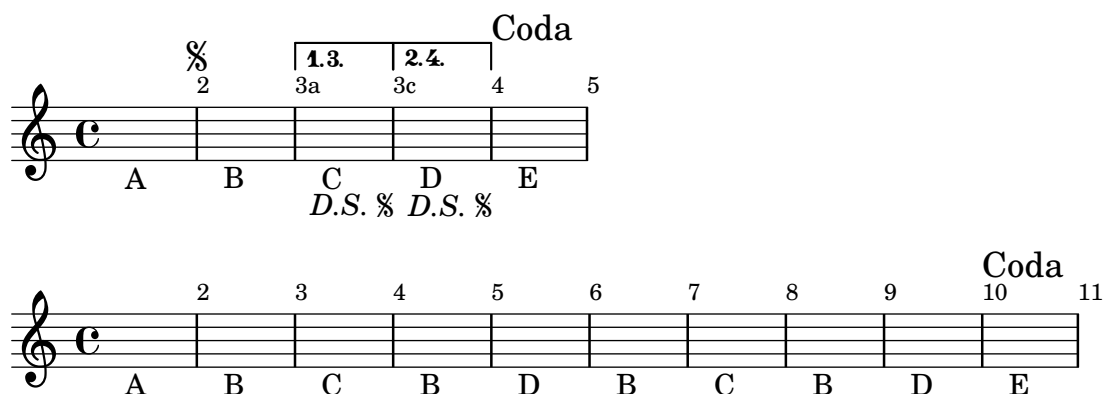
All \sharp



This case places `\alternative` within the body of a `\repeat segno`, with the alternatives at the end of the repeated section, but with volta numbers out of order. Alternative bar numbering is enabled.

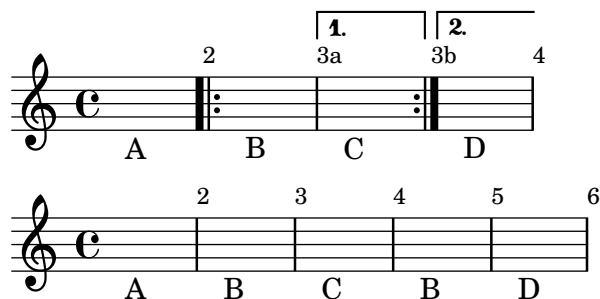
The alternatives are notated with brackets rather than coda signs. Repetition is notated with a segno and simplified *D.S.* instructions that have no return counts or section labels. Alternative bar numbers appear.

`alternative-end-segno.ly`



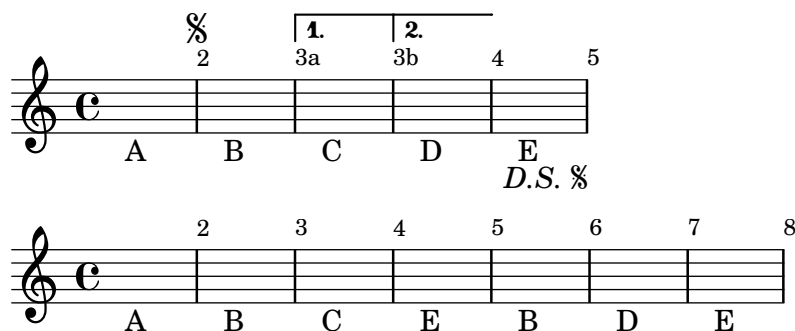
This case places `\alternative` within the body of a `\repeat volta`, with the alternatives at the end of the repeated section. The alternatives receive volta brackets, bar numbers, and ending repeat bar lines. They unfold as expected.

`alternative-end.ly`



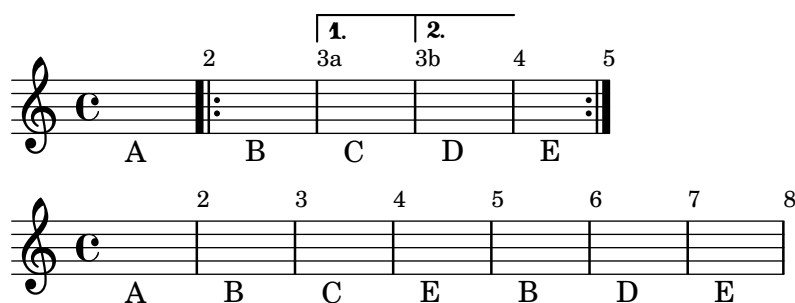
This case places `\alternative` within the body of a `\repeat segno`, neither at the start nor the end of the section. The alternatives receive volta brackets and bar numbers, but no coda marks or repeat bar lines. They unfold as expected.

`alternative-middle-segno.ly`



This case places `\alternative` within the body of a `\repeat volta`, neither at the start nor the end of the section. The alternatives receive volta brackets and bar numbers, but no repeat bar lines. They unfold as expected.

`alternative-middle.ly`



A whole-measure rest starting in a volta alternative is placed correctly.

`alternative-mmrest.ly`



This case nests one `\alternative` within another at the tail end of a `\repeat segno`. Alternative bar numbering is enabled.

The outer alternative receives a coda mark, no volta bracket, and normal bar numbering.

The inner alternative receives a volta bracket. Alternative bar numbering is used because it is the outermost volta bracket. The bracket communicates the return count, so the return count is omitted from the *D.C.* instruction to avoid redundancy.

The music unfolds to ABC ABC AD.

alternative-nest-end-end-segno1.ly

This case nests one `\alternative` within another at the tail end of a `\repeat segno`. Alternative bar numbering is enabled.

The outer alternative receives a coda mark, no volta bracket, and normal bar numbering.

The inner alternative receives volta brackets. Alternative bar numbering is used because they are the outermost volta brackets.

The music unfolds to ABC ABD AE.

alternative-nest-end-end-segno2.ly

This case nests one `\alternative` within another at the tail end of a `\repeat volta`. Alternative bar numbering is enabled.

The outer alternative receives a volta bracket and alternative bar numbering.

The inner alternative receives volta brackets and does not interrupt the bar numbering of the outer alternative.

The music unfolds to AB ACDE ACDF.

alternative-nest-end-end.ly

`\alternative` music can be assigned to a variable and used in multiple places, even with different repeat counts.

`alternative-reuse.ly`

This case places `\alternative` within the body of a `\repeat segno`, with the alternatives starting at the start of the repeated section and ending before the end of the section. The alternatives receive volta brackets and bar numbers, but no coda marks or ending repeat bar lines. They unfold as expected.

`alternative-start-segno.ly`

This case places `\alternative` within the body of a `\repeat volta`, with the alternatives starting at the start of the repeated section and ending before the end of the section. The alternatives receive volta brackets and bar numbers, but no ending repeat bar lines. They unfold as expected.

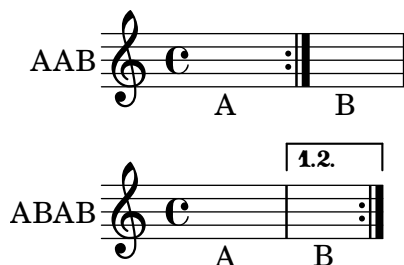
`alternative-start.ly`

A score with `\alternative` outside of `\repeat` is processed gracefully. The visual output is not important.

`alternative-top-level.ly`

Alternative music in a variable does not automatically attach to preceding `\repeat`, but `\alternative` attaches it.

`alternative-trailing-var.ly`



Ambitus for pieces beginning with `\cueDuringWithClef`.

Cues are often used at or near the beginning of a piece. Furthermore, a cue is frequently in a different clef, so the `\cueDuringWithClef` command is handy. Using this command at the beginning of a piece should leave the ambitus displayed based on the main clef.

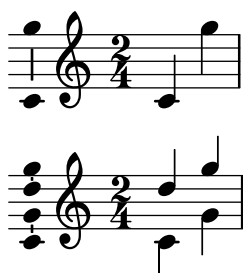
An `Ambitus_engraver` should ignore notes in `CueVoice` contexts.

`ambitus-cue.ly`



The gaps between an `AmbitusLine` and its note heads are set by the `gap` property. By default, `gap` is a function that reduces the gap for small intervals (e.g. a fourth), so that the line remains visible.

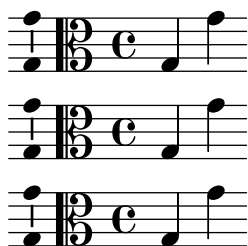
`ambitus-gap.ly`



Ambitus engraver should obey `middleCOffset`, `middleCPosition`, and the `staffLineLayoutFunction`.

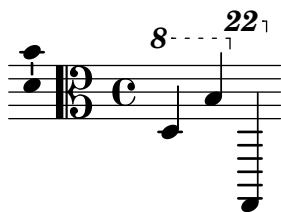
All three staves should look the same.

`ambitus-middleC.ly`



A voice with `\ottava` shouldn't confuse ambitus.

`ambitus-ottava.ly`



Adding ambitus to percussion contexts does not cause crashes, since the `Ambitus_engraver` will only acknowledge pitched note heads.

`ambitus-percussion-staves.ly`



Ambitus use actual pitch not lexicographic ordering.

`ambitus-pitch-ordering.ly`



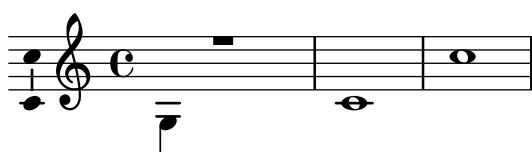
Ambitus can be moved to various positions with correct horizontal spacing in all cases.

`ambitus-position.ly`



A voice with `Ambitus_engraver` that starts with a skip while another voice starts with a note does not cause a programming error.

`ambitus-skip-at-start.ly`



Ambitus accidentals (whether present or not) are ignored by the slur engravers.

`ambitus-slur.ly`



A `\Voice` should be able to contain both an `Ambitus_engraver` and a `Mensural_ligature_engraver` without segfaulting.

`ambitus-with-ligature.ly`



Ambitus indicate pitch ranges for voices.

Accidentals only show up if they're not part of key signature. `AmbitusNoteHead` grobs also have ledger lines. The noteheads are printed in overstrike, so there's only one visible; the accidentals are prevented from colliding.

`ambitus.ly`



Footnotes and balloons also work on system start delimiters.

`annotate-system-start-delimiter.ly`

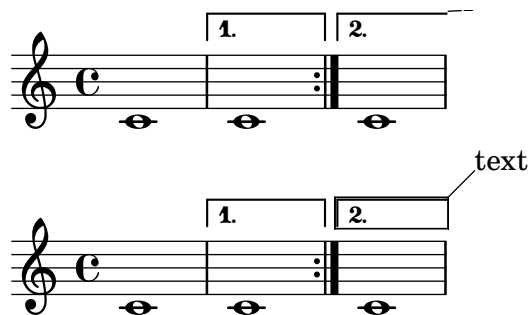


¹note

LilyPond v2.25.16

Footnotes and balloons also work on volta brackets running to the end of the piece.

`annotate-volta-spanner-end.ly`



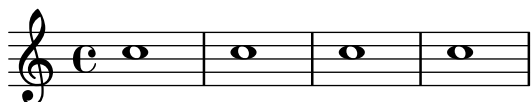
¹note

LilyPond v2.25.16

With `\applyContext`, `\properties` can be modified procedurally. Applications include: checking bar numbers, smart octavation.

This example prints a bar-number during processing on stdout.

`apply-context.ly`



The `\applyOutput` expression is the most flexible way to tune properties for individual grobs. Here, the layout of a note head is changed depending on its vertical position.

`apply-output.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`arabic-accidental-glyphs.ly`

All ♭



♭

A square bracket on the left indicates that the player should not arpeggiate the chord.

`arpeggio-bracket.ly`



Arpeggio stays clear of accidentals and flipped note heads.

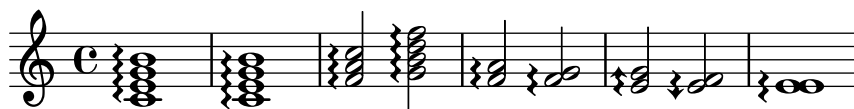
arpeggio-collision.ly



Arpeggios do not overshoot the highest note head. The first chord in this example simulates overshoot using 'positions' for comparison with the correct behavior.

Exceptions are intervals smaller than a third; we ensure to have at least two wiggles (or a wiggle plus an arrow head).

arpeggio-no-overshoot.ly



Arpeggios still work in the absence of a staff-symbol.

arpeggio-no-staff-symbol.ly



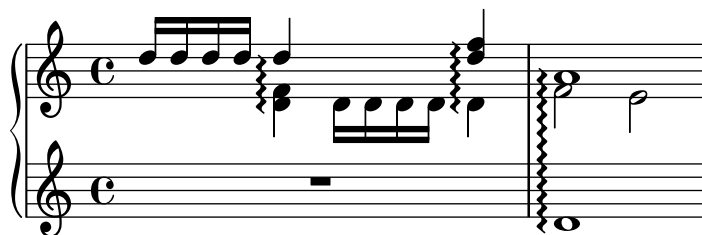
There is a variant of the arpeggio sign that uses a 'vertical slur' instead of the wiggle.

arpeggio-parenthesis.ly



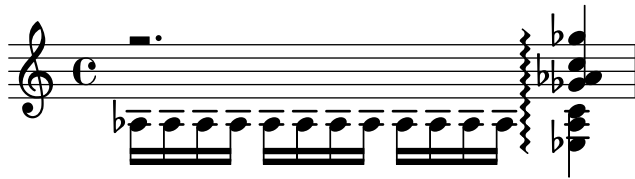
Cross-staff or -voice arpeggios which include single note heads as anchors do not collide with previous note heads or prefatory material.

arpeggio-span-collision.ly



Span arpeggios that are not cross-staff do not have horizontal spacing problems.

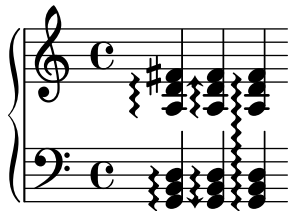
arpeggio-span-one-staff-collision.ly



Span arpeggios within one staff also work
[arpeggio-span-one-staff.ly](#)



Arpeggios are supported, both cross-staff and broken single staff.
[arpeggio.ly](#)



The snappizzicato articulation adds a snappizzicato sign to the note.
[articulation-snappizzicato.ly](#)



Augmentum dots are accounted for in horizontal spacing.
[augmentum.ly](#)



No auto beams will be put over (manual) repeat bars.
[auto-beam-bar.ly](#)



Autobeamer remembers `subdivideBeams` and other beaming pattern related functions at the start of an autobeam.

[auto-beam-beaming-override.ly](#)



Automatic beams are ended early if a breathing sign is encountered.
[auto-beam-breathe.ly](#)



`beamExceptions` is used to modify the automatic beaming for certain durations; the expected grouping is given after the note duration.

`auto-beam-exceptions.ly`

The autobeamer may be switched off for a single note with `\noBeam`.

`auto-beam-no-beam.ly`



Beamable notes do not extend a staff. The staff with the note should end immediately after the note.

`auto-beam-ossia.ly`

Grace notes at the start of a partial measure do not break autobeaming.

`auto-beam-partial-grace.ly`

Autobeaming works properly in partial measures.

`auto-beam-partial.ly`



In 4/4 time, the first and second and third and fourth beats should be beamed together if only eighth notes are involved. If any shorter notes are included, each beat should be beamed separately.

auto-beam-recheck.ly



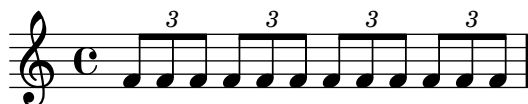
Automatic beaming is also done on triplets.

auto-beam-triplet.ly



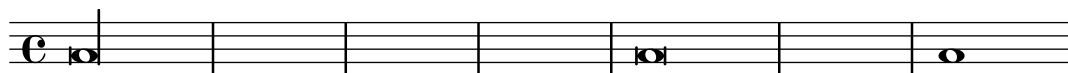
Tuplet-spanner should not put (visible) brackets on beams even if they're auto generated.

auto-beam-tuplets.ly



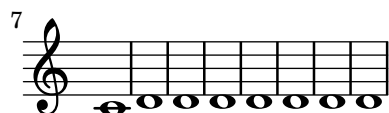
Beams are placed automatically; the last measure should have a single beam.

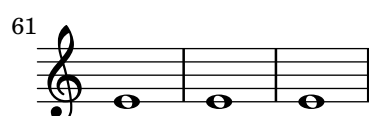
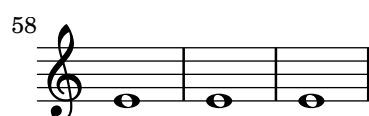
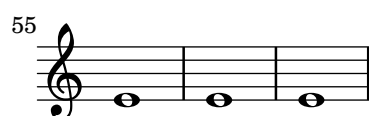
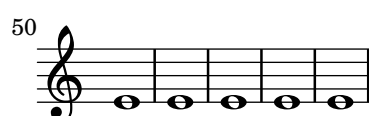
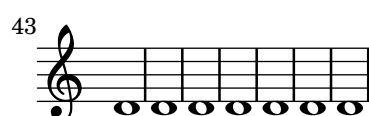
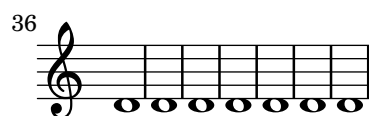
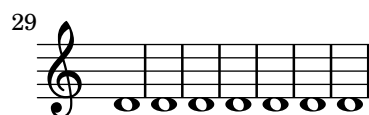
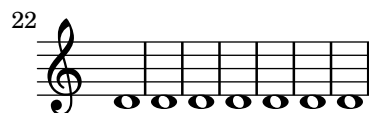
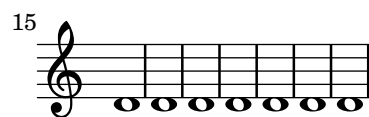
auto-beam.ly



\autoBreaksOff disables automatic line breaks and page breaks. \autoBreaksOn reenables both of them.

auto-breaks.ly





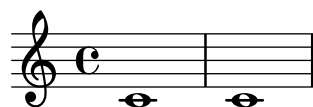
Auto change piano staff switches voices between up and down staves automatically; rests are switched along with the coming note. When central C is reached, staff is not yet switched (by default).

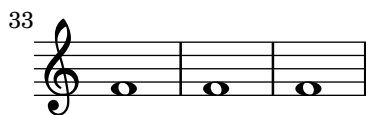
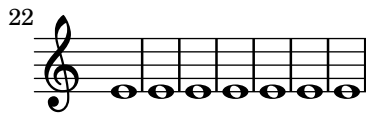
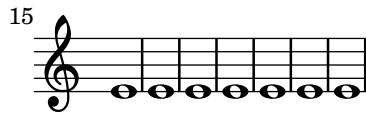
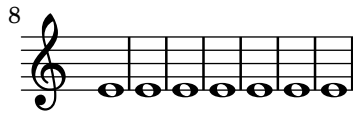
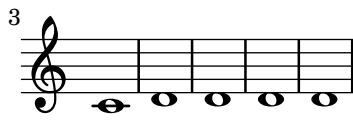
`auto-change.ly`



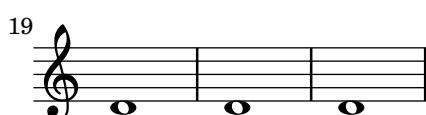
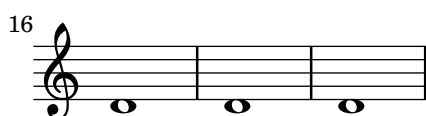
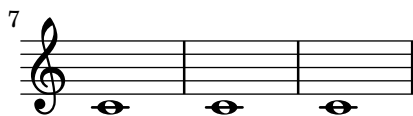
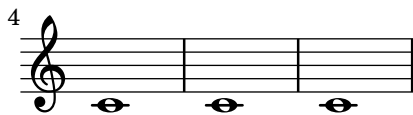
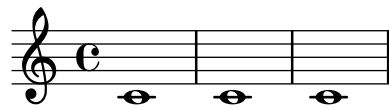
`\autoLineBreaksOff` can be used to turn off automatic line breaking. `\autoLineBreaksOn` reenables it.

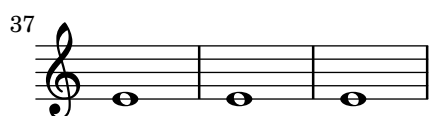
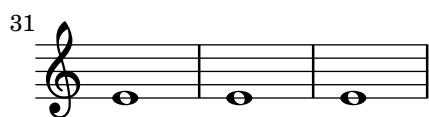
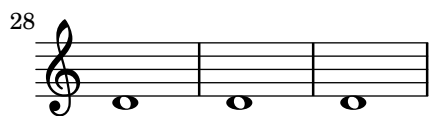
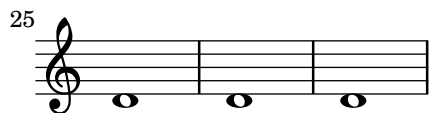
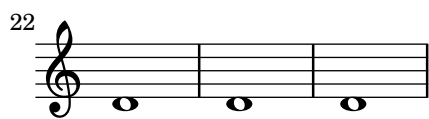
`auto-line-breaks.ly`





`\autoPageBreaksOff` turns off automatic page breaking; `\autoPageBreaksOn` reenables it.
auto-page-breaks.ly





Beaming in 3/4 time has special treatment. By default six eighth notes are beamed in one. Beams that would imply 6/8 time may be avoided with `beamHalfMeasure = ##f`. When the beaming is changed, beams should start at the beginning of the measure.

autobeam-3-4-rules.ly

Prevent beams that imply 6/8 time Or allow them

but these beams are okay

7 Beam to the beat Override to beam groups of 3 eighth notes

`\noBeam` should terminate an autobeam, even if it's not a recommended place for stopping a beam. In this example, the first three eighth notes should be beamed.

autobeam-nobeam.ly

Default autobeam settings have been set for a number of time signatures. Each score shows the desired beaming

autobeam-show-defaults.ly

Beams should end at 4/8, 6/8, and 8/8

Beams should end at 2/8 and 4/8

Beams should end at 1/8 and 2/8

Beams should end at 1/16 and 2/16

Beams should end at 4/8, 8/8, 10/8 and 12/8

1/8 beams should end at 3/4; smaller beams should end at 1/4, 2/4, and 3/4

Beams should end at 3/8

Beams should end at 1/16, 2/16, and 3/16

Beams should end at 4/8, 8/8, 12/8, 14/8, and 16/8

Beams should end at 4/8, 6/8, and 8/8

Beams should end at 1/16, 2/16, 3/16, and 4/16

Beams should end at 2/8 and 4/8

Beams should end at 6/8, 8/8, 10/8, and 12/8

Beams should end at 3/8 and 6/8

Beams should end at 6/8, 12/8, 14/8, 16/8, and 18/8

Beams should end at 3/8, 6/8, and 9/8


Beams should end at 3/16, 6/16, and 9/16

Beams should end at 6/8, 12/8, 18/8, 20/8, 22/8, and 24/8


Beams should end at 3/8, 6/8, 9/8, and 12/8

2


1/8 beams should end at 6/16 and 12/16
Shorter beams should end at 3/16, 6/16, 9/16, and 12/16




Beams should end at 3/8 and 5/8



Beams should end at 3/8, 6/8, and 8/8



2



Autobeam rechecking works properly with tuplets. In the example, the first beat should be beamed completely together.

autobeam-tuplet-recheck.ly



This is a regression test for an `\autochange` scenario reported in issue 6575. The stem of the C should point down.

autochange-after-rest.ly



Other clefs for the autoChanger may be set. This works for implicitly created staves only. The first example should turn at b with soprano-clef in the upper Staff. The second example should turn at d' with alto-clef in the upper and tenor-clef in the lower Staff.

autochange-clefs.ly



Grace notes are placed on the appropriate staff.

autochange-inside-grace.ly



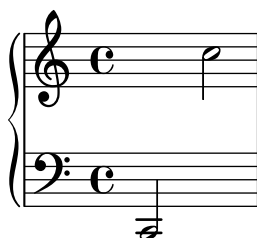
Music functions that scale durations also scale `\autoChange` decisions. The four measures should have identical notes.

autochange-inside-scale-durations.ly



`\keepWithTag` works with `\autoChange`.

autochange-keep-with-tag.ly



`\autoChange` needs to be given pitches in their final octaves, so if `\relative` is used it must be applied inside `\autoChange`. The pitches in `\autoChange` are unaffected by an outer `\relative`, so that the printed output shows the pitches that `\autoChange` used.

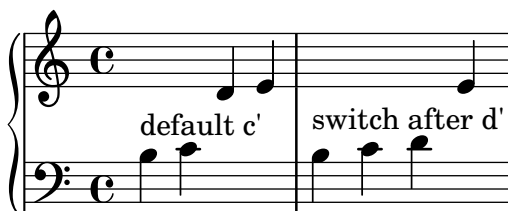
The expected output of this test is three identical measures.

autochange-relative.ly



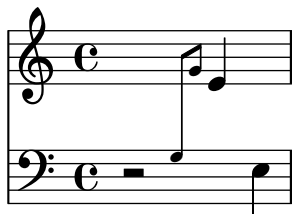
Other turning points for the autoChanger are possible.

autochange-turning-pitch.ly



Grace notes are placed on the appropriate staff.

`autochange-with-grace.ly`



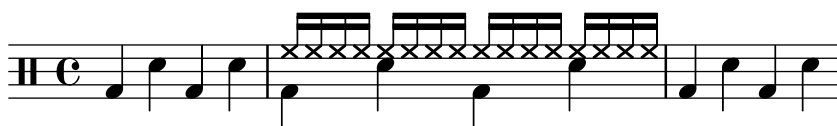
The bottom-level contexts in polyphony shorthand are allocated a context id in order of creation, starting with "1". This snippet will fail to compile if either voice has an invalid `context-id` string.

`automatic-polyphony-context-id.ly`



In a DrumStaff, automatic polyphony can be used without explicitly initializing separate voices.

`automatic-polyphony-drumstaff.ly`



In a TabStaff, automatic polyphony can be used without explicitly initializing separate voices.

`automatic-polyphony-tabstaff.ly`

The image shows a guitar tab staff in common time. The top staff is a standard musical staff with notes G4, A4, B4, and C5. The bottom staff is a guitar tab staff with fret numbers: 1, 1-3, 0-1, 1. The notes are marked with context IDs: '1' for G4, '2' for A4, '3' for B4, and '4' for C5.

Exercise all output functions

`backend-exercise.ly`

The image shows a piano score in common time. The top staff (treble clef) has a sequence of notes: G4, A4, B4, C5. The bottom staff (bass clef) has a sequence of notes: G3, A3, B3, C4. The notes are marked with context IDs: '1' for G4, '2' for A4, '3' for B4, '4' for C5, '5' for G3, '6' for A3, '7' for B3, and '8' for C4. The notes are connected by a horizontal line, indicating they are the same pitch class.

The Bärenreiter edition of the Cello Suites is the most beautifully typeset piece of music in our collection of music (we both own one. It is also lovely on French Horn). This piece does

not include articulation, but it does follow the same beaming and linebreaking as the printed edition. This is done in order to benchmark the quality of the LilyPond output.

As of lilypond 1.5.42, the spacing and beam quanting is almost identical.

There are two tweaks in this file: a line-break was forced before measure 25, we get back the linebreaking of Bärenreiter. The stem direction is forced in measure 24. The last beam of that measure is up in Bärenreiter because of context. We don't detect that yet.

Note that the Bärenreiter edition contains a few engraving mistakes. The second line begins with measure 6 (but prints 5). The |: half way in measure 13 has been forgotten.

Solo Cello Suite II

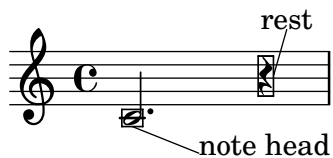
Johann Sebastian Bach (1685-1750)

Sarabande

The image displays the musical score for the Sarabande from the Solo Cello Suite II by Johann Sebastian Bach. The score is written in bass clef, 3/4 time, and B-flat major. It consists of six staves of music. The first staff begins with a treble clef and a key signature of one flat. The music features a slow, graceful melody with several trills (tr) and a repeat sign at measure 11. The second staff starts at measure 6, the third at measure 11, the fourth at measure 16, the fifth at measure 21, and the sixth at measure 25. The score concludes with a final measure marked with a '7'.

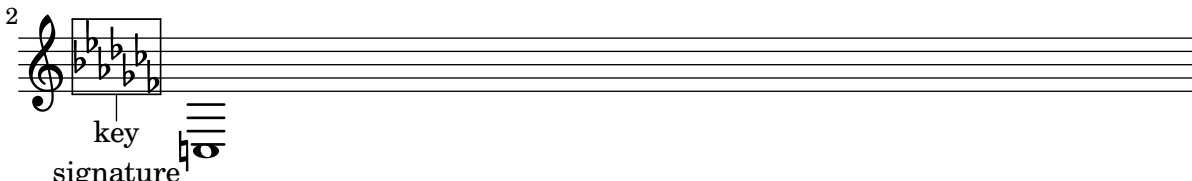
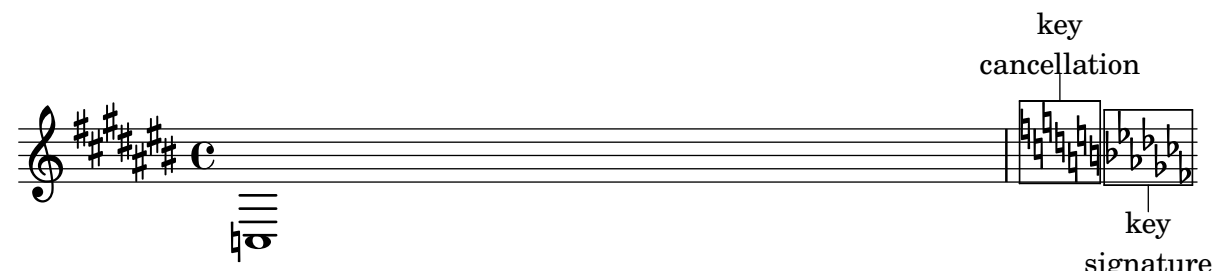
The alignment of a balloon text can be customized as well as the attachment point of the line connecting it to the frame.

balloon-attachments.ly



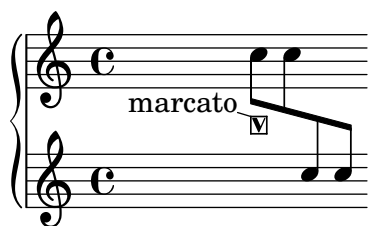
Balloons on breakable items are visible if and only if the item they annotate is visible.

balloon-breakable.ly



Balloons work on cross-staff grobs.

balloon-cross-staff.ly



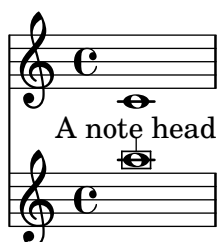
Balloons work on spanners that have no pure height.

balloon-empty-pure-height.ly



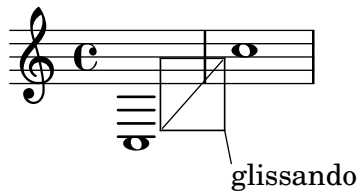
Balloons also reserve space vertically when the Balloon_engraver is in Score context.

balloon-engraver-score-spacing.ly



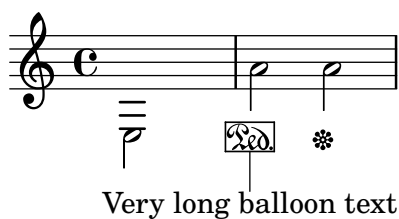
Balloons can be attached to glissandi.

balloon-glissando.ly



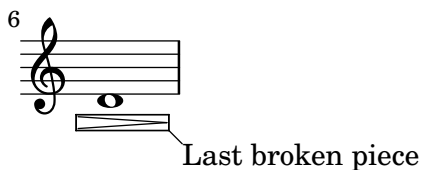
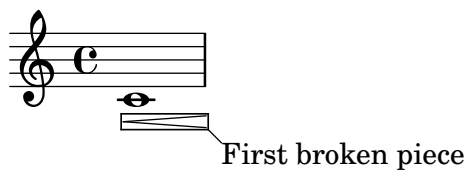
Outside-staff positioning correctly takes balloons into account.

balloon-outside-staff.ly



BalloonText supports the spanner-placement property.

balloon-spanner-placement.ly



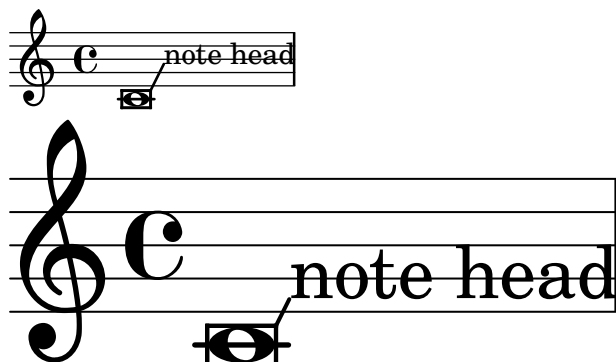
Balloons on spanners, such as slurs, are supported.

balloon-spanner.ly



The thickness of balloons scales with staff size.

balloon-staff-size.ly



LilyPond v2.25.16

Balloons work on stem tremoli.

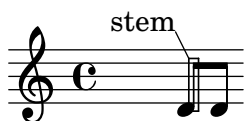
balloon-stem-tremolo.ly

StemTremolo



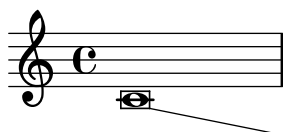
Balloons work on beamed stems.

balloon-stem.ly



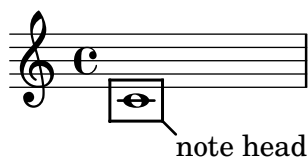
Stencils are copied before moved for Balloons instead of modified. In the test, the point-stencil in the second system should not inherit the extent from the null-markup in the first and the bar should be much shorter.

balloon-stencil.ly



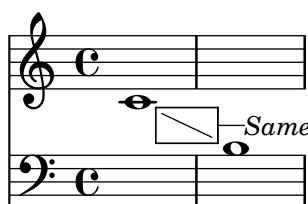
BalloonText has configurable thickness.

balloon-thickness.ly



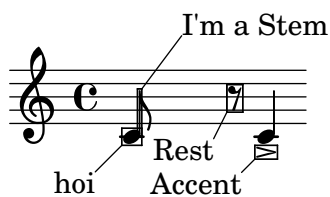
Balloons can be attached to voice followers.

balloon-voice-follower.ly



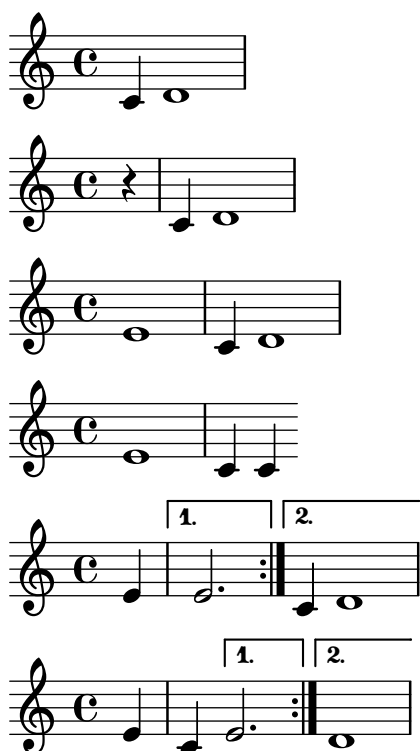
With balloon texts, objects in the output can be marked, with lines and explanatory text added.

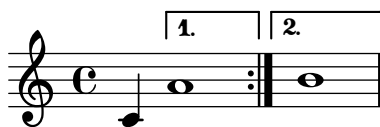
balloon.ly



Music between `\cadenzaOn` and `\cadenzaOff` does not count toward the length of a measure; however when a cadenza begins at a measure boundary, bar checks during or immediately after the cadenza do produce warnings. This test should run with expected warnings only.

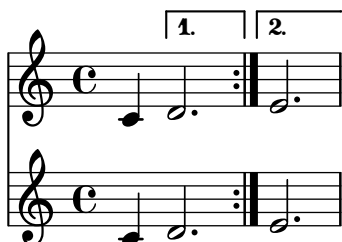
bar-check-after-cadenza-warn.ly





Simultaneous, valid bar checks at the end of volta-style repeat alternatives are not susceptible to false warnings. This test should run without warnings.

`bar-check-parallel-alternative-ok.ly`



The meaning of | is stored in the identifier "|".

`bar-check-redefine.ly`



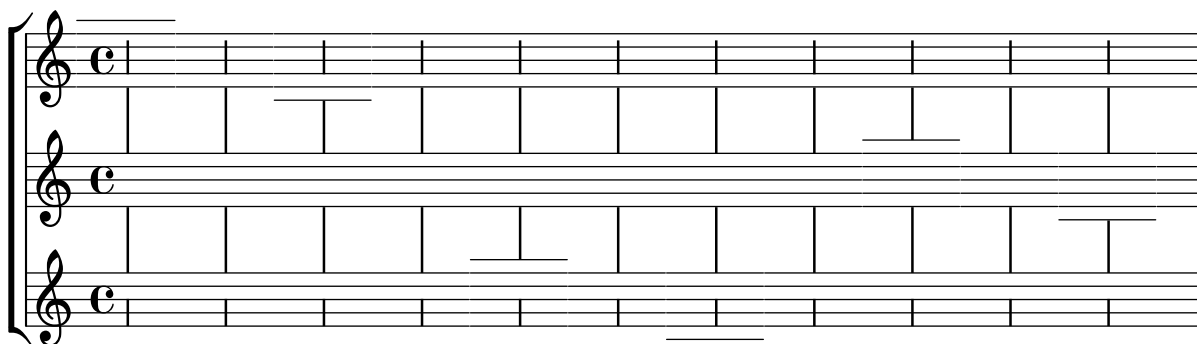
A bar check between two volta-style repeat alternatives which is not aligned with respect to either one produces a warning. This test should run with expected warnings only.

`bar-check-submeasure-alternative-warn.ly`



Bar line extent can be customised and the customised value must be respected when staff symbol is changed temporarily (e.g. to simulate ledger lines of renaissance prints and manuscripts); moreover, span bars should not enter the staves.

`bar-extent.ly`



13

A musical score system starting at measure 13. It consists of three staves. The top staff has a treble clef and a common time signature. The middle and bottom staves have bass clefs. The system contains 10 measures. Various bar lines are present, some with annotations above or below them, including horizontal lines and vertical ticks.

25

A musical score system starting at measure 25. It consists of three staves. The top staff has a treble clef and a common time signature. The middle and bottom staves have bass clefs. The system contains 10 measures. Various bar lines are present, some with annotations above or below them, including horizontal lines and vertical ticks.

`\defineBarLine` accepts annotations in the end-of-line glyph name that can be used to distinguish bar lines that should close a volta bracket from those that should not. Bracket 1 should end open and bracket 2 should end closed.

`bar-line-allow-volta-hook.ly`

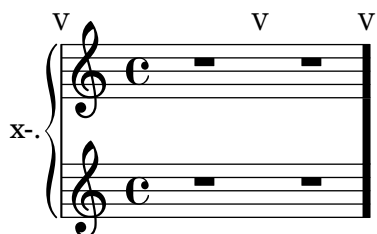
A musical score snippet on a single staff with a treble clef and common time signature. It shows two measures. The first measure is enclosed in a bracket labeled '1.' and the second measure is enclosed in a bracket labeled '2.'. The system ends with a double bar line and repeat dots.

Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for a caesura at a line break.

`bar-line-built-in-caesura-eol.ly`

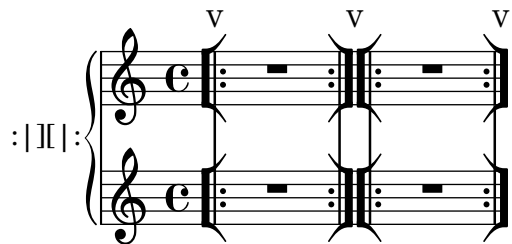
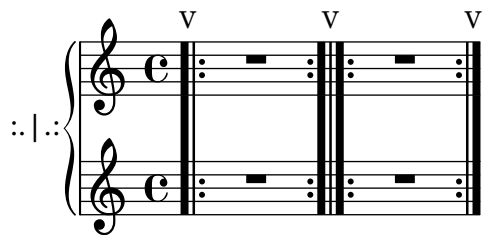
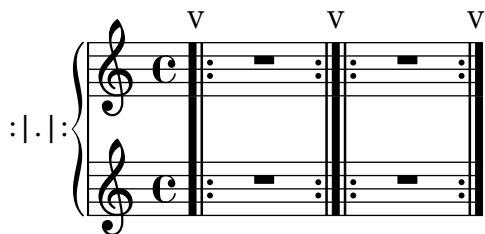
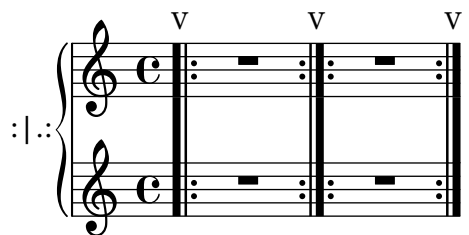
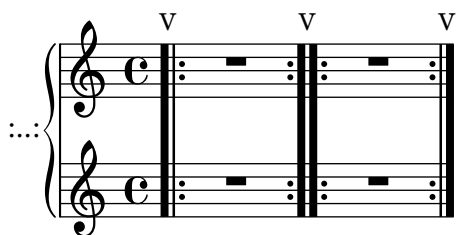
A musical score snippet showing two staves. The top staff has a treble clef and common time signature. The bottom staff has a bass clef and common time signature. The system is enclosed in a brace on the left labeled 'x-|'. Above the top staff, there are three measures, each with a 'v' above it. The first measure has a caesura symbol (a vertical line with a flag) at the beginning.

A musical score snippet showing two staves. The top staff has a treble clef and common time signature. The bottom staff has a bass clef and common time signature. The system is enclosed in a brace on the left labeled 'x-||'. Above the top staff, there are three measures, each with a 'v' above it. The first measure has a caesura symbol (a vertical line with a flag) at the end.



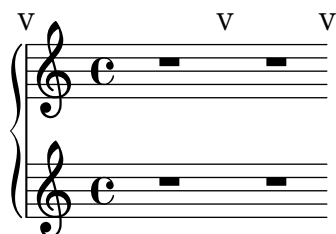
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where one repeated section ends and another begins.

bar-line-built-in-double-repeat.ly



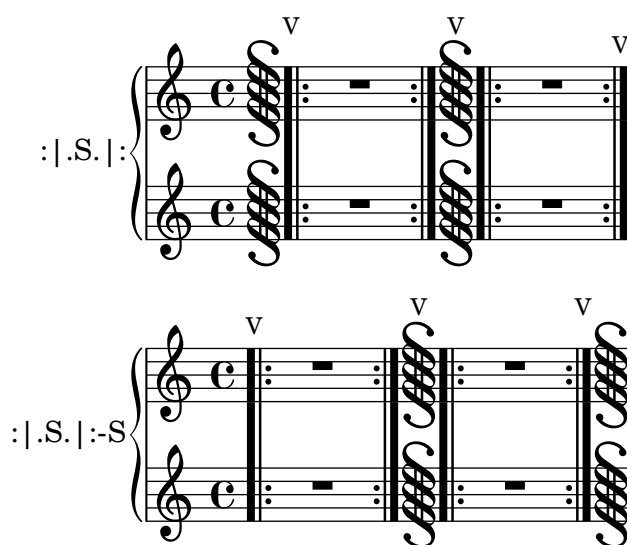
Test a spacer bar line at the beginning, middle, and end of a line.

bar-line-built-in-empty.ly



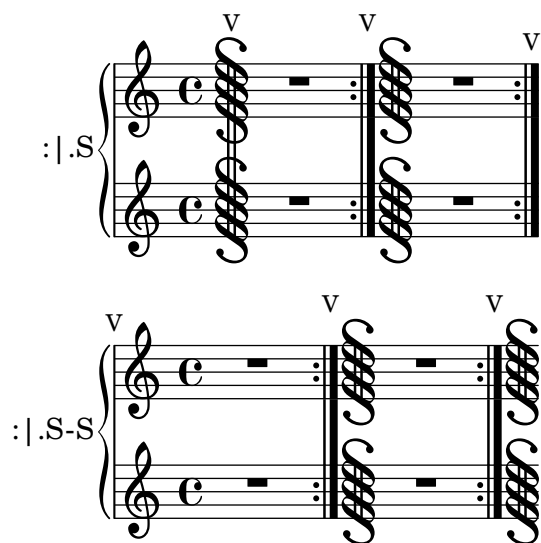
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where one repeated section ends, another begins, and there is an in-staff segno.

`bar-line-built-in-end-repeat-segno-start-repeat.ly`



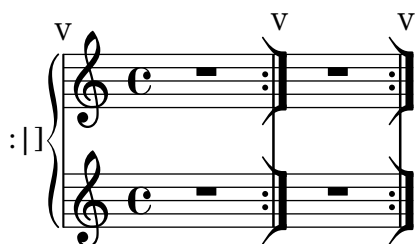
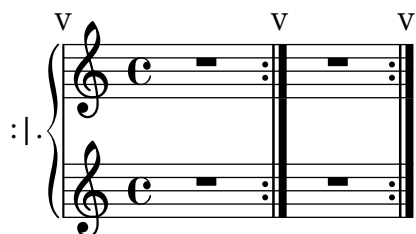
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where a repeated section ends and there is an in-staff segno.

`bar-line-built-in-end-repeat-segno.ly`



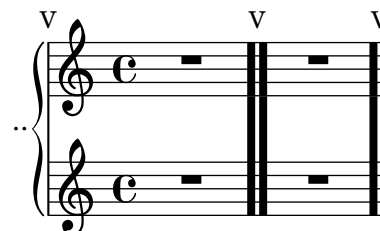
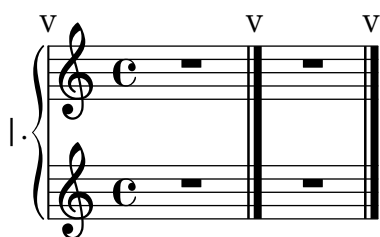
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the end of a repeated section.

`bar-line-built-in-end-repeat.ly`



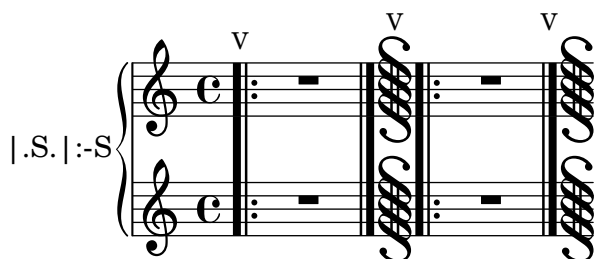
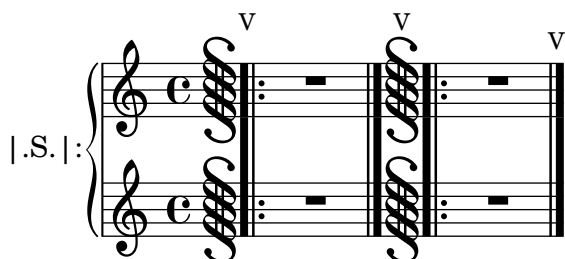
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the end of a section.

bar-line-built-in-end-section.ly



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where a repeated section begins and there are both a *Fine* and an in-staff segno.

bar-line-built-in-fine-segno-start-repeat.ly



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where there are both a *Fine* and an in-staff segno.

`bar-line-built-in-fine-segno.ly`

Two musical examples showing bar lines with fine and segno symbols. The first example, labeled |.S, shows a grand staff with two staves. The first staff has a treble clef and a common time signature 'C'. The second staff has a bass clef and a common time signature 'C'. The first staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure. The second staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure. The second example, labeled |.S-S, shows a similar grand staff with the same fine and segno symbols placed at the beginning, middle, and end of the line.

Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use as measure bar lines.

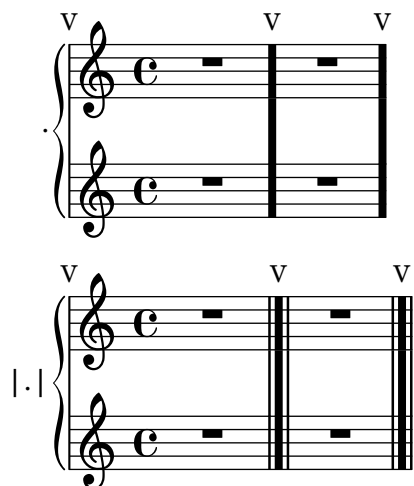
`bar-line-built-in-measure.ly`

Two musical examples showing measure bar lines. The first example, labeled |, shows a grand staff with two staves. The first staff has a treble clef and a common time signature 'C'. The second staff has a bass clef and a common time signature 'C'. The first staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure. The second staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure. The second example, labeled -span|, shows a similar grand staff with the same fine and segno symbols placed at the beginning, middle, and end of the line.

Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use between sections.

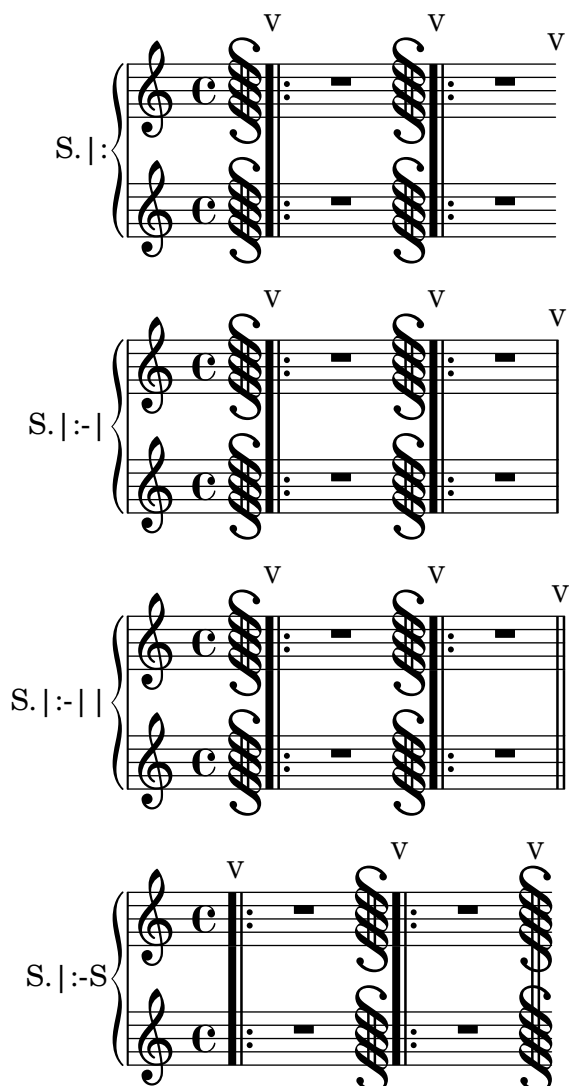
`bar-line-built-in-section.ly`

A musical example showing a section bar line. It features a grand staff with two staves. The first staff has a treble clef and a common time signature 'C'. The second staff has a bass clef and a common time signature 'C'. The first staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure. The second staff contains a fine symbol (V) at the end of the first measure, a segno symbol (V) at the start of the second measure, and another fine symbol (V) at the end of the second measure.



Test predefined bar types at the beginning, middle, and end of a line. The types in this group intended for use where a repeated section starts and there is an in-staff segno.

`bar-line-built-in-segno-start-repeat.ly`



Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use where there is an in-staff segno.

bar-line-built-in-segno.ly

The image displays four musical staves, each representing a different bar-line built-in segno symbol. Each staff contains two treble clefs with a common time signature 'C'. The notes are represented by black rectangular blocks. Above the staves, the symbols 'V' and 'v' are placed to indicate specific bar-line types. The first staff is labeled 'S' on the left and has 'V' above the first and second bar lines. The second staff is labeled 'S-|' and has 'v' above the first and second bar lines. The third staff is labeled 'S-||' and has 'V' above the first and second bar lines. The fourth staff is labeled 'S-S' and has 'v' above the first, second, and third bar lines.

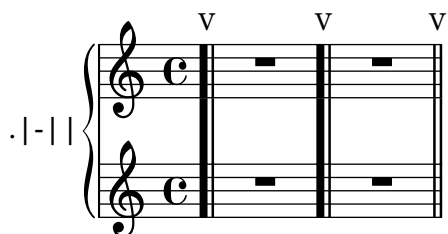
Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the start of a repeated section.

bar-line-built-in-start-repeat.ly

The image displays two musical staves, each representing a different bar-line built-in start-repeat symbol. Each staff contains two treble clefs with a common time signature 'C'. The notes are represented by black rectangular blocks. Above the staves, the symbols 'V' and 'v' are placed to indicate specific bar-line types. The first staff is labeled '.|:' on the left and has 'V' above the first, second, and third bar lines. The second staff is labeled '.|:|' on the left and has 'v' above the first, second, and third bar lines.

Test predefined bar types at the beginning, middle, and end of a line. The types in this group are intended for use at the start of a section.

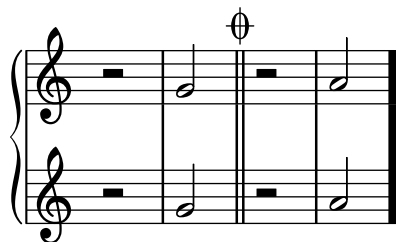
bar-line-built-in-start-section.ly



When `caesuraType` is set appropriately, `\caesura` inserts a double bar line with priority higher than a measure bar line and lower than a section bar line.

These notes should be followed by these bar lines: D, double; E, double; F, double; G, double; A, thick.

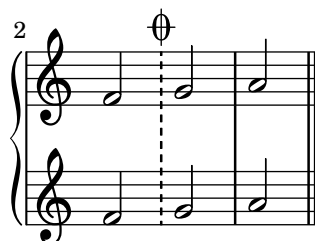
`bar-line-caesura-double.ly`

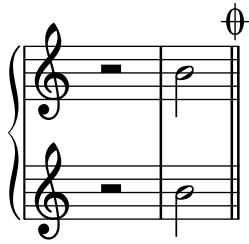


When `caesuraType` is set appropriately, `\caesura` inserts a double bar visible only at line break, with priority less than a measure bar.

These notes should be followed by these bar lines: D, none; E, single; F, dotted; G, single; A, double; B, double.

`bar-line-caesura-eol-double.ly`

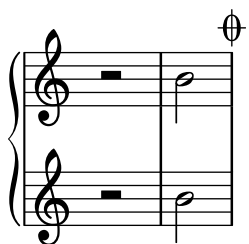
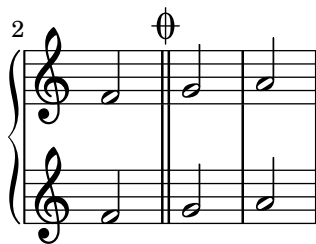
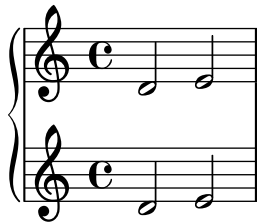




When `caesuraType` is set appropriately, `\caesura` inserts a bar line that is visible only at a line break.

These notes should be followed by these bar lines: D, none; E, single; F, double; G, single; A, single; B, single.

`bar-line-caesura-eol-single.ly`

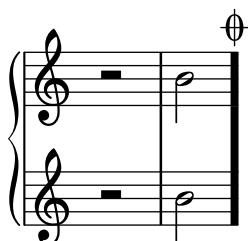
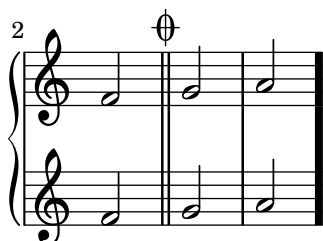


When `caesuraType` is set appropriately, `\caesura` inserts a thick bar line that is visible only at a line break, with priority less than a measure bar.

These notes should be followed by these bar lines: D, none; E, single; F, double; G, single; A, thick; B, thick.

`bar-line-caesura-eol-thick.ly`





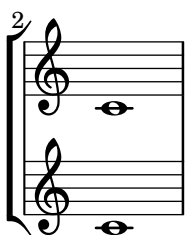
A user-defined empty bar glyph behaves like the built-in empty bar glyph. The horizontal space between notes should be the same in both measures.

`bar-line-define-bar-glyph-empty.ly`



New bar line glyphs can be defined in Scheme.

`bar-line-define-bar-glyph.ly`



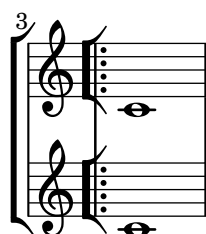
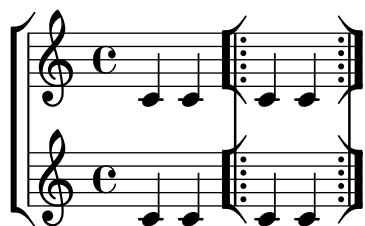
A user-defined empty bar line with an annotation in the name behaves like the built-in empty bar line. The horizontal space between notes should be the same in both measures.

`bar-line-define-bar-line-empty.ly`



New bar line styles can be defined by `\defineBarLine`.

`bar-line-define-bar-line.ly`



Where `\fine` and `\inStaffSegno` occur together, user-defined bar lines can be printed by setting the `fineSegnoBarType`, `fineStartRepeatSegnoBarType`, `endRepeatSegnoBarType`, and `doubleRepeatSegnoBarType` context properties.

The output should show two adjacent repeated sections with doubled dots and thick bar lines, followed by a double thick bar line without dots. There should also be an in-staff segno in every case.

```
bar-line-define-fine-v-repeat-segno.ly
```



At `\fine` without `\inStaffSegno`, user-defined bar lines can be printed by setting the `fineBarType`, `startRepeatBarType`, `endRepeatBarType`, and `doubleRepeatBarType` context properties.

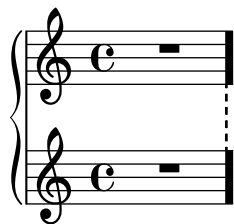
The output should show two adjacent repeated sections with doubled dots and thick bar lines, followed by a double thick bar line without dots.

```
bar-line-define-fine-v-repeat.ly
```



Customizing `measureBarType` is effective when appropriate bar lines are defined. The system should end with a single thick bar line with a dashed span.

```
bar-line-define-measure.ly
```



User-defined bar lines with in-staff segni can be printed by setting the `segnoBarType`, `startRepeatSegnoBarType`, `endRepeatSegnoBarType`, and `doubleRepeatSegnoBarType` context properties.

The output should show two adjacent repeated sections with unusually ornate bar lines with in-staff segni, followed by an in-staff segno that is flanked by thick bar lines.

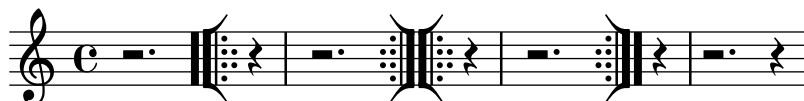
`bar-line-define-repeat-segno.ly`



User-defined bar lines can be printed for `\repeat volta` by setting the `startRepeatBarType`, `endRepeatBarType`, and `doubleRepeatBarType` context properties.

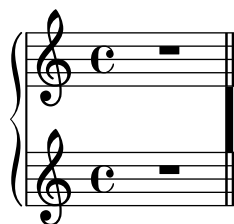
This output should show two adjacent repeated sections with unusually ornate bar lines.

`bar-line-define-repeat.ly`



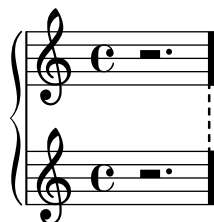
Customizing `sectionBarType` is effective when appropriate bar lines are defined. The system should end with a double bar line with a thick span.

`bar-line-define-section.ly`



Customizing `underlyingRepeatBarType` is effective when appropriate bar lines are defined. The first system should end with a single thick bar line with a dashed span.

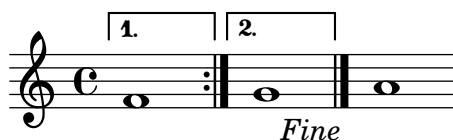
`bar-line-define-underlying-repeat.ly`





A final volta bracket closes at `\fine`.

`bar-line-fine-volta-hook.ly`




`\bar` can override repeat bar lines. The first system should end with no bar line. The second system should begin with no bar line and end with a measure bar line.


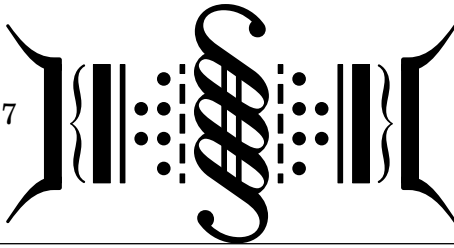
`bar-line-manual-v-repeat.ly`






The markup command `\bar-line` scales nicely with different `\fontsize`. It is customizable by overriding `height`, `dot-count`, `dash-count`, `kern` or `thick-thickness`. The brace bar line sometimes emits a warning, if none exactly fitting can be found (this warning is not silenced here).


`bar-line-markup.ly`



default (fontsize 0): 


fontsize: -7  fontsize: 7 




default (height 4): 

height: 2  height: 6 

default (dot/dash-count 4/5): 

dot-count (3/5):  dash-count (3/7): 

default (kern 3.0/hair-thickness 1.9/thick-thickness 6.0): 

kern 6  hair-thickness 6  thick-thickness 1.9 

An omitted bar line behaves like an empty bar line. The horizontal space between notes should be the same in both measures.

bar-line-omit.ly



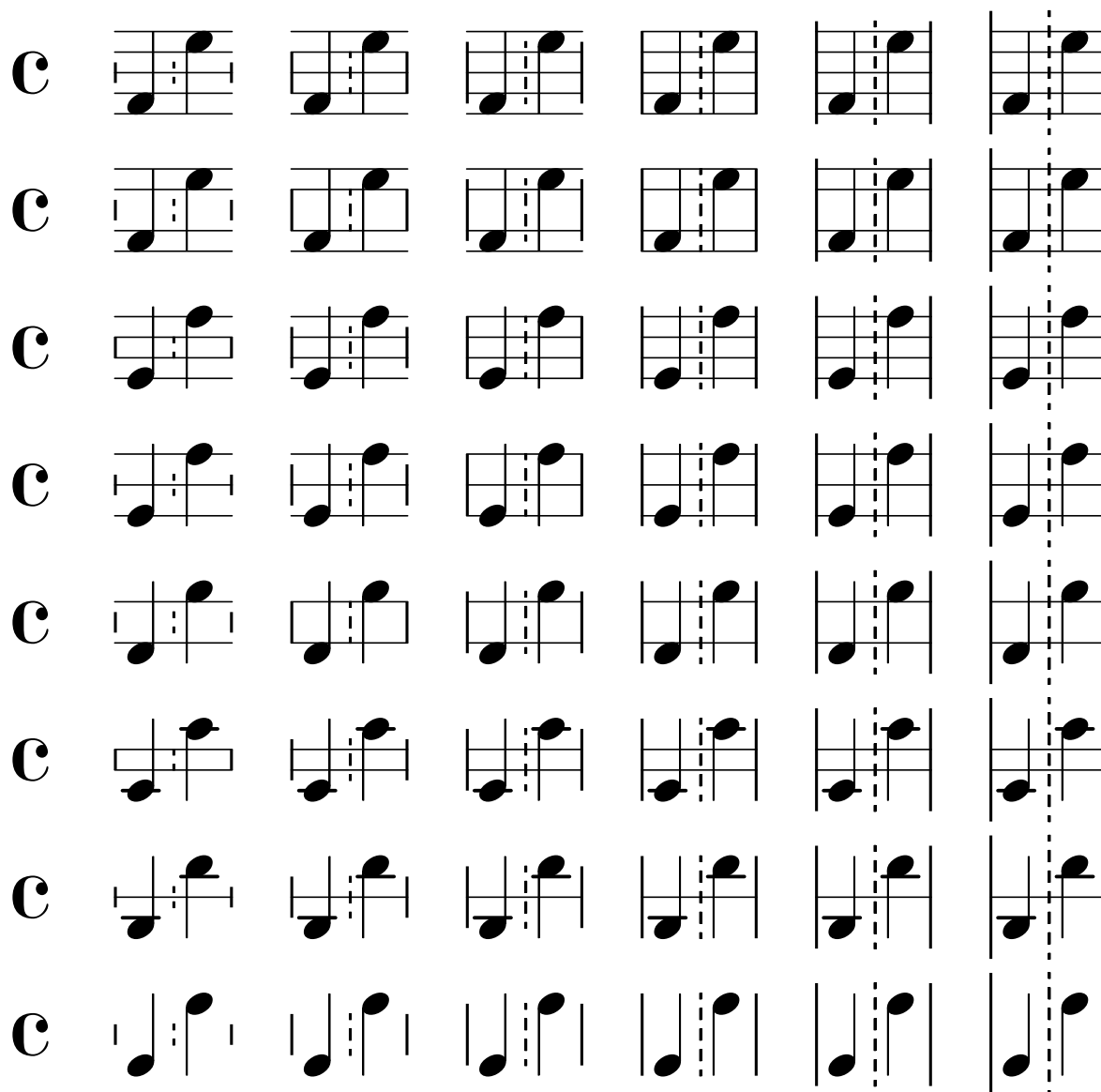
This test shows the placement of the two-dot bar line element in various staff configurations.

bar-line-placement-colon.ly

The image displays a 7x6 grid of musical notation examples. Each row is labeled with a common time signature 'C' on the left. The notation consists of a single staff with a treble clef, a common time signature 'C', and a single note on the second line of the staff. The examples illustrate various bar line placements and staff sizes. The first row shows a full staff with a dashed bar line at the end. The second row shows a staff with a dashed bar line at the end. The third row shows a staff with a dashed bar line at the end. The fourth row shows a staff with a dashed bar line at the end. The fifth row shows a staff with a dashed bar line at the end. The sixth row shows a staff with a dashed bar line at the end. The seventh row shows a staff with a dashed bar line at the end.

The dashed bar line scales with different staff space, entered with `layout-set-staff-size`.

`bar-line-placement-dashed-layout-staff-space.ly`



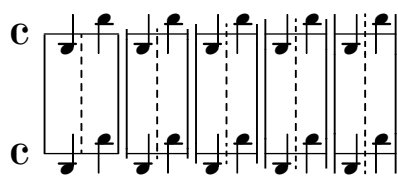
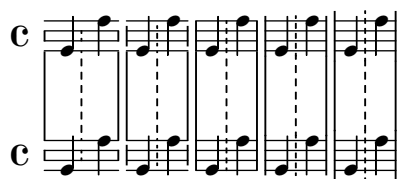
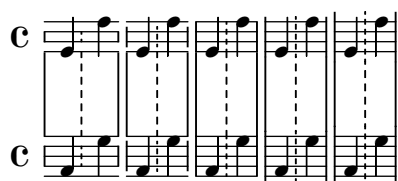
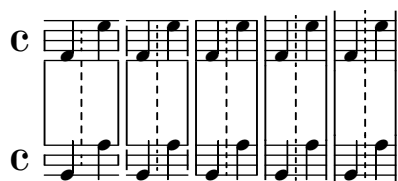
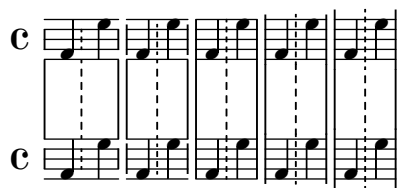
The dashed bar line scales with different staff space, entered with `\magnifyStaff`.

The image displays a 7x6 grid of musical staves, each starting with a common time signature 'C'. Each staff contains six measures of music. The notes are positioned on the first and second lines of the staff. The primary focus is on the placement of dashed vertical bar lines and span bars across the measures. The configurations vary across the rows, demonstrating different ways to align these elements with the musical notes and staff boundaries. For example, some rows show dashed bar lines at the end of measures, while others show them at the beginning or in the middle of measures. The span bars are represented by horizontal lines with vertical end caps, and their placement is also varied across the grid.

This test shows the placement of dashed bar lines with span bars in various staff configurations and changed staff space via `layout-set-staff-size`.

The image displays 24 musical staves arranged in 8 rows and 3 columns. Each staff is marked with a common time signature 'C'. The staves are organized into four pairs of two staves each, representing different staff configurations. Within each pair, the top staff shows a dashed bar line and a span bar, while the bottom staff shows a solid bar line and a span bar. The configurations vary in staff spacing (normal vs. magnified) and the placement of dashed bar lines (between staves, on a staff line, or on a staff space). The span bars are placed between staves, on a staff line, or on a staff space. The musical notation consists of two notes per staff, with stems pointing upwards.

This test shows the placement of dashed bar lines with span bars in various staff configurations and changed staff space via `\magnifyStaff`.



This test shows the placement of dashed bar lines with span bars in various staff configurations and changed staff space via `\override StaffSymbol.staff-space`.

The image displays a grid of 30 musical staves, arranged in 6 rows and 5 columns. Each staff contains two notes: one on the top line and one on the bottom line. The staves are labeled with a 'C' on the left side of each row. The grid illustrates various configurations of dashed bar lines and span bars, showing how they are rendered in different positions and orientations across the staves.

This test shows the placement of dashed bar lines with span bars in various staff configurations.

The image displays five rows of musical notation, each consisting of two staves. The top staff of each row is marked with a 'C' time signature and contains a dashed bar line. The bottom staff of each row is marked with a 'C' time signature and contains a solid bar line. The five columns represent different positions of the dashed bar line, moving from the first staff space to the fifth staff space. The vertical distance between the two staves increases progressively from left to right, demonstrating how the dashed bar line's position is affected by the staff space.

The dashed bar line scales with different staff space, entered with `\override StaffSymbol.staff-space`.

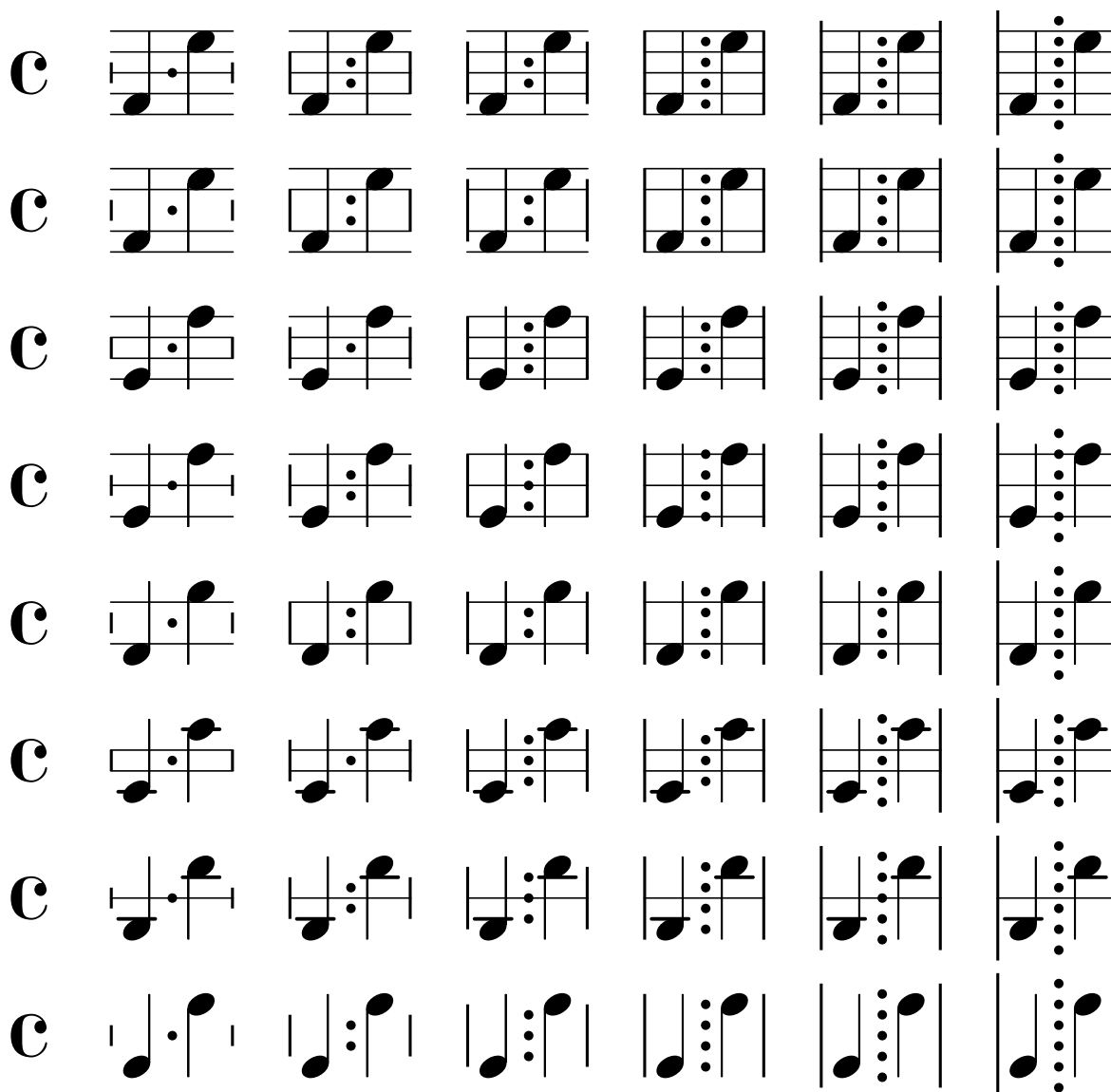
bar-line-placement-dashed-staff-space.ly



A dashed bar line extends approximately as far as a normal bar line. The center-to-center distance between dashes is uniformly one staff space. At the vertical center of the staff is either a dash or the midpoint between dashes.

The image displays a grid of 48 musical staves, arranged in 8 rows and 6 columns. Each staff is labeled with a 'C' on the left. The staves show various musical notations, including notes, stems, and bar lines. The notes are placed on different lines and spaces of the staff, and the bar lines are positioned at different intervals relative to the note. The grid demonstrates how the placement of a dotted bar line varies across different staff spaces and sizes.

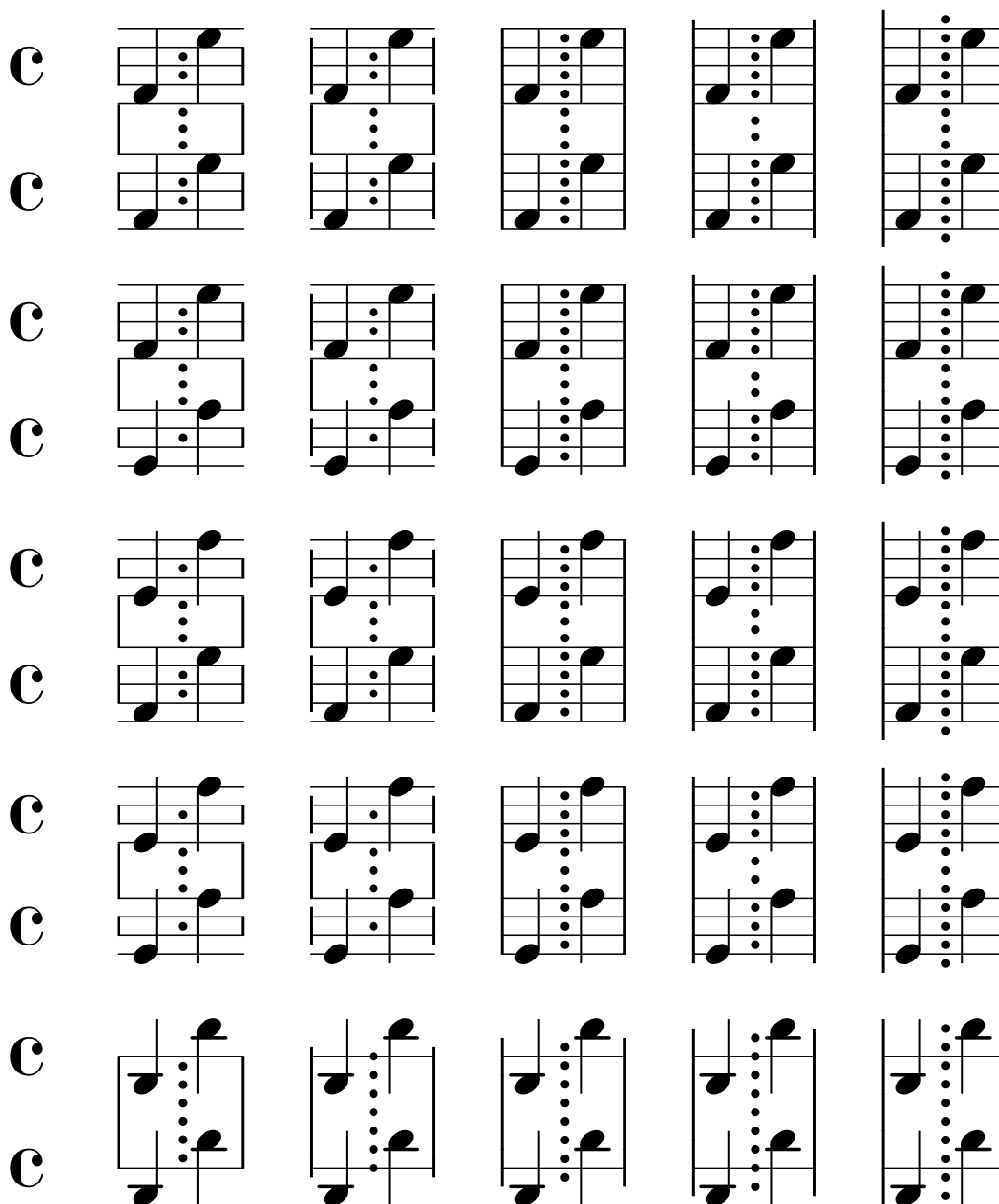
The dotted bar line never exceeds a common bar line. This holds for different staff space, caused by `layout-set-staff-size` as well.



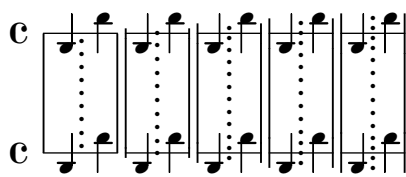
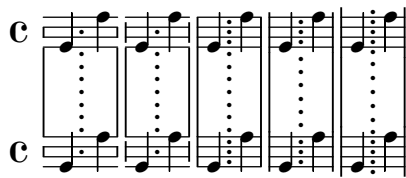
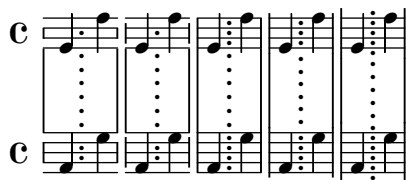
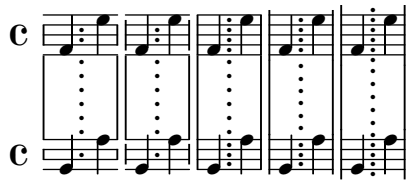
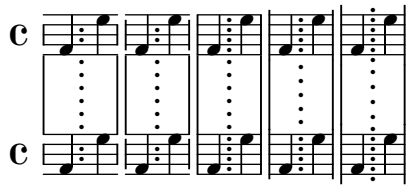
The dotted bar line never exceeds a common bar line. This holds for different staff space, caused by `\magnifyStaff` as well.



The center-to-center distance between the dots in a dotted span bar line is approximately one staff space, taken from layout (not from the staff symbol). The dots of the span bar do not collide with staff lines or with the dots of in-staff bar lines. They never exceed the extent of the span bar (made visible by the thick span bar line). This holds for different staff space, caused by `layout-set-staff-size` as well.



The center-to-center distance between the dots in a dotted span bar line is approximately one staff space, taken from layout (not from the staff symbol). The dots of the span bar do not collide with staff lines or with the dots of in-staff bar lines. They never exceed the extent of the span bar (made visible by the thick span bar line). This holds for different staff space, caused by `\magnifyStaff` as well.



The center-to-center distance between the dots in a dotted span bar line is approximately one staff space, taken from layout (not from the staff symbol). The dots of the span bar do not collide with staff lines or with the dots of in-staff bar lines. They never exceed the extent of the span bar (made visible by the thick span bar line). This holds for different staff space, caused by `\override StaffSymbol.staff-space` as well.

The image displays a 6x5 grid of musical staves. Each staff is labeled with a 'C' on the left. The notation includes notes on staves, stems extending above and below, and dotted lines connecting notes across staves. The grid shows various configurations of these elements, including notes on different staves, stems of varying lengths, and dotted lines connecting notes across staves. The notation is consistent across the grid, with each staff having a 'C' label and a vertical bar line on the right.

The center-to-center distance between the dots in a dotted span bar line is uniformly one staff space. The dots of the span bar do not collide with staff lines or with the dots of in-staff bar lines.

The image displays five rows of musical notation, each containing two staves. The top staff of each row is marked with a 'C' time signature. The notation shows a sequence of five measures. In each measure, a dotted bar line is placed between the two staves. The vertical position of the dotted bar line varies across the rows, demonstrating its placement relative to the staff lines and the common bar line. The notes on the staves are simple quarter notes, and the dotted bar line is represented by a vertical line with a central dot.

The dotted bar line never exceeds a common bar line. This holds for different staff space, entered with `\override StaffSymbol.staff-space` as well.



The center-to-center distance between the dots in a dotted bar line is uniformly one staff space. At the vertical center of the staff is either a dot or the midpoint between dots, whichever places fewer dots on staff lines. The dotted bar line never exceeds a common bar line.



The height of a short bar line is half the height of a normal bar line, rounded up to an integer number of staff spaces. It is usually centered vertically, but on very short staves, it is shifted down to distinguish it from a normal bar line.

The image displays a grid of 48 musical staves, arranged in 8 rows and 6 columns. Each staff is preceded by a capital letter 'C'. The staves illustrate various musical notations and bar line placements. The first row shows a single bar line between two notes. The second row shows a bar line between two notes with a stem. The third row shows a bar line between two notes with a stem and a beam. The fourth row shows a bar line between two notes with a stem and a beam, and a tick bar line. The fifth row shows a bar line between two notes with a stem and a beam, and a tick bar line. The sixth row shows a bar line between two notes with a stem and a beam, and a tick bar line. The seventh row shows a bar line between two notes with a stem and a beam, and a tick bar line. The eighth row shows a bar line between two notes with a stem and a beam, and a tick bar line.

A tick bar line is a short line the length of a staff space. It is usually centered on the topmost bar line, but if there are fewer than two bar lines, it floats at the height of a normal bar line.

If different BarLine types are used at the same musical moment, setting BarLine.right-justified to #t right-aligns them. For a mid-line and right-aligned BarLine the anchor moves accordingly. At begin of line, BarLine is never right-aligned.

bar-line-right-justified.ly

`\section` creates a section bar line whether or not it is aligned on a measure boundary, except at the start of the piece. This test should show a double bar line after each of the three notes.

`bar-line-section.ly`

This test exercises bar lines that are overridden in various built-in `Staff` contexts. Each `Staff` is in a separate `\score`.

`bar-line-staff-override-alone.ly`

This test exercises bar lines that are overridden in various built-in `Staff` contexts. All staves are in one `StaffGroup`.

bar-line-staff-override-grouped.ly

A musical score with six staves. The top staff is labeled 'Staff' and contains a treble clef, a 2/4 time signature, and a sequence of notes. Below it are five staves labeled 'Gregor. Transcr.', 'Kievan', 'Mensural', 'Petrucci', and 'Vaticana'. The 'Gregor. Transcr.' staff has a treble clef and a common time signature. The 'Kievan' staff has a square note style. The 'Mensural' and 'Petrucci' staves have a C-clef and a common time signature. The 'Vaticana' staff has a square note style. Vertical bar lines are present: a dashed line at the first measure, a dotted line at the second measure, and solid lines at the end of each measure. A '-span' annotation is placed above the first measure of the top staff.

Dashed and dotted bar lines print nicely with small values of set-global-staff-size and layout-set-staff-size.

bar-line-staff-size.ly

A single musical staff with a treble clef, a common time signature, and three notes. A vertical bar line is positioned after the first note.

A musical staff with a large B-clef, a common time signature, and two notes. A vertical bar line is positioned after the first note. Below the staff are three lines with the letters 'T', 'A', and 'B' and some symbols.

Bar lines account for user tweaks to staff symbol height.

bar-line-staff-symbol-height-override.ly

A single musical staff with a treble clef, a common time signature, and one note. A vertical bar line is positioned after the note.

The `hair-thickness` property sets the thickness of thin bar lines, the `thick-thickness` property sets the thickness of thick bar lines, and the `kern` property sets the spacing within composite bar lines.

`bar-line-thickness.ly`

The image shows four musical staves, each with a treble clef and a common time signature (C). The staves are labeled on the left as 'default', '3x hair-thickness', '2x thick-thickness', and '3x kern'. Each staff contains a sequence of bar lines: a thin bar line, a thick bar line, a thin bar line, a thick bar line, a thin bar line, a thick bar line, and a thin bar line. The '3x kern' staff shows significantly increased spacing between these bar lines compared to the other three staves.

Automatic bar types that are set to '()' or are unset are ignored, allowing lower-priority bar types to appear. In this case, there should be no line breaks and a single thick bar line should appear at the end under a segno.

`bar-line-unset.ly`

The image shows a single musical staff with a treble clef and a common time signature (C). The staff contains a series of dashed bar lines. At the end of the staff, there is a thick bar line followed by a segno symbol (§).

Various types of bar lines can be drawn.

The dashes in a dashed bar line covers staff lines exactly. Dashed bar lines between staves start and end on a half dash precisely.

The dots in a dotted bar line are in spaces.

A thick bar line is created by `\bar ".`, which is consistent with e.g. `\bar "|.`

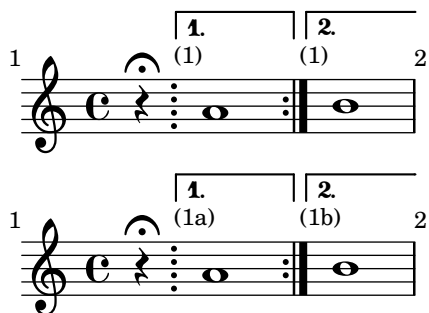
A tick bar line is a short line of the same length as a staff space, centered on the top-most bar line.

A short bar line has a height of half the height of the staff, rounded up to an integer number of staff spaces. It is usually centered vertically, but on short staves, it is shifted down to distinguish it from a normal bar line.

`bar-lines.ly`

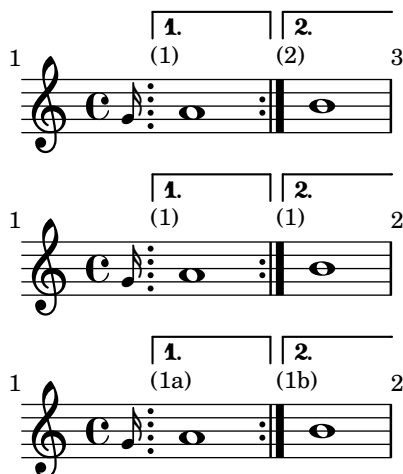
Each staff contains the same music, but with different values of `alternativeNumberingStyle`. The body of the repeat is a cadenza. The bar number at the start of each alternative should be parenthesized.

`bar-number-after-alternative-restore-cadenza.ly`



Each staff contains the same music, but with different values of `alternativeNumberingStyle`. The body of the repeat is a grace note. The bar number at the start of each alternative should be parenthesized.

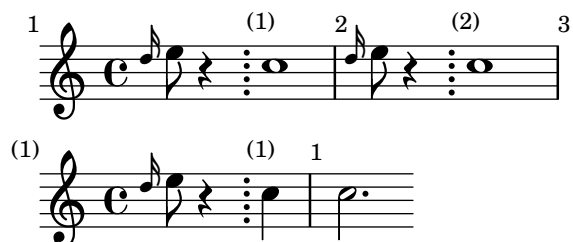
`bar-number-after-alternative-restore-grace.ly`



In a measure beginning with grace notes and cadenza material, if a bar line is added at the end of the cadenza, its bar number is parenthesized even though the cadenza does not advance `measurePosition`.

The first staff tests this at the start of the first and following measures of a piece. The second staff tests this before an initial anacrusis.

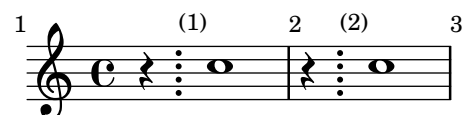
`bar-number-after-cadenza-with-grace.ly`



In a measure beginning with cadenza material, if a bar line is added at the end of the cadenza, its bar number is parenthesized even though the cadenza does not advance `measurePosition`.

The first staff tests this at the start of the first and following measures of a piece. The second staff tests this before an initial anacrusis.

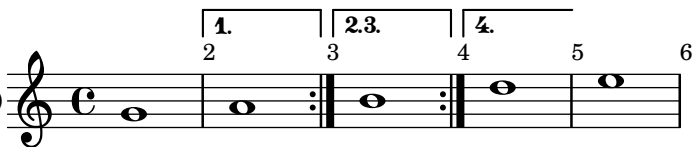
`bar-number-after-cadenza.ly`

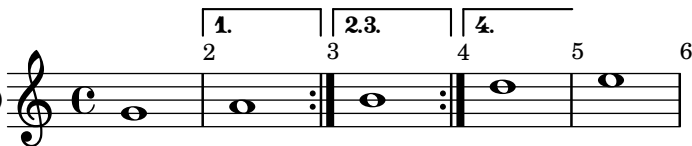


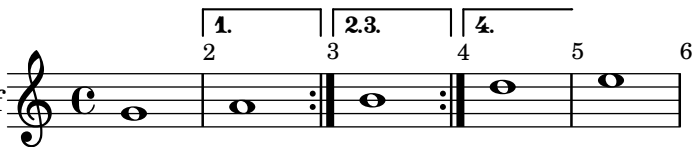
(1) 

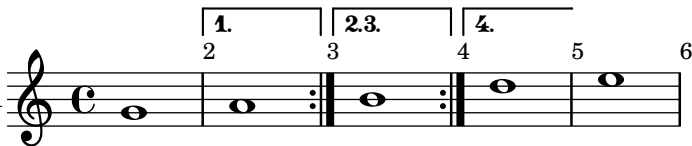
The `alternativeNumberingStyle` context property controls the bar-numbering scheme and style in volta repeat alternatives.

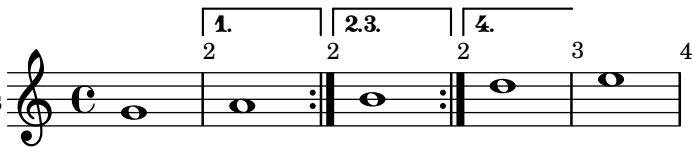
`bar-number-alternative-style.ly`

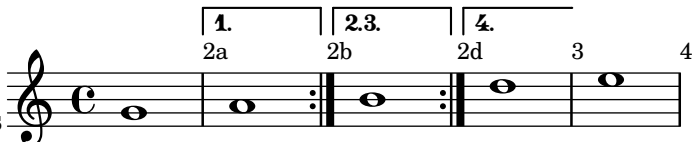
(default) 

(unset) 

#f 

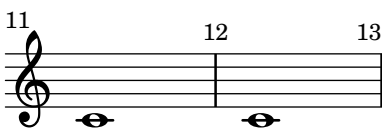
unknown-symbol 

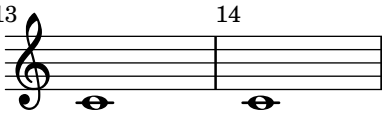
numbers 

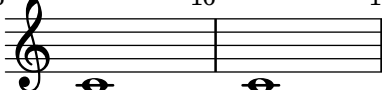
numbers-with-letters 

Alignments for breakable items can have different values set for each break direction using the `break-alignment-list` function.

`bar-number-break-alignment-list.ly`







`\barNumberCheck` may be inserted to check whether the current bar number is correct. Checking is enabled by default for layout and disabled by default for MIDI.

`bar-number-check-warning.ly`



When there is a break without a bar line, a bar number can be printed nevertheless. Just like all bar numbers outside of measure boundaries, it is hidden by default, but it can be displayed using `barNumberVisibility`. On the other hand, a bar number resulting from a break point is not displayed if the break point does not become a break.

`bar-number-no-bar-line.ly`



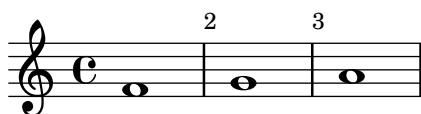
`oBreak` does not prevent bar numbers from being printed.

`bar-number-nobreak.ly`



Alternative bar numbering does not apply to repeats in segno form. These measures should be numbered 1 to 3.

`bar-number-segno-repeat.ly`



`Bar_number_engraver` may be moved to `staff-group` contexts. Bar numbers should appear in black above the second staff from the top. The same numbers should appear in red above the third staff from the top.

`bar-number-staff-group-context.ly`

all-bar-numbers-visible is a bar number visibility where all bar numbers are printed, including bar numbers for the first measure and for broken measures.

bar-number-visibility-all-bar-numbers-visible.ly

every-nth-bar-number-visible is a bar number visibility generator that prints bar numbers at regular intervals of n : $n, 2n$, etc.

bar-number-visibility-every-nth-bar-number-visible.ly

`first-bar-number-invisible-and-no-parenthesized-bar-numbers` is a bar number visibility where bar numbers are printed except for the first, and except for broken measures.

`bar-number-visibility-first-bar-number-invisible-and-no-parenthesized-bar-numbers.ly`

`first-bar-number-invisible-save-broken-bars` is a bar number visibility that prints all bar numbers, including for broken bars, except for an unbroken number of the first bar.

`bar-number-visibility-first-bar-number-invisible-save-broken-bars.ly`

`first-bar-number-invisible` is a bar number visibility where all bar numbers can be printed, including for broken bars, except for the first measure, not even when broken.

`bar-number-visibility-first-bar-number-invisible.ly`

The image shows five staves of musical notation in treble clef with a common time signature (C). Each staff contains a single quarter note. The first staff has no bar numbers. The second staff has bar numbers 2 and 3 above the first and third measures. The third staff, labeled (3), has bar numbers 4 and 5 above the first and third measures. The fourth staff, labeled (5), has bar number 6 above the first measure. The fifth staff is empty.

`modulo-bar-number-visible` is a bar number visibility generator that generalizes `every-nth-bar-number-visible`, printing bar numbers at regular intervals of n that do not necessarily start at n : $k, k + n, k + 2n$, etc.

`bar-number-visibility-modulo-bar-number-visible.ly`

The image shows four staves of musical notation in treble clef with a common time signature (C). Each staff contains a single quarter note. The first staff has no bar numbers. The second staff has bar number 2 above the first measure. The third staff has bar number 5 above the first measure. The fourth staff, labeled (5), is empty.

`numbers-with-letters` bar numbering resets at the end of the repeat even if the repeat ends where no bar number is visible.

`bar-number-volta-repeat-end.ly`

The image shows a single staff of musical notation in treble clef with a common time signature (C). It contains a first ending (marked 1.) and a second ending (marked 2.) separated by a repeat sign. Below the first ending is the label '2a' and below the second ending is '2b'. The third measure is labeled '3'.

Bar numbers can automatically reset at volta repeats.

`bar-number-volta-repeat.ly`

Bar numbers may be set and their padding adjusted individually. The counting of bar numbers is started after the anacrusis.

To prevent clashes at the beginning of a line, the padding may have to be increased.

`bar-number.ly`


A knee is made automatically when a horizontal beam fits in a gap between note heads that is larger than a predefined threshold.


`beam-auto-knee.ly`


There are presets for the auto-beam engraver in the case of common time signatures.


`beam-auto.ly`

This musical score consists of 16 staves, numbered 12 through 40. Each staff contains a sequence of rhythmic patterns, primarily using eighth and sixteenth notes. The time signatures vary across the staves, including 2/4, 3/8, 3/4, 3/4, 3/8, C, 4/8, 4/8, 4/16, 6/8, 9/8, and 9/8. The patterns are organized into measures, with some staves featuring complex, dense rhythmic textures.

42 

43 

44 


45 

beamlets don't run to end of line if there are no other beamlets on the same height.
 beam-beamlet-break.ly



2 


Beamlets in grace notes remain readable.
 beam-beamlet-grace.ly




Default beaming patterns can be set for the current time signature.
 beam-beat-grouping.ly



Broken beams have sane endings even if grobs are not present at the broken end.
 beam-break-no-bar.ly

1 

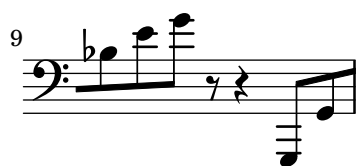
2 

Beams can be printed across line breaks, if forced.
 beam-break.ly



Some classic examples of broken beams, all taken from Scriabin Op. 11, No. 1.
 beam-broken-classic.ly

`\override Beam.positions = #beam::place-broken-parts-individually (default)`



`\override Beam.positions = #beam::align-with-broken-parts`

Returns y-positions at the ends of the beam such that beams align-across-breaks.

The image displays ten musical staves, numbered 1 through 10, illustrating various beam positions and breaks. Staff 1 is a treble clef with a common time signature (C) and a single note. Staff 2 is a treble clef with a common time signature (C) and a beam connecting two notes. Staff 3 is a treble clef with a common time signature (C) and a beam connecting two notes. Staff 4 is a treble clef with a common time signature (C) and a beam connecting two notes. Staff 5 is a treble clef with a common time signature (C) and a beam connecting two notes. Staff 6 is a treble clef with a common time signature (C) and a beam connecting two notes. Staff 7 is a bass clef with a common time signature (C) and a beam connecting two notes. Staff 8 is a bass clef with a common time signature (C) and a beam connecting two notes. Staff 9 is a bass clef with a common time signature (C) and a beam connecting two notes. Staff 10 is a bass clef with a common time signature (C) and a beam connecting two notes.

`\override Beam.positions = #beam::slope-like-broken-parts`

Approximates broken beam positioning in turn-of-the-century Editions Peters scores.

The image displays two musical staves, numbered 1 and 2, illustrating broken beam positioning. Staff 1 is a treble clef with a common time signature (C) and a single note. Staff 2 is a treble clef with a common time signature (C) and a beam connecting two notes.

3

4

5

6

8

9

10

The functions passed to the `positions` property should handle complicated cases in the same manner that they handle more normal cases.

`beam-broken-difficult.ly`

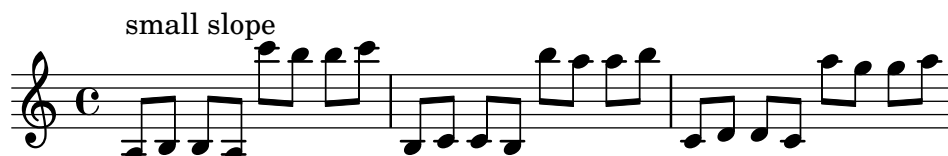
2

2



Simple beams on middle staffline are allowed to be slightly sloped, even if the notes have ledgers. Beams reaching beyond middle line can have bigger slope.

beam-center-slope.ly



Beams only check for collisions with in-line accidentals.

beam-collision-accidentals.ly



Collisions between manual beams and notes are minimized.

beam-collision-basic.ly



Manual beams do not collide with notes.

beam-collision-beamcount.ly



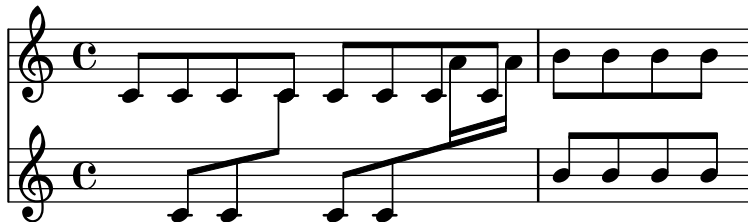
Beam collisions from modern works

beam-collision-classic.ly



cross staff beams work with collisions.

beam-collision-cross-staff.ly



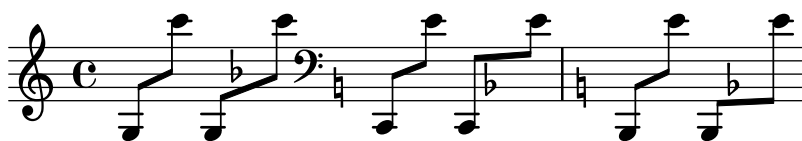
Cross staff beams do collision avoidance.

beam-collision-cross-staff2.ly



A rough guess for collisions is taken into account when choosing initial beam configurations; the initial position may be chosen to be either above or below large collisions.

beam-collision-feasible-region.ly



Beams do not collide with flags.

beam-collision-flag.ly



The beaming algorithm handles collisions between beams and grace notes too.
 beam-collision-grace.ly



Behave sensibly in the presence of large collisions.
 beam-collision-large-object.ly



Beams can be allowed to collide with grobs by overriding the collision-interfaces property.
 beam-collision-off.ly



Meshing stems in oppositely directed beams are handled correctly.
 beam-collision-opposite-stem.ly



Beams do not collide with clefs, key signatures, time signatures
 beam-collision-prefatory-matter.ly



Beam collisions are resistant to scaled down staves.

beam-collision-scaled-staff.ly



Beam collision can be tweaked to only apply to the grobs within the beam's original voice.

beam-collision-voice-only.ly



Concave beaming works for chords as well as monophonic music.

beam-concave-chord.ly



Beams that are not strictly concave are damped according to their concaveness.

beam-concave-damped.ly



Fully concave beams should be horizontal. Informally spoken, concave refers to the shape of the notes that are opposite a beam. If an up-beam has high notes on its center stems, then we call it concave.

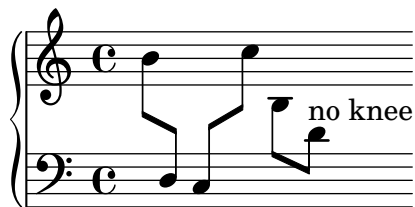
If a beam fails a test, the desired slope is printed next to it.

beam-concave.ly



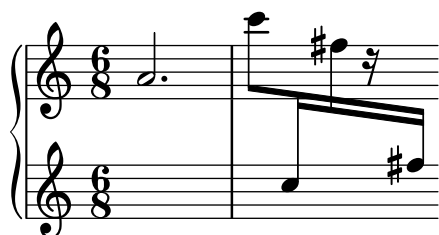
Automatic cross-staff knees work also (here they were produced with explicit staff switches).

beam-cross-staff-auto-knee.ly



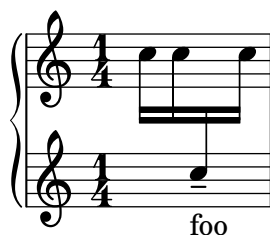
Placement of beamed cross staff rests should be reasonably close to beam.

beam-cross-staff-rest.ly



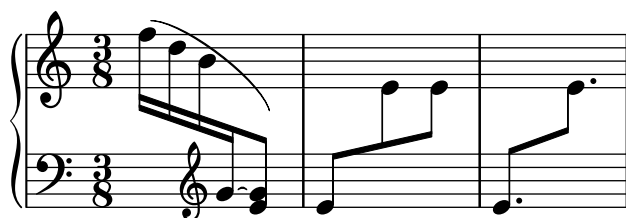
scripts don't trigger beam formatting. If this does happen, we can have a cyclic dependency on Y-positions of staves.

beam-cross-staff-script.ly



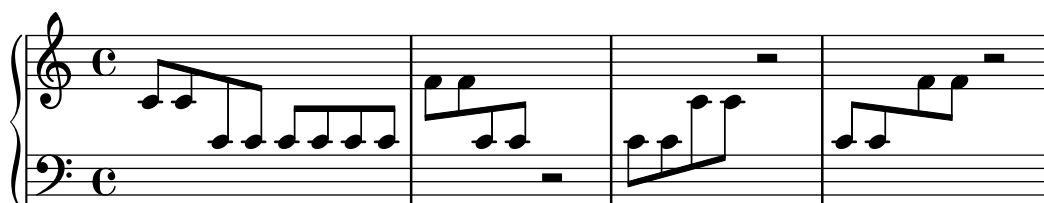
Cross staff (kneed) beams do not cause extreme slopes.

beam-cross-staff-slope.ly



Beams can be typeset over fixed distance aligned staves, beam beautification does not really work, but knees do. Beams should behave well, wherever the switching point is.

beam-cross-staff.ly



Beams are less steep than the notes they encompass.

beam-damp.ly



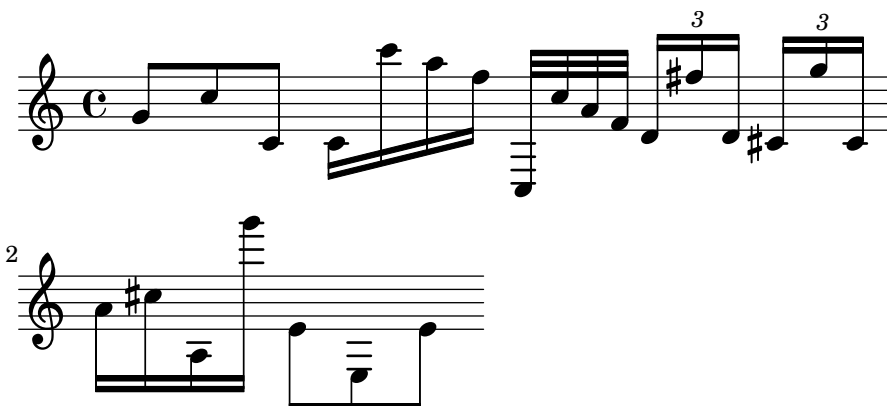
Beamed stems have standard lengths if possible. Quantization is switched off in this example.

beam-default-lengths.ly



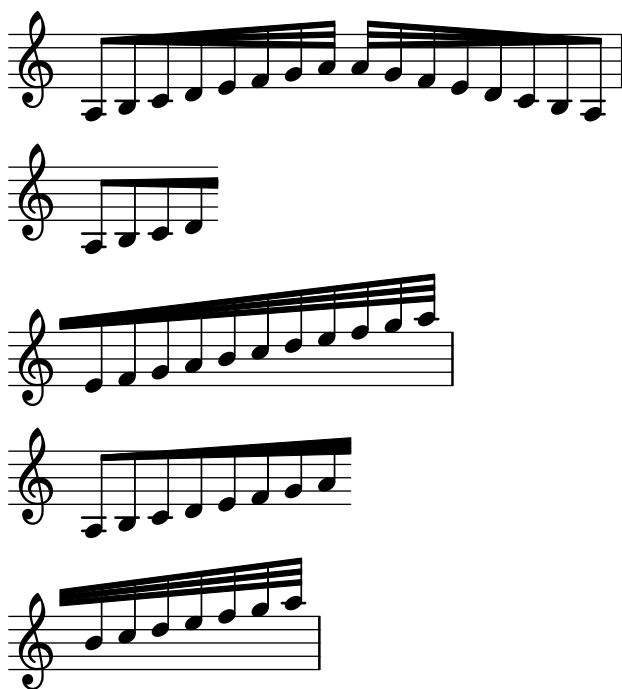
Beams should behave reasonably well, even under extreme circumstances. Stems may be short, but noteheads should never touch the beam. Note that under normal circumstances, these beams would get knees. Here `Beam.auto-knee-gap` was set to false.

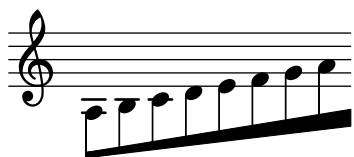
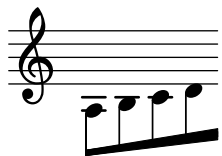
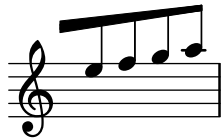
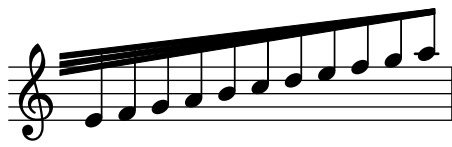
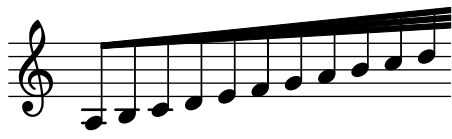
beam-extreme.ly

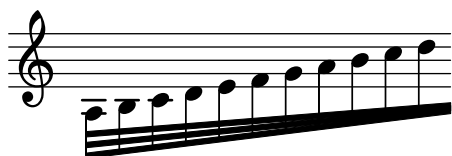
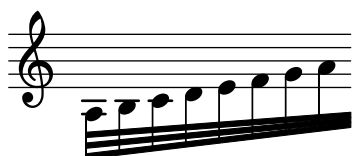
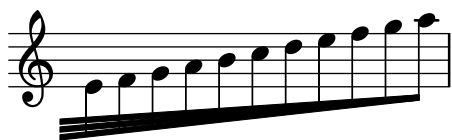
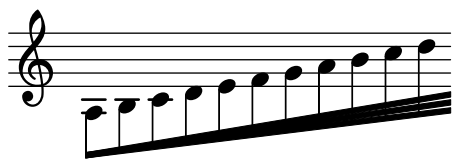


Feathered beams should have the same progress of their feathering at the end of a line break as they do at the beginning of the next line.

beam-feather-breaking.ly







In feathered beams, stems in knees reach up to the feathered part correctly.

`beam-feather-knee-stem-length.ly`



Specifying `grow-direction` on a beam, will cause feathered beaming. The `\featherDurations` function can be used to adjust note durations.

`beam-feather.ly`



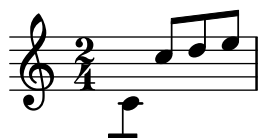
Even very flat but slanted patterns should give slanted beams.

`beam-flat-retain-direction.ly`



The direction of manual beams can be forced using `_` and `^`.

`beam-forced-direction.ly`



In French style beaming, the stems do not go between beams.

`beam-french.ly`



Funky kneed beams with beamlets also work. The beamlets should be pointing to the note head.

`beam-funky-beamlet.ly`



In complex configurations of knee beaming, according to Paul Roberts, the first stem of a beam determines the direction of the beam, and as such the way that following (kneed) stems attach to the beam. This is in disagreement with the current algorithm.

`beam-funky.ly`



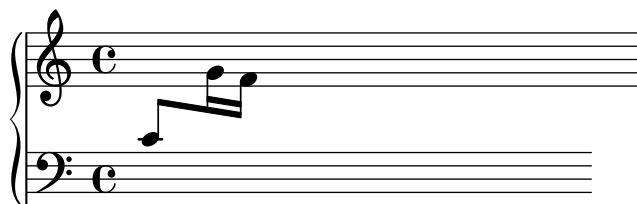
Setting `Timing.measureLength` to infinity does not interfere with beaming grace notes.

`beam-grace-infinite-measure-length.ly`



Beams can be placed across a `PianoStaff`.

beam-isknee.ly



Knead beams together with stemlets over rests work.

beam-knee-stemlet.ly



Point-symmetric beams should receive the same quanting. There is no up/down bias in the quanting code.

beam-knee-symmetry.ly



Beams should look the same.

beam-length.ly



Beaming can be overridden for individual stems.

beam-manual-beaming.ly



Knead beams (often happens with cross-staff beams) should look good when there are multiple beams: all the beams should go on continuously at the staff change. Stems in both staves reach up to the last beam.

beam-multiple-cross-staff.ly



When a beam goes over a rest, beamlets should be as necessary to show the beat structure.

beam-multiplicity-over-rests.ly



Beams may overshoot stems. This is also controlled with `break-overshoot`.

`beam-outside-beamlets.ly`



Explicit beams may cross bar lines.

`beam-over-barline.ly`



Beams on ledgered notes should always reach the middle staff line. The second beam, counting from the note head side, should never be lower than the second staff line. This does not hold for grace note beams. Override with `no-stem-extend`.

`beam-position.ly`



This file tests a few standard beam quants, taken from Ted Ross' book. If LilyPond finds another quant, the correct quant is printed over the beam.

`beam-quant-standard.ly`

6 (2.19,2.19)

12 (-0.19,-0.19) (-0.19,-0.19) (-0.19,-0.19)

18

24 (3.0,3.0)

Stem lengths take precedence over beam quants: ‘forbidden’ quants are only avoided for 32nd beams when they are outside of the staff. However, that leads to very long stems, which is even worse.

beam-quanting-32nd.ly



In this test for beam quant positions for horizontal beams, staff lines should be covered in all cases. For 32nd beams, the free stem lengths are between 2 and 1.5.

beam-quanting-horizontal.ly



Beam quanting accounts for beam overhang. A beam ending above rests should always fall on a viable quant (straddle, sit, inter, or hang).

beam-quanting-overhang.ly



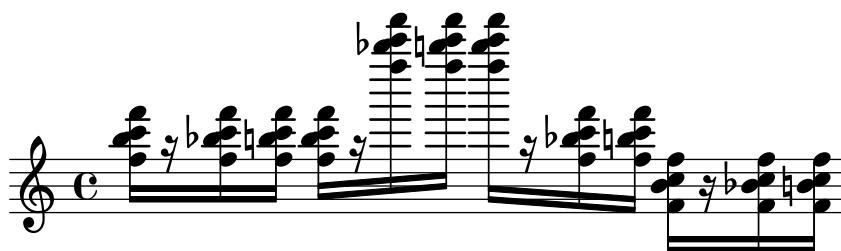
Quarter notes may be beamed: the beam is halted momentarily.

beam-quarter.ly



Beamed rests are given a pure height approximation that gets their spacing correct in the majority of circumstances.

beam-rest-extreme.ly



The number of beams does not change on a rest.

beam-rest.ly



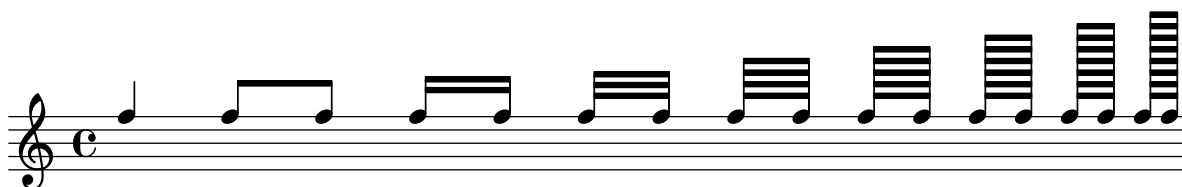
Engraving second intervals is tricky. We used to have problems with seconds being too steep, or getting too long stems. In a file like this, showing seconds, you'll spot something fishy very quickly.

beam-second.ly



Beams in unnatural direction, have shortened stems, but do not look too short.

beam-shortened-lengths.ly



Single stem beams are also allowed. For such beams, clip-edges is switched off automatically.

beam-single-stem.ly



Beams over skips do not cause a segfault.

beam-skip.ly



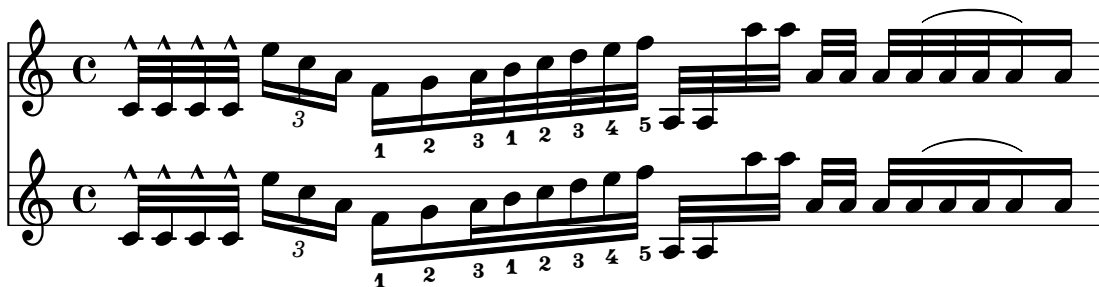
For slope calculations, stemlets are treated as invisible stems.

beam-slope-stemlet.ly



Beam positioning and placement of articulations, fingerings, triplet numbers, and slurs must be identical in standard and French beaming style.

beam-standard-french-compare.ly



Beams should be subdivided as if there was no tuplet to consider in this particular case

beam-subdivide-cancelling-tuplets.ly

The image shows three staves of musical notation. Each staff contains a sequence of notes with beams. Above the notes, there are brackets indicating tuplet ratios. The first staff has a 4:1 ratio over the first four notes and a 1:4 ratio over the last four notes. The second staff has a 4:1 ratio over the first four notes and a 1:4 ratio over the last four notes. The third staff has a 4:1 ratio over the first four notes and a 1:4 ratio over the last four notes.

Even under unusual measure lengths, beam subdivision should not defect

beam-subdivide-compound-meter.ly

The image shows two staves of musical notation. The first staff has a time signature of 2+5/32. The notes are grouped with beams, and the second staff shows the same notes with different beam subdivisions.

When subdividing tuplet ratios whose numerators are powers of 2, the beamlet removal depth of each subdivision should vary by the same level different, depending on the tuplet ratio magnitude

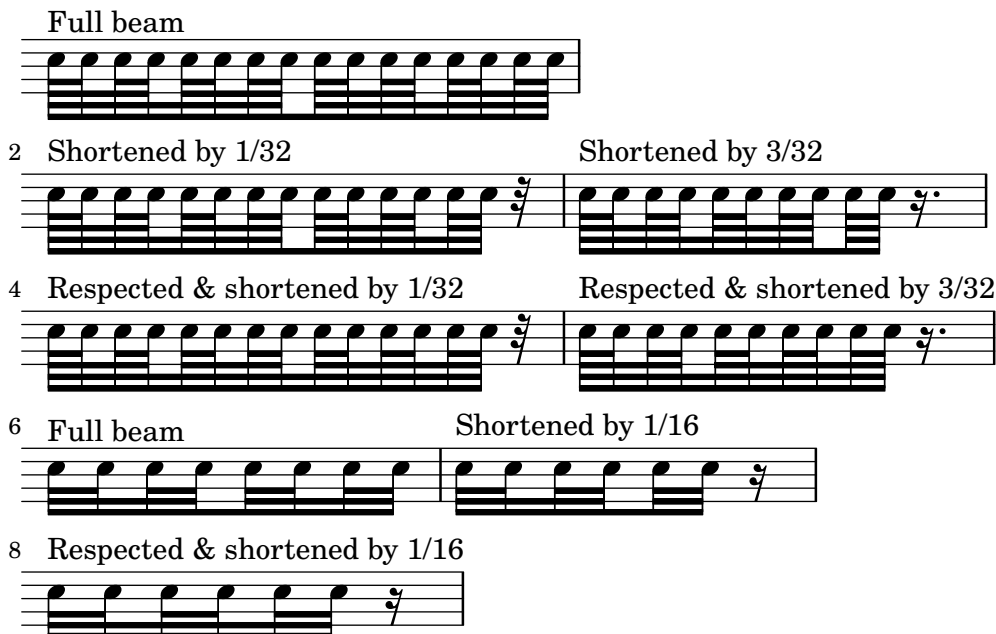
beam-subdivide-duplets.ly

The image shows five staves of musical notation. Each staff contains a sequence of notes with beams. Above the notes, there are brackets indicating tuplet ratios. The first staff has a 1:2 ratio. The second staff has a 1:4 ratio. The third staff has a 1:8 ratio. The fourth staff has a 2:1 ratio. The fifth staff has a 4:1 ratio.



Beam count at subdivisions should match the count corresponding to the location of the current subdivision. However, if the remainder of the beam is shorter than that and incomplete beams are respected, the beam count should be adopted accordingly.

beam-subdivide-incomplete-beam.ly



A triplet of any level should clearly subdivide its 3 beats at its topmost level, and any subdivisions (of powers of 2) of those beats should be at their own level strictly lower than said topmost level.

beam-subdivide-nested-triplets.ly



The default subdivision of a pentadecuplet should be none as the hamming weight of the denominator is more than 1.

beam-subdivide-pentadecuplet.ly



Beam count at subdivisions should match the location of the current subdivision. However, if the groups are equal or longer than quarter notes, one beam should always be left.

beam-subdivide-quarter-notes.ly



At position 1/8, the beam should be subdivided at the 1/16 level due to the time signature
beam-subdivide-three-numerator-meter.ly



If in a subdivided beam one single stem follows a subdivision the beam count should reflect the beam count of the subdivision as usual. That is, the beam count should not be increased according to the remaining length of the beam. The appended single stem has beamlets to the left.

beam-subdivide-trailing-stem.ly



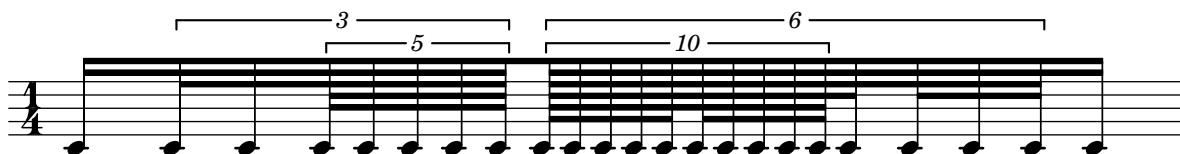
Even though their tuplet ratios are the same when simplified each additional power of 2 in the tuplet numerator subdivides an additional half

beam-subdivide-triplet-variants.ly

Four musical staves in 4/4 time, each showing a sequence of eighth notes with a triplet span. The triplet spans are labeled with their ratios: 3:2, 6:4, 12:8, and 24:16. Each staff shows the subdivision of the triplet span at a different level, illustrating how the ratio increases with the power of 2.

Stems at boundaries of tuplet spans must have one side subdivided from a perspective outside of said tuplet span

beam-subdivide-tuplet-boundaries.ly



Tuplets that span more than one beat should be subdivided if `subdivideBeams` is `#t`. In this example, the beams should be subdivided every 1/8.

`beam-subdivide-tuplets.ly`



Properties `maximumBeamSubdivisionInterval` and `minimumBeamSubdivisionInterval` may have a non-power-of-2 numerator. If `maximumBeamSubdivisionInterval` does have non-power-of-2 numerator, let `n` be the largest odd factor of that numerator. The beamlets should be subdivided `n` times less frequently than as if `n` was 1. Since `minimumBeamSubdivisionInterval` only sets a lower bound for intervals of subdivision interval, it having a non-power-of-2 numerator is not much any different from an appropriate power-of-2 counterpart.

`beam-subdivide-unusual-subdivision-intervals.ly`

unsubdivided pos=2

2 default subdivision pos=2

3 max=3/2 pos=2

4 min=3/2 pos=2

5 max=3/2 min=2/2 pos=2

6 max=3/2 min=3/2 pos=2

7 max=3/2 min=4/2 pos=2

Beam count at subdivisions should match the location of the current subdivision.

beam-subdivision.ly

minimumBeamSubdivisionInterval 1/4

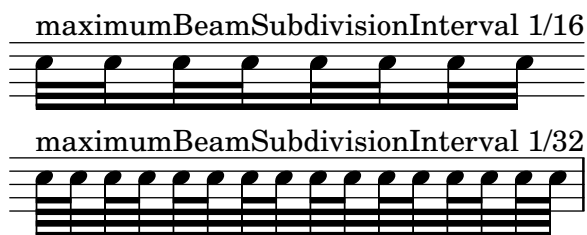
minimumBeamSubdivisionInterval 1/8

minimumBeamSubdivisionInterval 1/16

minimumBeamSubdivisionInterval 1/32

2 maximumBeamSubdivisionInterval 1/4

maximumBeamSubdivisionInterval 1/8

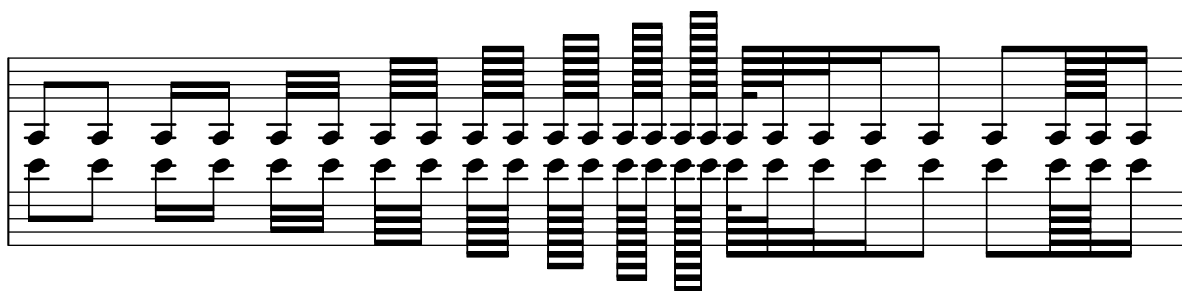


By setting `max-beam-connect`, it is possible to create pairs of unconnected beamlets.
`beam-unconnected-beamlets.ly`



Inside-staff beams should align with staff lines (sit, straddle, hang) as smoothly as possible (standard-sized beams). The outside-staff beams do not interfere with staff lines, so the inside-staff beams are more important when it comes to beam quanting/scoring/positioning.

`beaming-more-than-4-beams-normal-size.ly`



Automatic beaming works also in ternary time sigs. As desired, the measure is split in half, with beats 1-3 and 4-6 beamed together as a whole.

`beaming-ternary-metrum.ly`



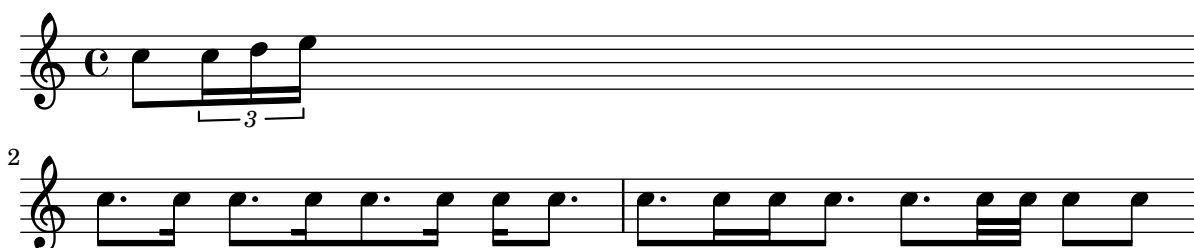
Beams in a completed triplet should be continuous.

`beaming-triplet-regular.ly`



Beaming is generated automatically. Beams may cross bar lines. In that case, line breaks are forbidden.

`beaming.ly`





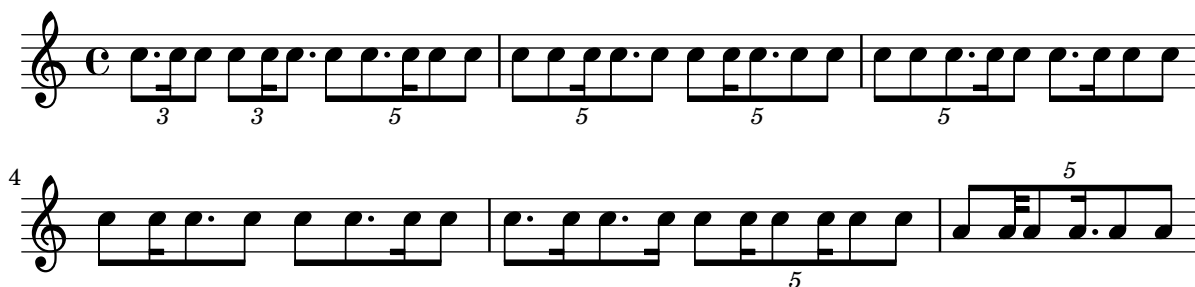
Beamlets can be set to point in the direction of the beat to which they belong. The first beam avoids sticking out flags (the default); the second beam strictly follows the beat.

beamlet-point-toward-beat.ly



Beamlets should point away from complete beat units and toward off-beat or broken beat units. This should work in triplets as well as in ordinary time.

beamlet-test.ly



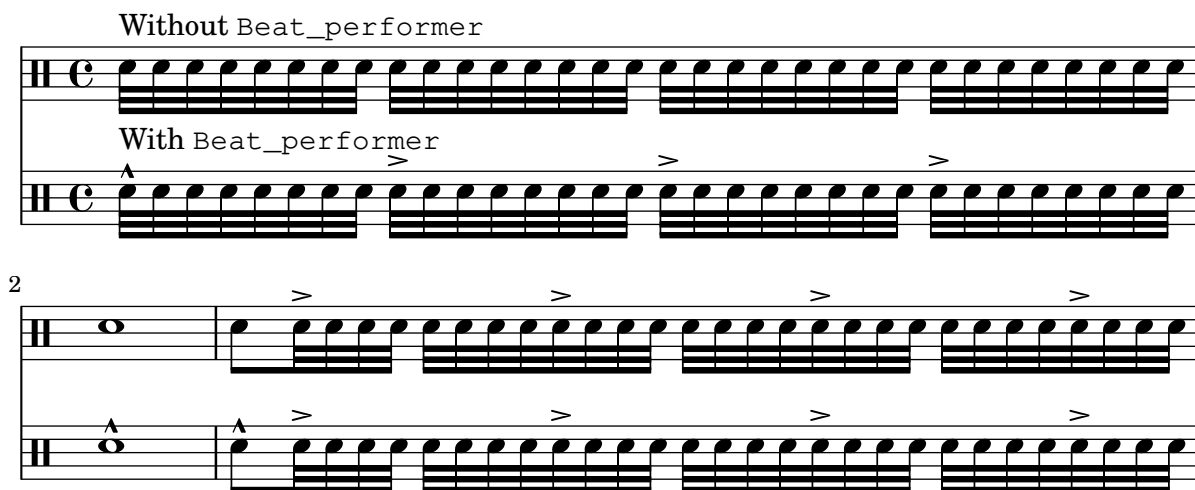
Beaming can be also given explicitly.

beams.ly



Show the effect of the `Beat_performer` on drum tremolos: start of the bar and its beats are marked by `\marcato` and `\accent`, respectively, unless manual syncopes in less distance than the last 'regular' beat precede, indicated with one of those two articulations explicitly.

beat-performer.ly



4

A musical score consisting of two staves. The top staff has a treble clef and a common time signature. It contains a series of eighth notes with stems pointing up, followed by a quarter rest. The bottom staff has a bass clef and a common time signature. It contains a series of eighth notes with stems pointing down, followed by a quarter rest. There are three accents (>) above the eighth notes in the bottom staff, and a grace note (^) above the quarter rest.

Falls and doits terminate correctly on the next note, even when started inside a `\grace`.
`bend-after-start-in-grace.ly`

A musical score consisting of two staves in treble clef with a common time signature. The top staff has a single melodic line with four notes, each with a bend symbol. The bottom staff has a more complex melodic line with four notes, each with a bend symbol, followed by a series of eighth notes.

Falls and doits can be created with `\bendAfter`. They run to the next note, or to the next bar line. Microtone bends like `\bendAfter 3.5` are also supported.
`bend-after.ly`

A musical score consisting of a single staff in treble clef with a common time signature. It contains a sequence of notes with stems pointing up and down, each with a bend symbol.

Bends should not be affected by the full width of a `NonMusicalPaperColumn`. The bends should have identical X spans in the two scores. No bends should cross bar lines.
`bend-bound.ly`

A musical score consisting of two staves in treble clef with a common time signature. The top staff has a sequence of notes with stems pointing up and down, each with a bend symbol. The bottom staff has a complex rhythmic pattern of eighth notes with stems pointing down.

3

A musical score consisting of two staves in treble clef with a common time signature. The top staff has a sequence of notes with stems pointing up and down, each with a bend symbol. The bottom staff has a complex rhythmic pattern of eighth notes with stems pointing down.

200 (200) 201 (201)

A musical score consisting of two staves in treble clef with a common time signature. The top staff has a sequence of notes with stems pointing up and down, each with a bend symbol. The bottom staff has a complex rhythmic pattern of eighth notes with stems pointing down. The numbers 200, (200), 201, and (201) are placed above the staves.

202 (202) 203 (203)

Bends avoid dots, but only if necessary.

bend-dot.ly

Multiple consecutive BendSpanner grobs work. Every BendSpanner following another one starts at the arrow head of the previous one or at a TabNoteHead.

bend-spanner-consecutive.ly

consecutive bends up consecutive bends down with pre-bend-hold

6 extreme

10

A BendSpanner may be customized by tweaking the subproperties of 'details.

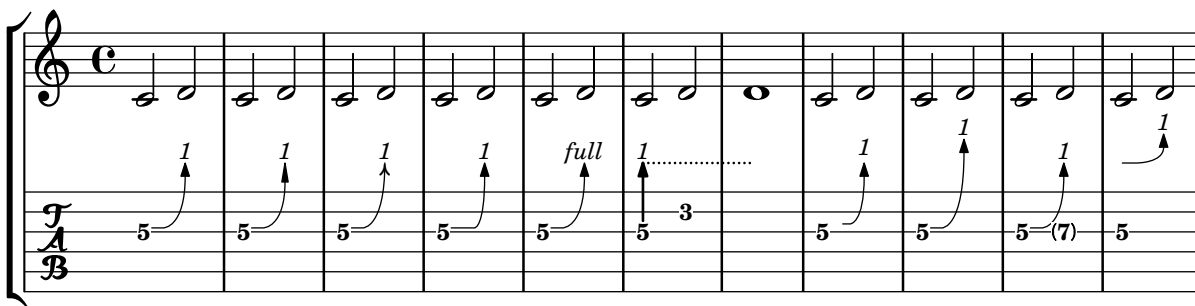
- 'bend-arrowhead-height
- 'bend-arrowhead-width
- 'arrow-stencil best to override it with a procedure (as an argument to the after-line-breaking property) setting this subproperty.
- 'curvature-factor
- 'bend-amount-strings
- 'dashed-line-settings
- 'horizontal-left-padding
- 'vertical-padding
- 'y-distance-from-tabstaff-to-arrow-tip
- 'target-visibility

Line-breaking behavior may be customized with:

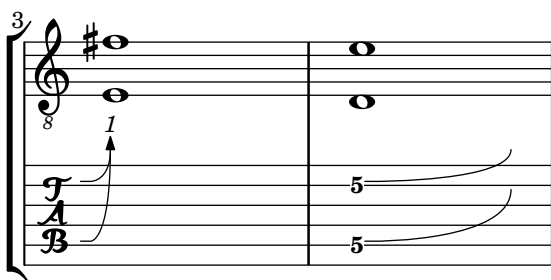
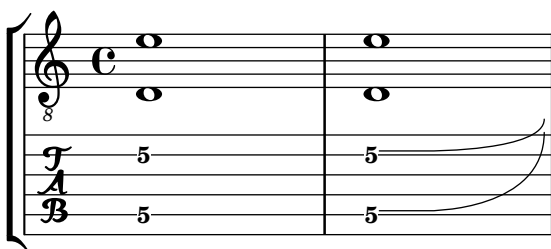
- 'curve-x-padding-line-end
- 'curve-y-padding-line-end
- 'head-text-break-visibility

bend-spanner-details.ly

subproperties of 'details



subproperties of 'details for line-breaking behavior



Per default notes played on open strings are disregarded by BendSpanner unless the property 'bend-me is set to true for this note. Other notes may be excluded by setting the property 'bend-me to false.

`bend-spanner-exclude-notes.ly`

open strings are not bent unless 'bend-me is set true.

③ is open/bend

② is open/bend

① is open/bend

other notes excluded via `\tweak bend-me ##f`

At a line break the BendSpanner avoids changed TimeSignature, KeySignature, KeyCancellation and Clef in other staves.

bend-spanner-line-break.ly

The image shows a musical score with two systems. The first system has a treble clef staff with a key signature of one flat and a common time signature. Below it is a guitar tab staff with a '5' on the fifth line. A long, thin curve starts from the '5' and extends across the system boundary. The second system starts with a new key signature of three sharps and a common time signature. The curve from the first system ends with an arrowhead pointing to a note on the first line of the second system's guitar tab staff, which has a '1' above it.

A BendSpanner prints a line and/or curve to a certain point above the TabStaff or above the target TabNoteHead. This line or curve ends in an arrow head. For an up-pointing BendSpanner the amount of bending is printed above the arrow head. For a down-pointing BendSpanner the target TabNoteHead will be parenthesized. Works at line breaks.

bend-spanner-simple.ly

The image shows three systems of musical notation for guitar. The first system is titled 'simple bends up and down' and shows six measures of music. The second system is titled 'double bends up and down' and shows four measures. The third system shows three measures with line breaks. Each system includes a treble clef staff and a guitar tab staff. Bends are indicated by arrows with numerical values (e.g., 1 1/2, 1 1/4, 1, 3/4) above them. Some notes are marked with '3' for triplets or '(3)' for parentheses. The third system includes a key signature change to three sharps.

14 bends up and down

15

17

20

22

BendSpanner scales according to different staff sizes.

bend-spanner-staff-size.ly

`BendSpanner` can be used in different styles: the default, `'hold`, printing a dashed line (only useful in combination with a previous `BendSpanner`), `'pre-bend`, printing a vertical line, and `'pre-bend-hold`, printing a vertical line continued by a dashed horizontal line.

The `'style` property may be set using `\tweak`, `\override` or one of `\bendHold`, `\preBend` and `\preBendHold`.

`bend-spanner-styles.ly`

`BendSpanner` may be started at a tied note. To skip tied notes `NoteColumn.bend-me` should be set to false. The following `BendSpanner` continues without a gap.

`bend-spanner-tied-notes.ly`

This input file contains a UTF-8 BOM not at the very beginning, but on the first line after the first byte. LilyPond should gracefully ignore this BOM as specified in RFC 3629, but print a warning.

bom-mark.ly



Changing `global-staff-size` between consecutive `\books` must not impair font spacing. While the Pango fonts stay the same and may be re-used, the internal LilyPond scaling factor will not be correct any more. Not only `\abs-fontsize`, but even `\fontsize` (in extreme cases) will be affected. The following output shows a 10pt book after a standard 20pt book:

book-change-global-staffsize-abs-fonts.ly

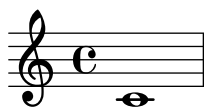
**Changing global staff size
from 20pt to 10pt in the 2nd book**

`\fontsize #6`
`\fontsize #0`

`\abs-fontsize #10 text` `\dynamic fff`
`\abs-fontsize #10`

A `\book` or `\bookpart` identifier can contain top-level markup and page-markers.

book-identifier-markup.ly



Page ?

A `book(part)` can contain only a label without causing a segfault.

book-label-no-segfault.ly

foo

It is possible for one bookpart to have its independent page numbers while the others have a common sequence of page numbers.

bookpart-level-page-numbering-one-bookpart.ly

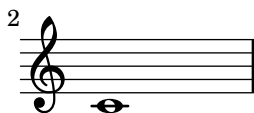
Lorem ipsum
dolor sit amet,
consectetur
adipiscing elit.
Aenean aliquam
elementum
tortor, vitae
euismod ex

ii
malesuada
lobortis. Nullam
iaculis lorem
ante, quis iaculis
orci ultrices
vitae.
Suspendisse ac

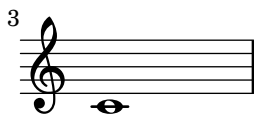
lacus eget dolorⁱⁱⁱ
porttitor
elementum vitae
ut justo. Duis in
commodo diam.



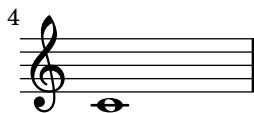
2



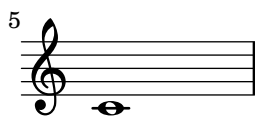
3



4



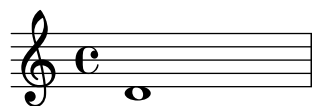
5



LilyPond v2.25.16

Pages can be numbered per bookpart rather than per book.

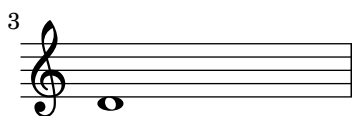
bookpart-level-page-numbering.ly



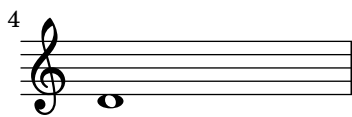
2



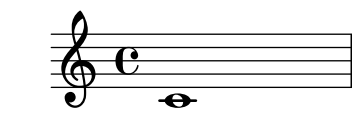
3



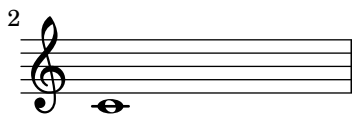
4



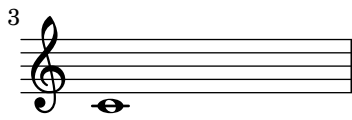
5



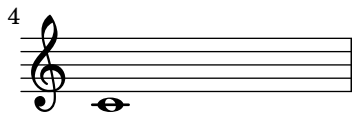
2



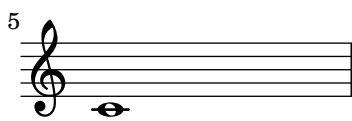
3



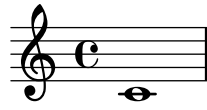
4



5



LilyPond v2.25.16



A book can be split into several parts with different paper settings, using `\bookpart`.

Fonts are loaded into the top-level paper. Page labels are also collected into the top-level paper.

`bookparts.ly`

Book with several parts

First part
with default paper settings.

ij SECOND PART

Book with several parts

Second part, with different margins
and page header.



3

Book with several parts

Third part

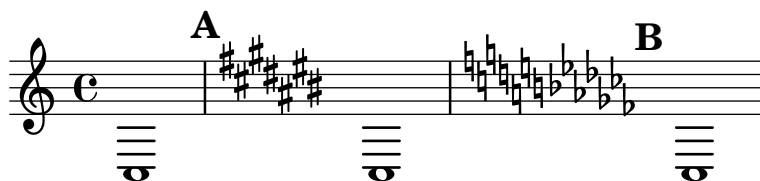
Table of Contents

First part	1
Second part	2
Third part	3

LilyPond v2.25.16

The default callback for `break-align-anchor` in clefs and time/key signatures reads the `break-align-anchor-alignment` property to align the anchor to the extent of the break-aligned grob.

`break-alignment-anchor-alignment.ly`



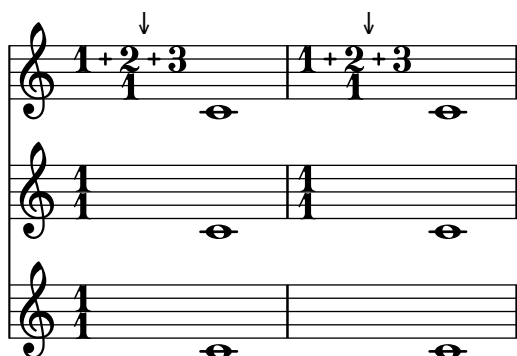
In this case, the compound time signature has a CENTER (0) anchor point and the 1/1 time signature has a LEFT (1) anchor point. The midpoint of these is 0.75, but it is not used for the “average” anchor point of the group because it would fall outside the range of anchor points that the isolated time signatures would choose. Instead, the average anchor point is the closer extreme of that range, which is the center of the compound time signature. The arrow should point there.

break-alignment-anchor-average-clamp.ly



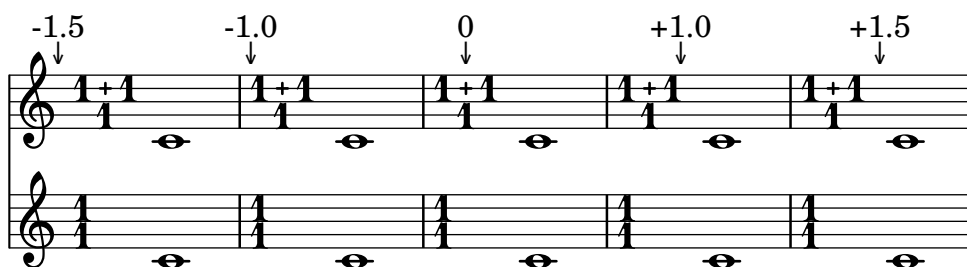
The “average” anchor of a diverse group of break-aligned items depends on the range of the particular anchors, but not on the number of items. In this case, the arrows should appear at the same horizontal position in both measures though the 1/1 time signature appears twice in one measure and only once in the next.

break-alignment-anchor-average-midpoint.ly



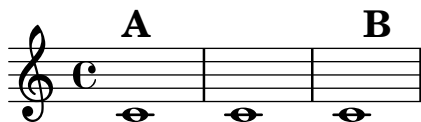
When a group of break-aligned items agree on the position of their own anchors with respect to their own extents, the “average” anchor of the group falls at that position with respect to the extent of the group. In this case, each rehearsal mark should point to the stated point relative to the compound time signature.

break-alignment-anchor-average-unanimous.ly



The break-align-anchor property of a break-aligned grob gives the horizontal offset at which other grobs should attach.

`break-alignment-anchors.ly`



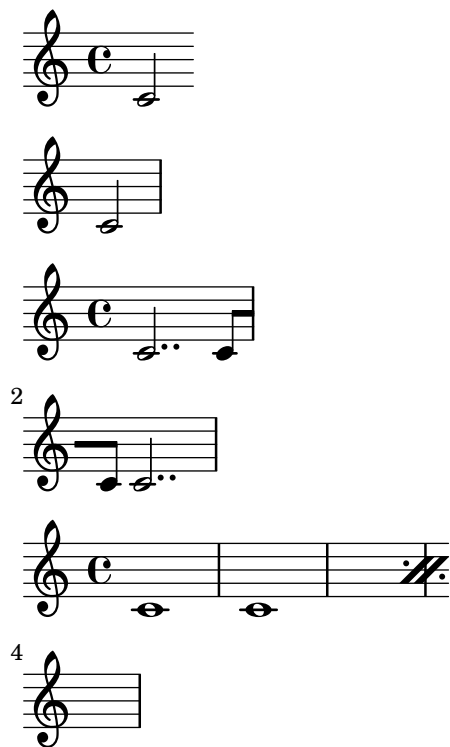
A `Dynamics` context over a `Staff` does not impact the spacing of bar numbers relative to the staff at a line break. Bar number 2 should appear in its usual spot.

`break-alignment-dynamics-over-staff.ly`



`\break` forces a break, even in circumstances where LilyPond would normally not allow a break.

`break-bypass-default-break-points.ly`



A clef is printed at a break, even without a bar line.

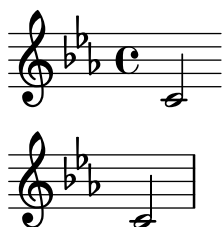
`break-no-bar-clef.ly`





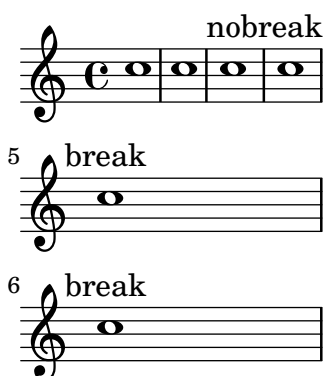
A key signature is printed at a break, even without a bar line.

`break-no-bar-key.ly`



Breaks can be encouraged and discouraged using `\break` and `\noBreak`.

`break.ly`



The `breathMarkType` context property controls the sign that `\breathe` produces. The output should show two default breathing signs then two tick marks (check marks).

`breath-mark-type.ly`



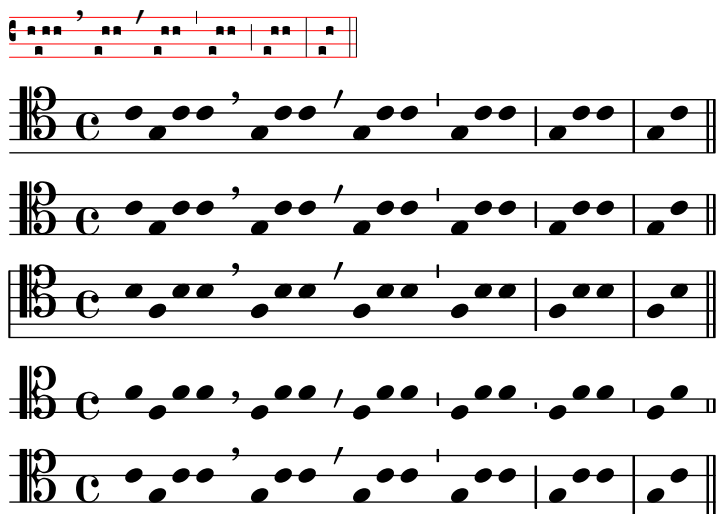
Breathing signs do not collide with accidentals.

`breathing-sign-accidentals.ly`



Gregorian chant notation sometimes also uses commas and ticks, but in smaller font size (we call it ‘virgula’ and ‘caesura’). However, the most common breathing signs are *divisio minima/maior/maxima* and *finalis*, the latter three looking similar to bar glyphs.

breathing-sign-ancient.ly



Breathing signs are positioned correctly on custom staves which use line-positions.

breathing-sign-custom-staff.ly



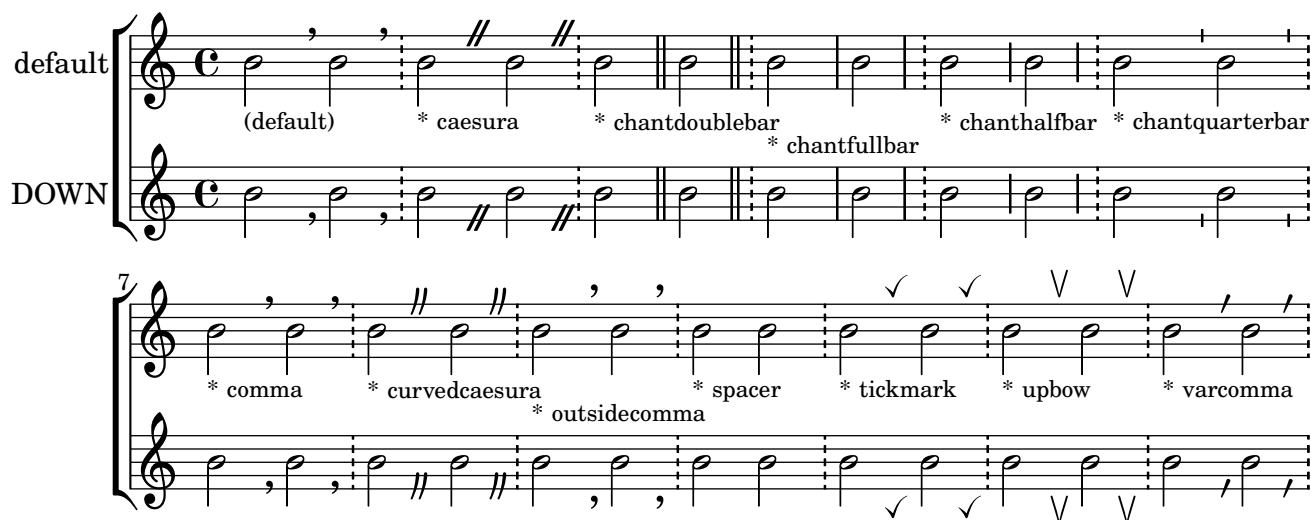
Breathing signs do not collide with note heads even in very constrained spacing situations.

breathing-sign-tight-spacing.ly



This test shows the predefined values available for context properties that specify a type of BreathingSign. The dotted lines are bar lines.

breathing-sign-types-one-voice.ly



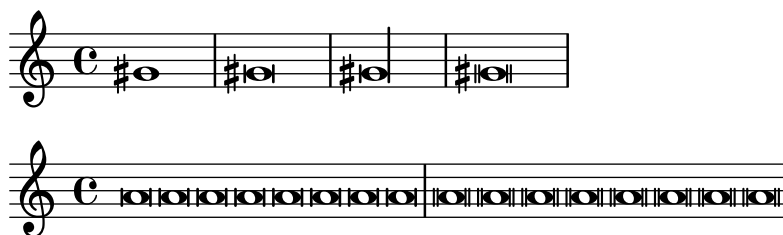
Breathing signs are available in different tastes: commas (default), ticks, vees and 'railroad tracks' (caesura).

breathing-sign.ly



LilyPond knows that breves and longas are wider than whole notes (because of vertical lines on their sides). Breves and longas don't collide with accidentals, bar lines, neighbor notes, etc. The distance between accidental and note is the same for whole notes, breves and longas.

breve-extent.ly



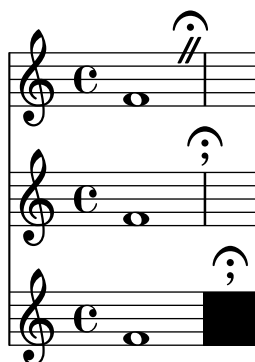
A grace note after `\cadenzaOff` does not keep autobeaming from resuming properly.

cadenza-grace-autobeam.ly



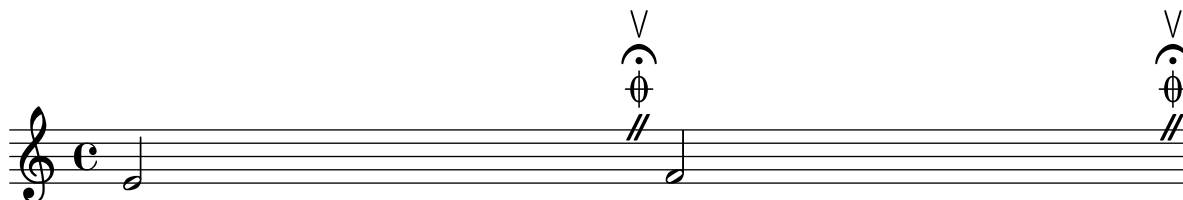
Caesura scripts can align to breath marks in some staves and to bar lines in others. The output should have one staff with a fermata over 'railroad tracks'. The other staves should have a fermata over a comma at bar lines, and the scripts should align to the bar lines individually.

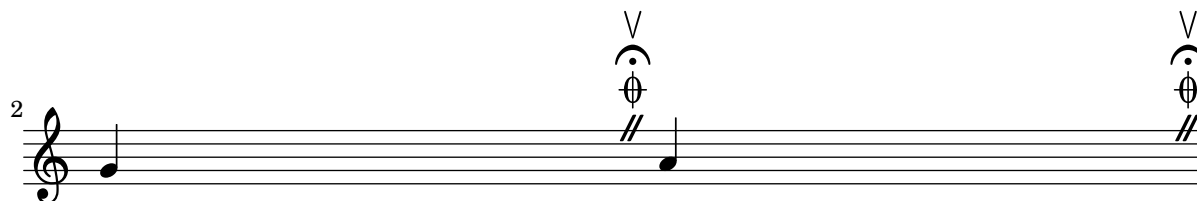
caesura-alignment-multiple.ly



Articulations following `\caesura` are stacked according to the same priorities as articulations following notes. These articulations should look the same though the input order is different each time.

caesura-articulation-multiple.ly





In staff groups where span bar lines are engraved, caesura marks aligned on bar lines appear outside the extremal staves only, even at points where no span bar is visible.

The top PianoStaff should not have fermatas between the staves where the other PianoStaff and ChoirStaves do.

`caesura-over-span-bar-line.ly`

A musical score consisting of six systems of staves. Each system has two staves. The first two systems are for Piano (PianoStaff) and the last two are for Choir (ChoirStaff). The score shows various musical notations including notes, rests, and fermatas. Caesura marks are placed above bar lines, and span bar lines are visible below the staves.

A caesura script is automatically shifted up to avoid colliding with a tall bar line.

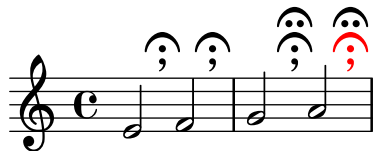
`caesura-over-tall-bar-line.ly`

A single musical staff in treble clef. It contains a quarter rest followed by a double bar line. A caesura mark (a 'V' with a dot) is positioned above the bar line. Below the staff, there is a double bar line.

Context modifications can make `\caesura` appear as a stack of scripts. In this case, the caesura itself is engraved as a fermata over a comma, and a double-dot fermata is added as an

articulation. The final caesura is colored red with `\tweak ... \caesura ...`, which affects both the fermata and the comma, but not the additional articulation.

`caesura-script-multiple.ly`



This test customization of `\caesura`. In mid measure, the caesura appears as a comma outside the staff. At a bar line, no caesura mark appears, but optional articulations still appear.

`caesura-style-comma-not-at-bar-line.ly`

		No Art.	Art. ↓	Art. ↑	Art. Neutral
B.Sign ↑		;	;	;	;
C.Script ↑					
B.Sign ↓	,	,	;	;	;
C.Script ↑					
B.Sign ↑			;	;	;
C.Script ↓	,	,	;	;	;
B.Sign ↓			;	;	;
C.Script ↓	,	,	;	;	;

This test customization of `\caesura`. In mid measure, the caesura appears as a comma outside the staff. At a bar line it appears as a fermata.

`caesura-style-comma-or-fermata.ly`

		No Art.	Art. ↓	Art. ↑	Art. Neutral
B.Sign ↑		;	;	;	;
C.Script ↑					
B.Sign ↓	,	;	;	;	;
C.Script ↑					
B.Sign ↑			;	;	;
C.Script ↓	,	;	;	;	;
B.Sign ↓			;	;	;
C.Script ↓	,	;	;	;	;

Context modifications can make `\caesura` appear as a comma outside the staff. In this case, when the caesura comes at a measure boundary, the comma is aligned over the bar line rather than like a breath mark.

caesura-style-comma-over-bar-line.ly

No Art. Art. ↓ Art. ↑ Art. Neutral

The image displays four systems of musical notation. Each system consists of two staves: a top staff labeled 'B.Sign' and a bottom staff labeled 'C.Script'. The systems are labeled on the left as follows: System 1: B.Sign ↑, C.Script ↑; System 2: B.Sign ↓, C.Script ↑; System 3: B.Sign ↑, C.Script ↓; System 4: B.Sign ↓, C.Script ↓. Above the staves, articulation symbols are placed: semicolons for 'No Art.', a semicolon with a downward arrow for 'Art. ↓', a semicolon with an upward arrow for 'Art. ↑', and a semicolon with a neutral arrow for 'Art. Neutral'. The symbols are positioned over the bar lines of the C.Script staves. The notes on the C.Script staves are quarter notes, and the B.Sign staves are empty.

Context modifications can make `\caesura` appear as a comma outside the staff. In this case, all commas are horizontally aligned like breath marks, even when the caesura comes at a measure boundary.

caesura-style-comma.ly

No Art. Art. ↓ Art. ↑ Art. Neutral

The image displays four systems of musical notation, identical in layout to the previous block. Each system consists of two staves: a top staff labeled 'B.Sign' and a bottom staff labeled 'C.Script'. The systems are labeled on the left as follows: System 1: B.Sign ↑, C.Script ↑; System 2: B.Sign ↓, C.Script ↑; System 3: B.Sign ↑, C.Script ↓; System 4: B.Sign ↓, C.Script ↓. Above the staves, articulation symbols are placed: semicolons for 'No Art.', a semicolon with a downward arrow for 'Art. ↓', a semicolon with an upward arrow for 'Art. ↑', and a semicolon with a neutral arrow for 'Art. Neutral'. The symbols are positioned over the bar lines of the C.Script staves. The notes on the C.Script staves are quarter notes, and the B.Sign staves are empty.

This test shows the default caesura mark style.

caesura-style-default.ly

The image shows four systems of musical notation. Each system consists of two staves: 'B.Sign' and 'C.Script'. The first system is labeled with 'No Art.', 'Art. ↓', 'Art. ↑', and 'Art. Neutral'. The caesura marks are represented by double slashes in the B.Sign staff and curved lines in the C.Script staff.

This test customization of `\caesura`. In mid measure, the caesura appears as ‘railroad tracks’. At a bar line it appears as a fermata.

caesura-style-straight-or-fermata.ly

The image shows four systems of musical notation. Each system consists of two staves: 'B.Sign' and 'C.Script'. The first system is labeled with 'No Art.', 'Art. ↓', 'Art. ↑', and 'Art. Neutral'. The caesura marks are represented by double slashes in the B.Sign staff and straight lines or fermatas in the C.Script staff.

Long titles should be properly centered.

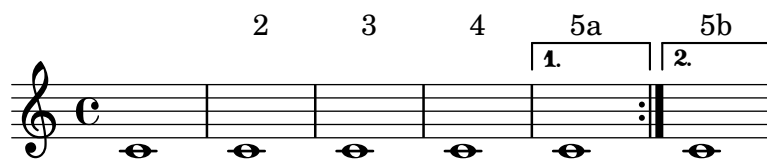
center-title.ly

How Razorback Jumping Frogs Level Six Piqued Gymnast



Centered bar numbers may be altered according to alternatives just like regular bar numbers.

centered-bar-numbers-alternative.ly



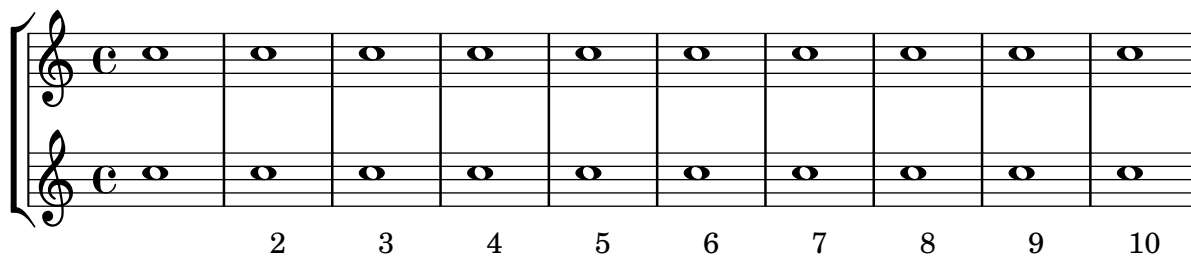
The centering of measure-centered bar numbers does not take prefatory material (such as clefs and time signatures) into account in the extent of the measure. This may be overridden by the user.

centered-bar-numbers-centering.ly



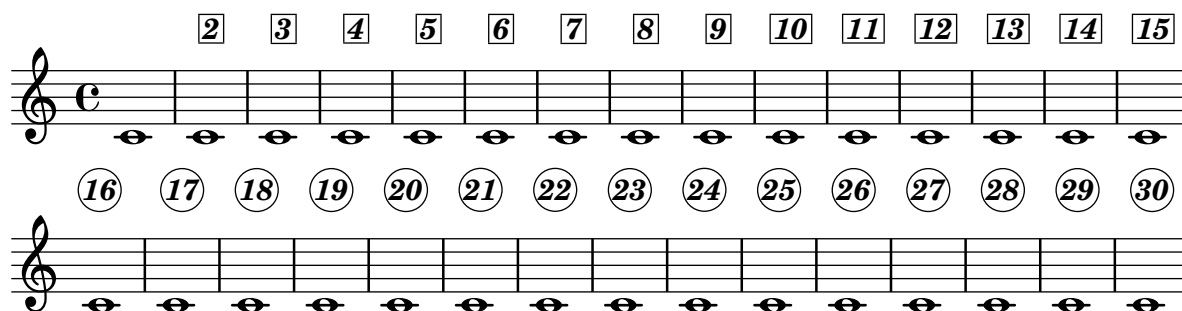
Measure-centered bar numbers may be placed beneath the staves.

centered-bar-numbers-down.ly



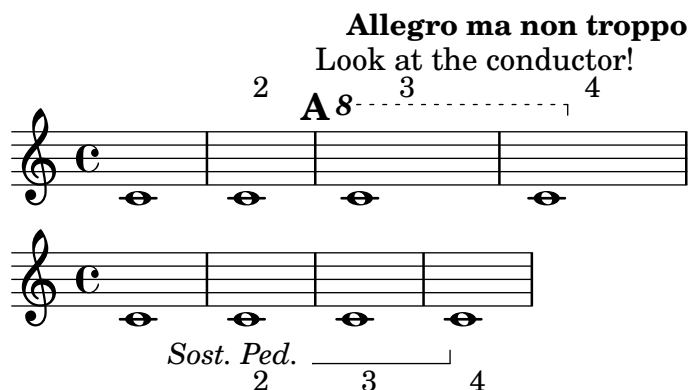
Centered bar numbers may be boxed or circled. Their appearance can be changed through properties of the text-interface.

centered-bar-numbers-formatting.ly



Test the stacking of measure-centered bar numbers with other objects.

centered-bar-numbers-priority.ly



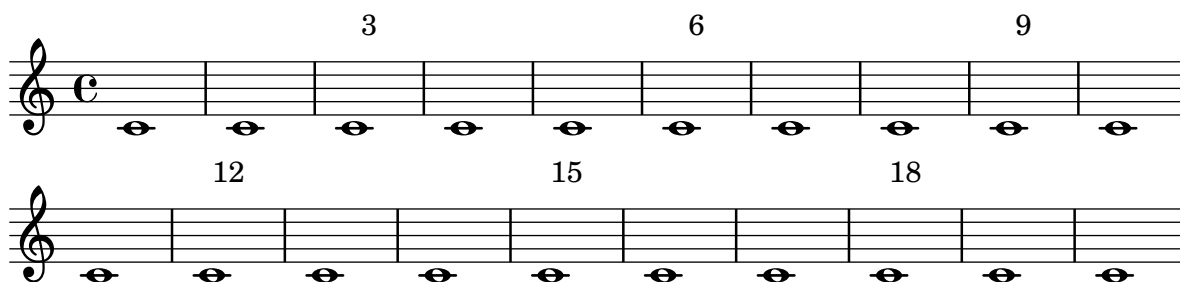
self-alignment-X can be overridden on centered bar numbers.

centered-bar-numbers-self-alignment-X.ly



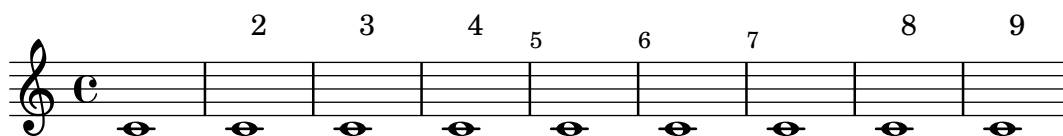
Centered bar numbers honor the barNumberVisibility context property.

centered-bar-numbers-visibility.ly



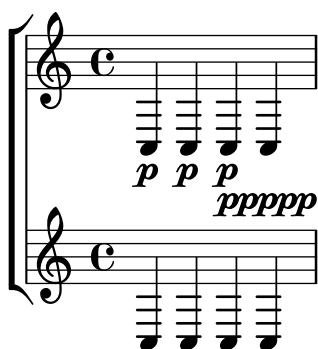
Bar numbers may be centered within their measure.

centered-bar-numbers.ly



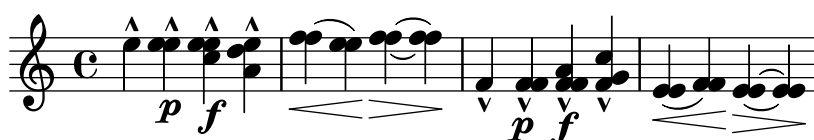
In ChoirStaff contexts, dynamics are allowed to cross columns.

choirstaff-dynamics-spacing.ly



Chords containing unisons or seconds: Center articulation marks, dynamics, slurs, etc., on the notehead that is on the “correct” side of the stem.

chord-X-align-on-main-noteheads.ly



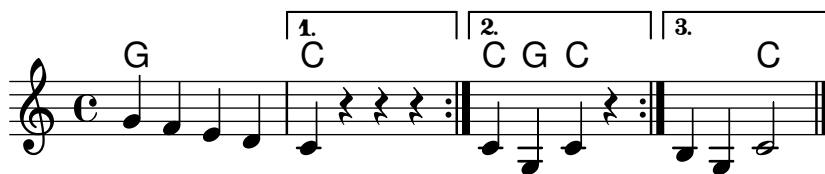
The prefix of additional chord pitches can be tuned with additionalPitchPrefix.

chord-additional-pitch-prefix.ly

C⁹ C^{add9}

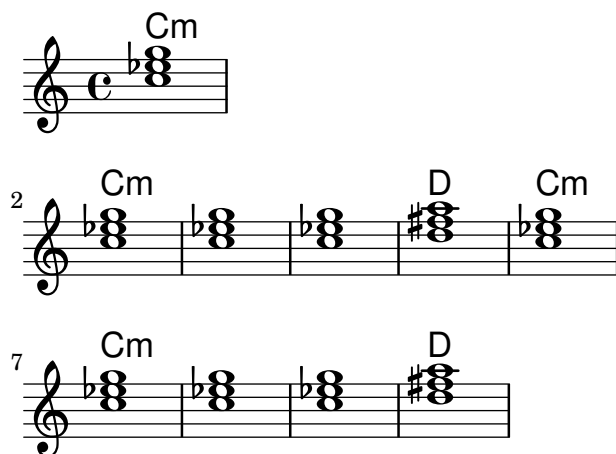
Chord change detection in repeat alternatives happens in relation to the chord active at the beginning of the first alternative.

chord-changes-alternative.ly



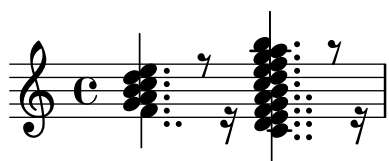
Property chordChanges: display chord names only when there's a change in the chords scheme, but always display the chord name after a line break.

chord-changes.ly



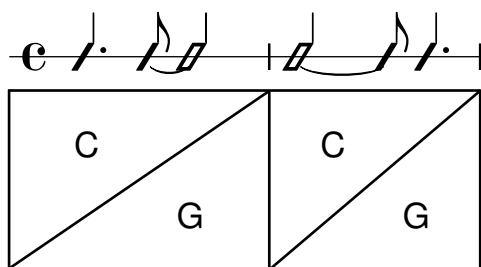
The column of dots on a chord is limited to the height of the chord plus chord-dots-limit staff-positions.

chord-dots.ly



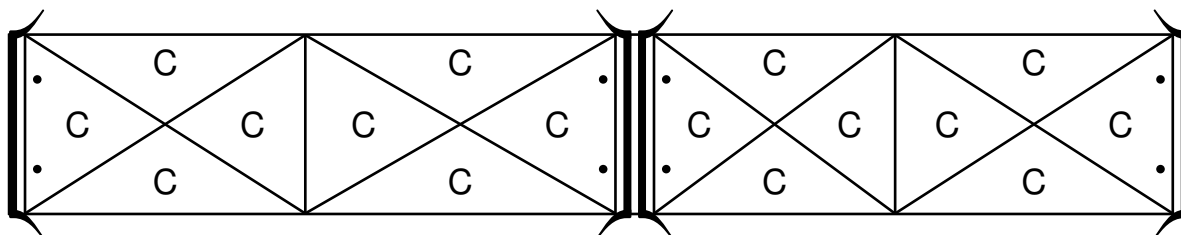
Contexts can be created in parallel with ChordGrid by instantiating a ChordGridScore explicitly.

chord-grid-additional-contexts.ly



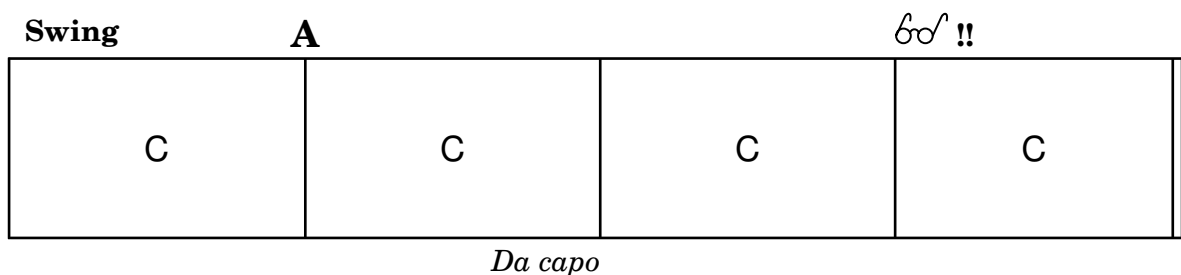
In chord grids, lines inside squares attach to the innermost line of the bar line.

chord-grid-bar-line-attachment.ly



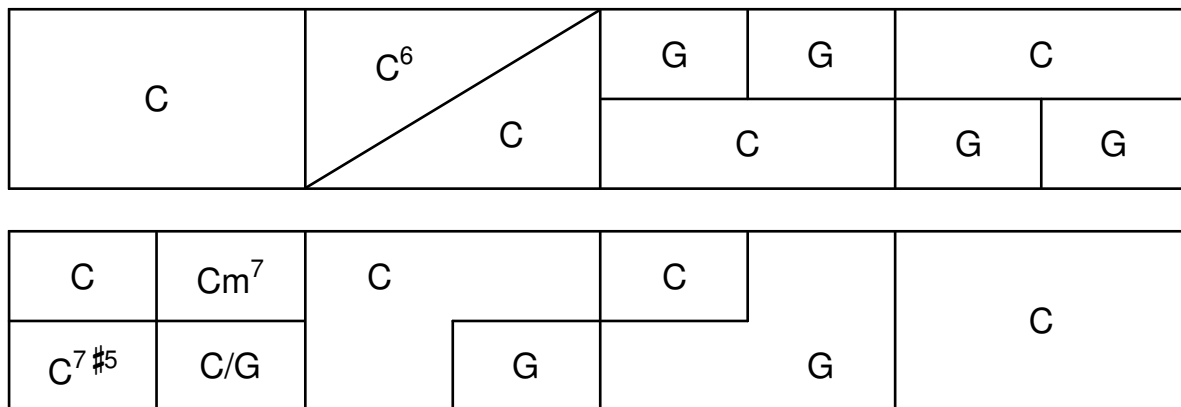
Various kinds of marks can be used within ChordGrid contexts.

chord-grid-marks.ly



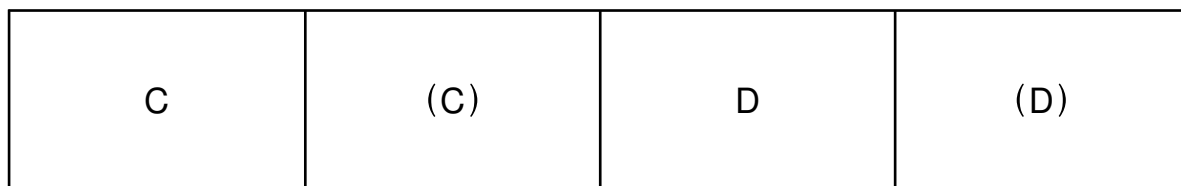
In chord grids, the `\medianChordGridStyle` command causes measures split in 4 equal parts to be printed with median rather than diagonal lines. This is the style recommended in Philippe Baudoin's book *Jazz, mode d'emploi*.

chord-grid-median-style.ly



Individual chords can be parenthesized in chord grids.

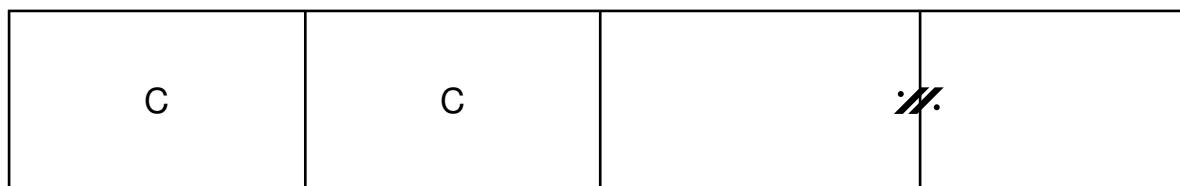
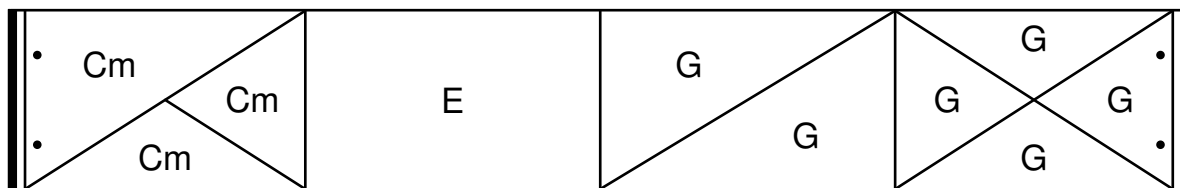
chord-grid-parentheses.ly



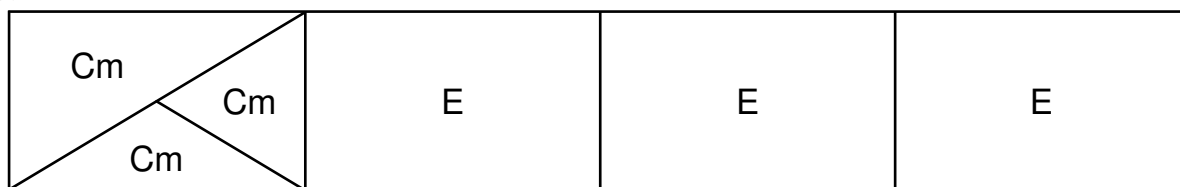
Repeat notation can be used in chord grids.

For volta repeats, a repeat bar line is printed even at the beginning of the piece. Inner lines in the chord square should stop at the '|' part of the ':|' bar line, not at ':'.

chord-grid-repeats.ly



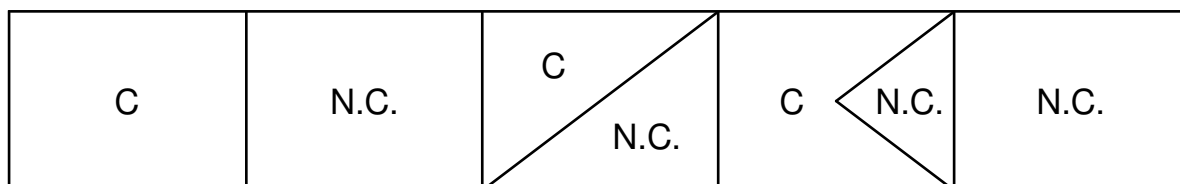
⌘



D.S. ⌘

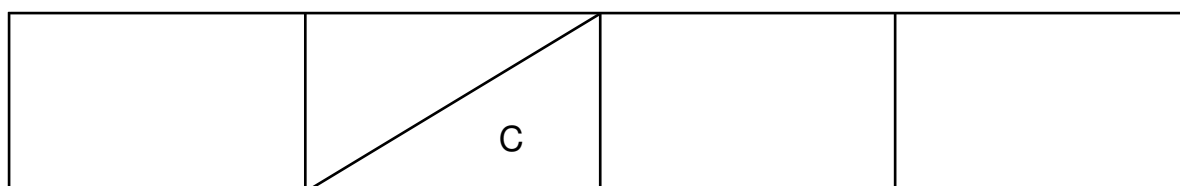
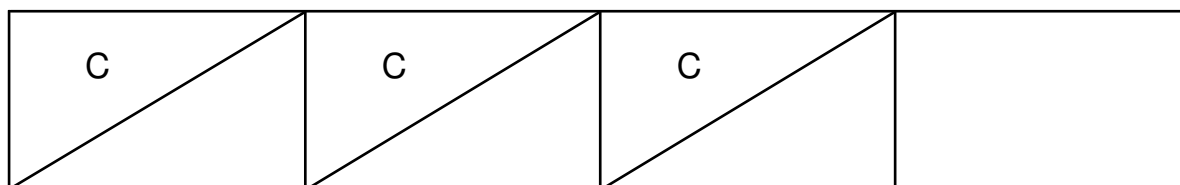
Chord grids can contain rests. This causes the noChordSymbol to be printed.

chord-grid-rests.ly



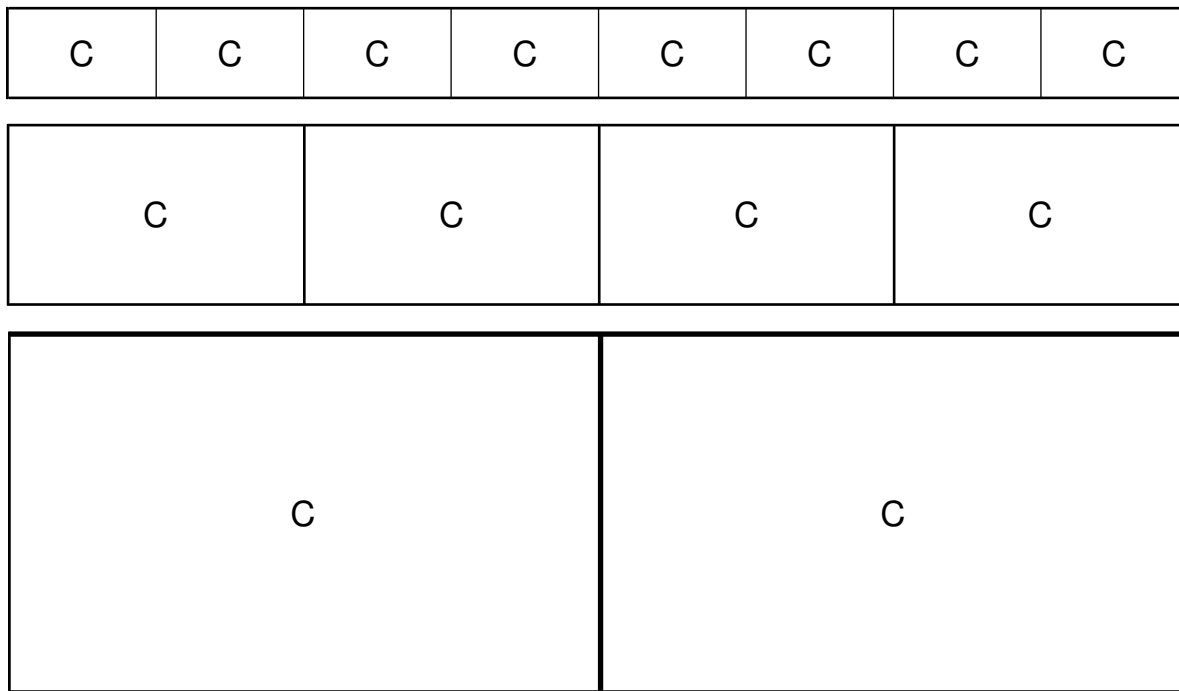
Chord grids may contain skips. They cause a blank space in chord squares.

chord-grid-skips.ly



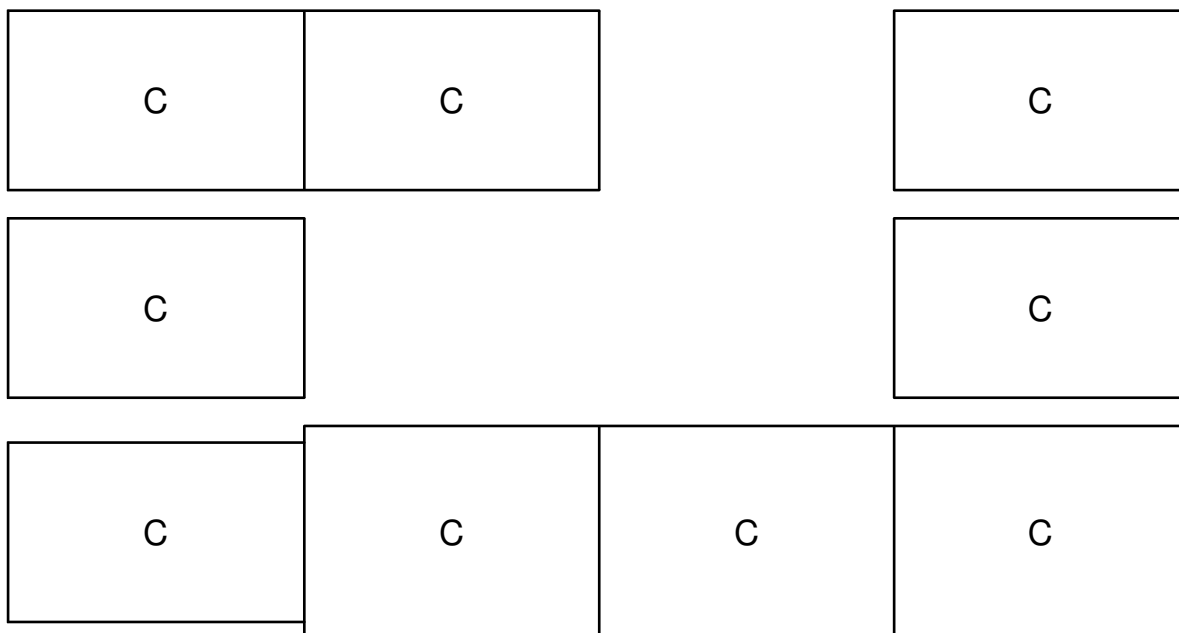
Chord grids are properly scaled with staff size.

chord-grid-staff-sizes.ly



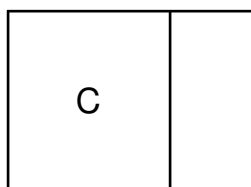
`\stopStaff` and `\startStaff` can be used in chord grids.

`chord-grid-stopstaff.ly`



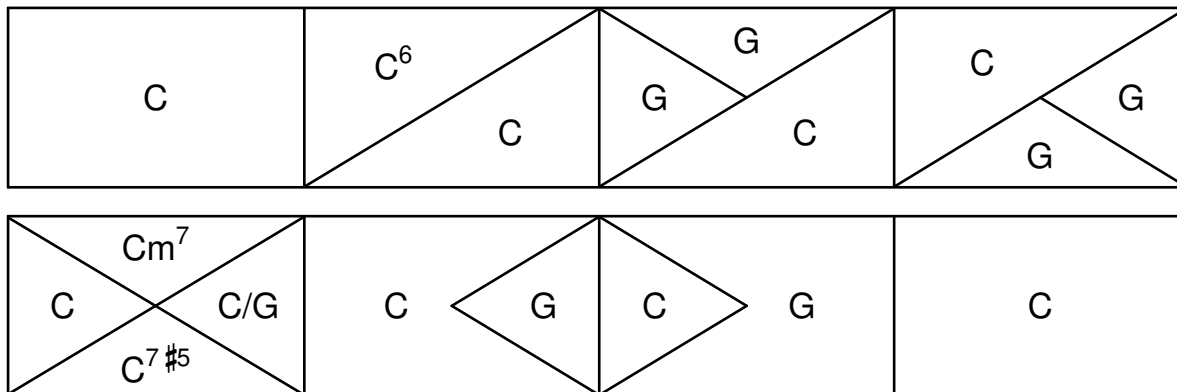
Within chord grids, an unterminated measure should be handled gracefully.

`chord-grid-unterminated-measure.ly`



The ChordGrid context creates chord grid notation.

chord-grid.ly



The 11 is only added to major-13 if it is mentioned explicitly.

chord-name-11-entry.ly

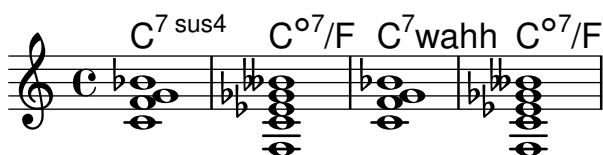


Chords can be produced with the chordname entry code (`\chordmode mode`), using a pitch and a suffix. Here, the suffixes are printed below pitches.

chord-name-entry.ly

The property `chordNameExceptions` can be used to store a list of special notations for specific chords.

chord-name-exceptions.ly



The layout of the major 7 can be tuned with `majorSevenSymbol`. It does not break if `majorSevenSymbol` is unset. One should see: triangle - j7 - triangle - #7.

chord-name-major7.ly

C^Δ C^{j7} C^Δ C^{#7}

The layout of the minor chord can be tuned with `minorChordModifier`.

chord-name-minor.ly

Cm Cm⁷ C- C-⁷

Users can override the `text` property of `ChordName`.

chord-name-override-text.ly

A B C⁷ foo

In `ignatzek` inversions, a note is dropped down to act as the bass note of the chord. Bass note may be also added explicitly. Above the staff: computed chord names. Below staff: entered chord name.

chord-names-bass.ly

`GrandStaff` contexts accept chord names. The chord name in this example should be printed above the top staff.

chord-names-in-grand-staff.ly

The english naming of chords (default) can be changed to `german` (`\germanChords` replaces B and Bes to H and B), `semi-german` (`\semiGermanChords` replaces B and Bes to H and Bb), `italian` (`\italianChords` uses Do Re Mi Fa Sol La Si), or `french` (`\frenchChords` replaces Re to Ré).

chord-names-languages.ly

default	E/D	Cm	B/B	B [#] /B [#]	B ^b /B ^b
german	E/d	Cm	H/h	H [#] /his	B/b
semi-german	E/d	Cm	H/h	H [#] /his	B ^b /b
italian	Mi/Re	Do m	Si/Si	Si [#] /Si [#]	Si ^b /Si ^b
french	Mi/Ré	Do m	Si/Si	Si [#] /Si [#]	Si ^b /Si ^b

Minor chords may be printed as lowercase letters, in which case the ‘m’ suffix is omitted in the output.

chord-names-lower-case-minor.ly

Dm d

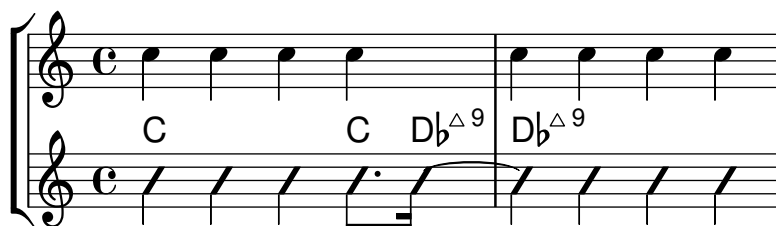
In ChordNames, both normal rests and multi-measure rests cause noChordSymbol to be printed. Skips do not print anything.

chord-names-rests.ly



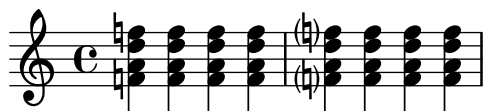
The Span_bar_stub_engraver also works with ChordNames contexts, ensuring that chord names remain clear of span bars.

chord-names-spanbar.ly



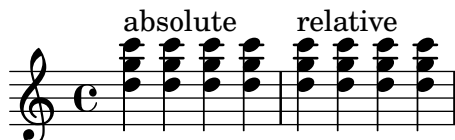
Chord repeats should omit forced and reminder accidentals.

chord-repetition-accidentals.ly



Chord repetition handles \relative mode: the repeated chords have the same octaves as the original one.

chord-repetition-relative.ly



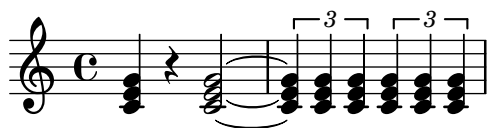
Post events such as fingerings and scripts added to a chord repetition follow the same basic stacking order as chords.

chord-repetition-script-stack.ly



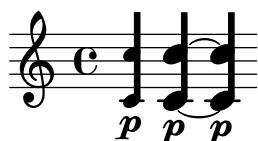
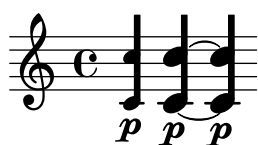
Chord repetitions are expanded late in the processing order and get their note events only then. Check that \times still works correctly on them.

chord-repetition-times.ly



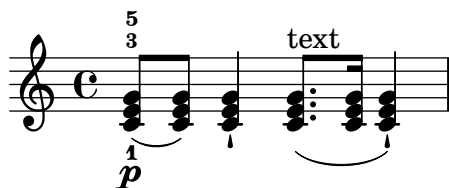
`\tweak` takes effect on repeat chords ‘q’ just as if the repetition were written out. In this test, the two first scores should be identical, and the third score should be identical to the first two except for two added dynamic markings. The stems should be thicker than usual, and note heads in the second chord and the third one should be bigger.

chord-repetition-tweak.ly



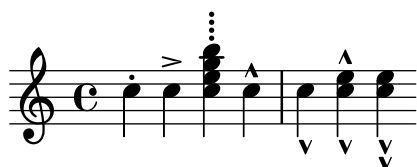
A repetition symbol can be used to repeat the previous chord and save typing. Only note events are copied: articulations, text scripts, fingerings, etc are not repeated.

chord-repetition.ly



Scripts can also be attached to chord elements. They obey manual direction indicators.

chord-scripts.ly



The layout of chord inversions can be tuned with `slashChordSeparator`.

chord-slash-separator.ly

$D\flat/C$ $D\flat$ over C

Chord tremolos adapt to the presence of accidentals.

chord-tremolo-accidental.ly



Articulations on chord tremolos should not confuse the time-scaling of the notes. In particular, only the number of real notes should be considered.

`chord-tremolo-articulations.ly`



To calculate the total duration of chord tremolos, only real notes shall be counted, no other commands.

`chord-tremolo-other-commands.ly`



Don't allow scaled durations to confuse the tremolo beaming. The tremolos should each have 3 beams.

`chord-tremolo-scaled-durations.ly`



Tremolo repeats can be constructed for short tremolos (total duration smaller than 1/4) too. Only some of the beams are connected to the stems.

`chord-tremolo-short.ly`



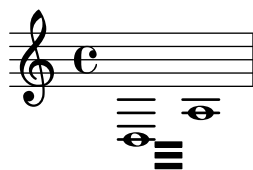
Chord tremolos on a single note.

`chord-tremolo-single.ly`

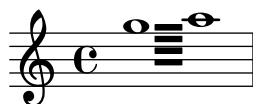


Stem directions influence positioning of whole note tremolo beams.

`chord-tremolo-stem-direction.ly`



chord tremolos don't collide with whole notes.
 chord-tremolo-whole.ly



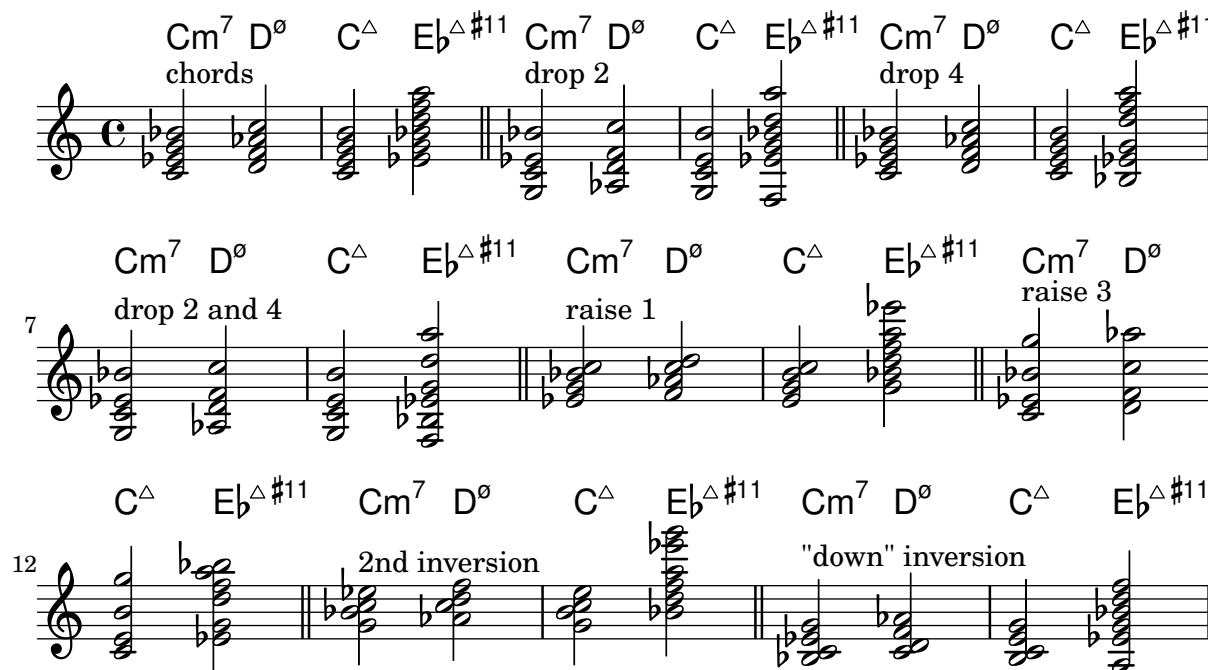
Chord tremolos look like beams, but are a kind of repeat symbol. To avoid confusion, chord tremolo beams do not reach the stems, but leave a gap. Chord tremolo beams on half notes are not ambiguous, as half notes cannot appear in a regular beam, and should reach the stems.

In this example, each tremolo lasts exactly one measure.
 (To ensure that the spacing engine is not confused we add some regular notes as well.)
 chord-tremolo.ly



Chord voicings may be transformed or inverted automatically through Scheme functions. These work even when chord notes are not entered in order (e.g. from the lowest to the uppermost note), and may also be used in chordmode. Even when using voicings, chord names remain unchanged.

chord-voicings.ly



Rests in music passed to ChordNames context display noChordSymbol. noChordSymbol is treated like a ChordName with respect to chordChanges.

chordnames-nochord.ly

Jazz chords may have unusual combinations.

chords-funky-ignatzek.ly

staffLineLayoutFunction is used to change the position of the notes. This sets staffLineLayoutFunction to ly:pitch-semitones to produce a chromatic scale with the distance between a consecutive space and line equal to one semitone.

chromatic-scales.ly

A clef change at the end of the music is printed.

`clef-change-at-end.ly`



Setting `forceClef` prints a clef, even at the end of the music, even if the clef is unchanged, and even without a `\clef` command.

`clef-force.ly`



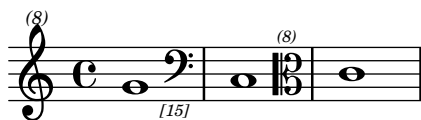
Ottava brackets and clefs both modify `Staff.middleCPosition`, but they don't confuse one another.

`clef-ottava.ly`



Clef transposition symbols may be parenthesized or bracketed by using parentheses or brackets in the command string.

`clef-transposition-optional.ly`



Transposition symbols should be correctly positioned close to the parent clef. Horizontal alignment is fine-tuned for standard C, G and F clefs: for example, downwards transposition of a G clef should be centered exactly under the middle of clef hook. For clefs that don't have fine-tuned alignment the transposition number should be centered.

`clef-transposition-placement.ly`

Even the smallest positioning changes may indicate a prob

The image displays a series of musical staves illustrating clef transposition and visibility settings. It is organized into four systems, each containing two staves. The first system shows alto clefs (C-clef on the third line) with labels 8, 15, (8), and (141) below them. The second system shows tenor clefs (C-clef on the fourth line) with the same labels. The third system shows treble clefs (G-clef on the first line) with labels 8, 15, (8), and (141) below them. The fourth system shows bass clefs (F-clef on the first line) with labels 8, 15, (8), and (141) below them. The labels indicate the visibility of the clef on different staves: 8 (first staff), 15 (second staff), (8) (third staff), and (141) (fourth staff).

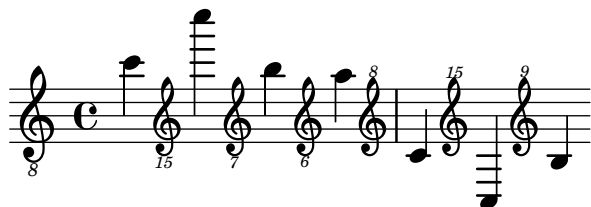
Clefs may be transposed. By default, break-visibility of ClefModifiers is derived from the associated clef, but it may be overridden explicitly. The initial treble_8 clef should not have an 8, while the treble_8 clef after the tenor clef should. These settings also need to apply to clefs on new lines.

`clef-transposition-visibility.ly`

The image shows three musical staves illustrating clef transposition and visibility settings. The first staff shows a treble clef with a note on the first line. The second staff shows a treble clef with a note on the first line, followed by a tenor clef with a note on the fourth line, and then a treble clef with a note on the first line. The third staff shows a treble clef with a note on the first line. The labels 3, 6, and 8 are placed above the first, second, and third staves respectively, indicating the visibility of the clef on different staves.

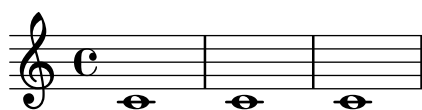
Clefs may be transposed up or down by arbitrary amount, including 15 for two octaves.

clef-transposition.ly



The `\clef` command does not print a clef if the clef has not changed. Only the system-start clef should appear.

clef-unchanged.ly



Unknown clef name warning displays available clefs

clef-warn.ly



Clefs with `full-size-change` should be typeset in full size.

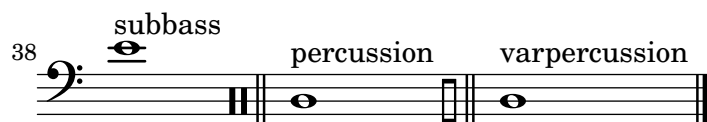
clefs.ly

clefs:

A musical staff in common time (C) showing various clef names and their corresponding symbols. The clefs are: treble, french, soprano, mezzosoprano, alto, varC, tenor, tenorvarC, tenorG, GG, baritone, varbaritone, baritonevarC, baritonevarF, bass, subbass, percussion, and varpercussion. The clefs are shown in full size.

with full-size-change = #t:

A musical staff in common time (C) showing various clef names and their corresponding symbols. The clefs are: treble, french, soprano, mezzosoprano, alto, varC, tenor, tenorvarC, tenorG, and GG. The clefs are shown in full size.



Clipping snippets from a finished score

Notes:

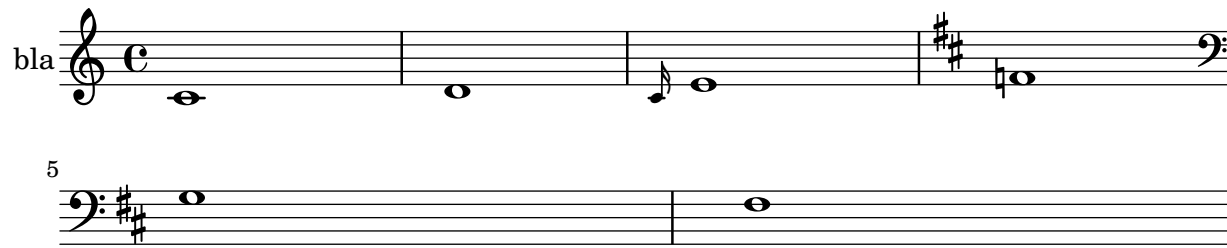
- If system starts and ends are included, they include extents of the System grob, eg. instrument names.
- Grace notes at the end point of the region are not included
- Regions can span multiple systems. In this case, multiple EPS files are generated.

This file needs to be run separately with `-dclip-systems`; the collated-files.html of the regression test does not adequately show the results.

The result will be files named `base-from-start-to-end[-count].eps`.

When using Cairo, this file only works when using the PostScript format.

`clip-systems.ly`



clips

from-2.0.1-to-4.0.1-clip.eps

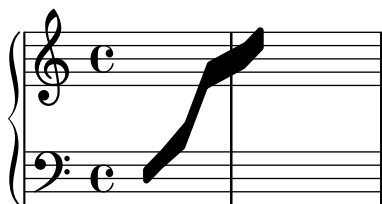
Clusters behave well across line breaks.

`cluster-break.ly`



Clusters can be written across staves.

`cluster-cross-staff.ly`



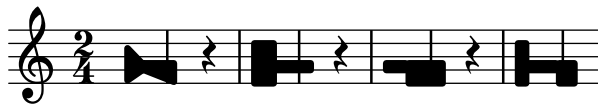
don't crash on single chord clusters.

`cluster-single-note.ly`



Clusters behave well across line breaks.

`cluster-style.ly`



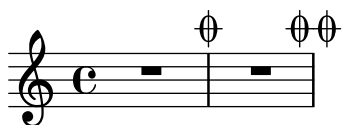
Clusters are a device to denote that a complete range of notes is to be played.

`cluster.ly`



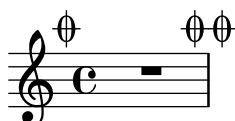
`\codaMark \default` at the beginning of the score does not create a mark. A single coda mark should appear at the beginning of the second measure and a double coda mark should appear at the end.

coda-mark-begin-score-default.ly



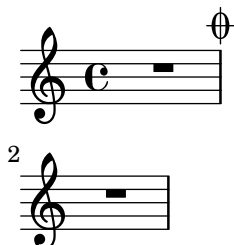
`\codaMark 1` at the beginning of the score creates a visible mark. A single coda mark should appear at the beginning of the measure and a double coda mark should appear at the end.

coda-mark-begin-score-specific.ly




A coda mark at a line break appears at the end of the line.


coda-mark-break.ly



Coda marks are formatted with `codaMarkFormatter`, which the user can override. Rehearsal marks and coda marks are sequenced independently.

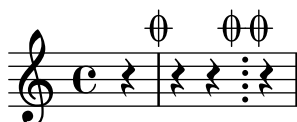
coda-mark-formatters.ly

default 

varcoda 

Where a coda mark is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the single coda sign should have a normal bar line and the double coda sign should have a dotted bar line.

coda-mark-unaligned.ly



When notes are colliding, the resolution depends on the dots: notes with dots should go to the right, if there could be confusion to which notes the dots belong.

collision-dots-invert.ly



If dotted note heads must remain on the left side, collision resolution moves the dots to the right.

collision-dots-move.ly



For collisions where the upper note is dotted and in a space, the upper is moved to right. This behavior can be tuned by prefer-dotted-right.

collision-dots-up-space-dotted.ly



Collision resolution tries to put notes with dots on the right side.

collision-dots.ly



Collision resolution involving dotted harmonic heads succeeds when dots are hidden since rhythmic-head-interface will only retrieve 'dot-count' from live grobs.

collision-harmonic-no-dots.ly



Note heads in collisions should be merged if they have the same positions in the extreme note heads.

collision-head-chords.ly



'fa' shape note heads ('fa', 'faThin', etc.), which are right triangles, are merged to avoid creating a rectangular note.

Using property NoteCollision.fa-merge-direction, the direction of the merged 'fa' can be controlled independently of the stem direction. If this property is not set, the 'down' glyph variant is used.

collision-head-solfa-fa.ly



Open and black note heads are not merged by default.

collision-heads.ly



Colliding note-columns may be shifted manually with `force-hshift`. Arrangements of notes after collision-resolution have their main columns (not suspended notes) left-aligned, excluding columns with forced shifts.

`collision-manual.ly`



If `NoteCollision` has `merge-differently-dotted = ##t` note heads that have differing dot counts may be merged anyway. Dots should not disappear when merging similar note heads.

`collision-merge-differently-dotted.ly`



If `merge-differently-headed` is enabled, then open note heads may be merged with black noteheads, but only if the black note heads are from 8th or shorter notes.

`collision-merge-differently-headed.ly`



When merging heads, the dots are merged too.

`collision-merge-dots.ly`



Oppositely stemmed chords, meshing into each other, are resolved.

`collision-mesh.ly`



Seconds do not confuse the collision algorithm. The first pair of chords in each measure should merge, mesh, or come relatively close, but the second in each measure needs more space to make clear which notes belong to which voice.

`collision-second.ly`



Single head notes may collide.

collision-single-head.ly



Mixed collisions with whole and longer notes require asymmetric shifts.

collision-whole.ly



In addition to normal collision rules, there is support for polyphony, where the collisions are avoided by shifting middle voices horizontally.

collisions.ly

Two staves of music in treble clef with a common time signature (C). The first staff contains a complex polyphonic texture with many overlapping notes and stems. The second staff, starting with a measure rest (7), shows a different arrangement of notes where collisions are avoided by shifting middle voices horizontally.

CSS-style color codes are supported and must be prefixed with a hash. In SVG backend, the given color codes (as hexadecimal strings or predefined color names) are used directly; rgb-color lists are converted to `rgb()` or `rgba()` appropriately.

Alpha transparency is only visible in SVG output.

color-css.ly



Each grob can have a color assigned to it. Use the `\override` and `\revert` expressions to set the `color` property.

Colors may include an alpha channel, but that is only apparent in SVG output.

color.ly



Complex completion heads work properly in a polyphonic environment.

completion-heads-alternating-polyphony.ly



The `Completion_heads_engraver` uses dotted breve/longa durations if possible.

`completion-heads-dotted-durations.ly`



If the `Note_heads_engraver` is replaced by the `Completion_heads_engraver`, long notes, longer than `measureLength`, are split into un-scaled notes, even if the original note used a scale-factor. `completionFactor` controls this behavior.

`completion-heads-factor.ly`

You can put lyrics under completion heads.

`completion-heads-lyrics.ly`

The `Completion_heads_engraver` correctly handles notes that need to be split into more than 2 parts.

`completion-heads-multiple-ties.ly`

Completion heads are broken across bar lines. This was intended as a debugging tool, but it can be used to ease music entry. Completion heads are not fooled by polyphony with a different rhythm.

`completion-heads-polyphony.ly`

Completion heads will remember ties, so they are started on the last note of the split note.

`completion-heads-tie.ly`



Completion heads may be used with tuplets (and compressed music) too.

completion-heads-tuplets.ly



Note head completion may be broken into sub-bar units by setting the `completionUnit` property.

completion-heads-unit.ly



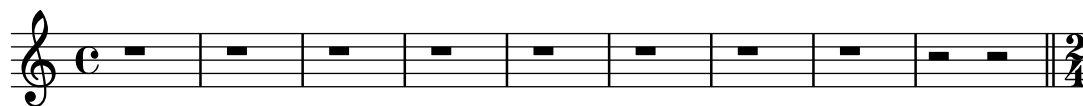
If the `Note_heads_engraver` is replaced by the `Completion_heads_engraver`, notes that cross bar lines are split into tied notes.

completion-heads.ly



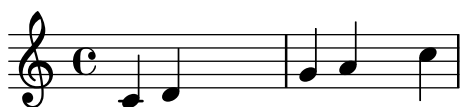
If the `Rest_engraver` is replaced by the `Completion_rest_engraver`, long rests, longer than `measureLength`, are split into un-scaled rests, even if the original duration used a scale-factor. `completionFactor` controls this behavior.

completion-rest.ly



This tests `\once` applied to multiple property operations.

complex-once.ly



Simple-fraction components of a compound time signature are numeric regardless of the time signature style.

compound-time-signature-style.ly



Create compound time signatures. The argument is a Scheme list of lists. Each list describes one fraction, with the last entry being the denominator, while the first entries describe the summands in the numerator. If the time signature consists of just one fraction, the list can be given directly, i.e. not as a list containing a single list. For example, a time signature of $(3+1)/8 + 2/4$ would be created as `\compoundMeter #'((3 1 8) (2 4))`, and a time signature of $(3+2)/8$ as `\compoundMeter #'((3 2 8))` or shorter `\compoundMeter #'(3 2 8)`.

`compound-time-signatures.ly`



A `\defaultchild` cycle does not induce an endless loop. The output of this test is not important.

`context-defaultchild-cycle.ly`

`\defaultchild` can be overridden in a context definition. `CREATED` should appear in the left margin.

`context-defaultchild-def.ly`



`\defaultchild` can be overridden in `\with` blocks. `CREATED` should appear in the left margin.

`context-defaultchild-mod.ly`



`\denies context` in a context definition cancels a prior `\defaultchild context`. `CREATED` should appear in the left margin.

`context-denies-defaultchild-def.ly`



`\denies context` in a `\with` block cancels a prior `\defaultchild context`. `CREATED` should appear in the left margin.

`context-denies-defaultchild-mod.ly`



A `\denies` statement in a `\with` block applies to the local context only; it does not change the global context definition. The lower staff should hold a B-sharp.

`context-denies-nondestructive-mod.ly`



If the `descend-to-context` function cannot find or create its context below the current context, then it does not create its context anywhere, and it leaves the current context unchanged.

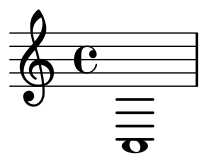
The expected output of this test is one staff with two notes.

`context-descend-only-not-found.ly`

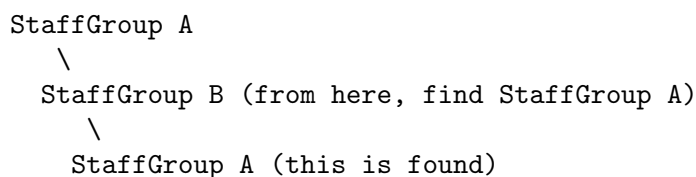


a staff should die if there is reference to it.

context-die-staff.ly



`\context` finds a child by type and ID even when the parent also matches.

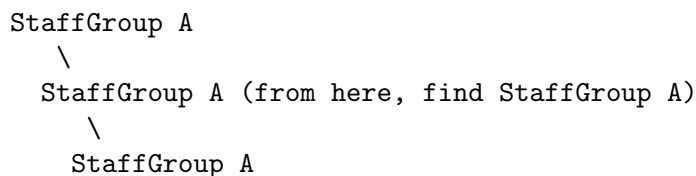


RESULT should appear in the left margin.

context-find-child.ly

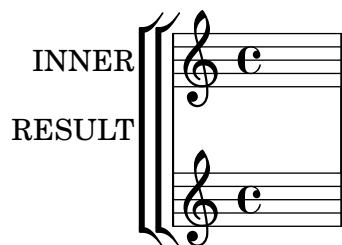


`\context` finds the current context by type and ID even when there are matching contexts both above and below.

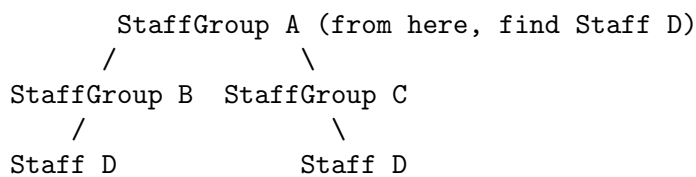


INNER and RESULT should appear in the left margin.

context-find-current.ly

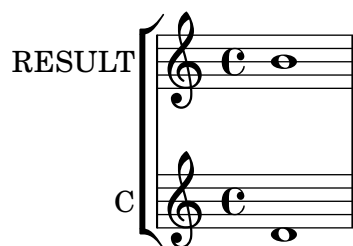


`\context` finds a grandchild by type and ID when there are multiple matching contexts.



RESULT and either B or C should appear in the left margin.

context-find-grandchild-ambiguous.ly



`\context` finds a grandchild by type and ID even when the parent also matches.

```

StaffGroup A
  \
  StaffGroup B (from here, find StaffGroup A)
    \
    StaffGroup C
      \
      StaffGroup A (this is found)

```

RESULT should appear in the left margin.

`context-find-grandchild.ly`



`\context` can find the parent context by type and ID.

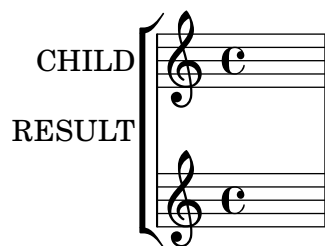
```

StaffGroup A
  \
  StaffGroup B (from here, find StaffGroup A)

```

CHILD and RESULT should appear in the left margin.

`context-find-parent.ly`



Attempting to find a Score context by alias before it exists triggers creation of a Score context. The output should have a note on the middle line of the staff.

`context-find-score-alias.ly`



`\context` creates a new context rather than finding a matching context in another branch.

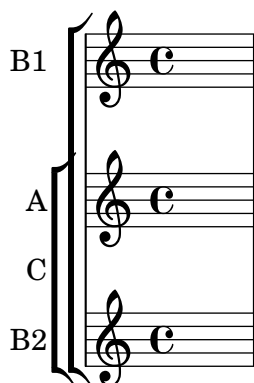
```

      StaffGroup A
     /         \
StaffGroup B   StaffGroup C (from here, find StaffGroup B)
                \
                [StaffGroup B] (this is created)

```

B1, A, C, and B2 should appear in the left margin.

`context-find-sibling.ly`



User code is not allowed to access the Global context. The visual output of this test is not important.

`context-global-find.ly`



User code is not allowed to create a Global context. The visual output of this test is not important.

`context-global-new.ly`



Context modifications can be stored into a variable as a `\with` object. They can be later inserted directly into a context definition.

`context-mod-context.ly`



Context modifications can be stored into a variable as a `\with` object. They can be later inserted into another `\with` block.

`context-mod-with.ly`

No modifications

Remove time sig, add ambitus, set staff to 4 lines

The same mods using a variable

The same mods using a variable and \with

Remove clef and use variable to add other changes as above

Also remove clef and key engravers

The same mods as staff 2

Back to default

Contexts of the same type can be nested.
`context-nested-staffgroup.ly`

`\new` can create a child of the same type and name as its parent. PASS should appear in the left margin.

`context-new-child-same-name.ly`

PASS

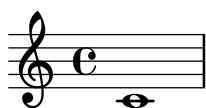
`\new` can create a sibling of an existing context with the same type and name. The instrument name should be `PASS`.

`context-new-sibling-same-name.ly`



Let `ly:context-output-def` access some output variables from inside a `\applyContext` expression.

`context-output-def.ly`



`\pushContextProperty` and `\popContextProperty` are two new commands for manipulating context properties. The first one pushes the current value to a stack and sets a new value, while the second one pops off the value from the stack and uses it to restore the previous value.

`context-property-stack.ly`



It is possible to define contexts that, when instantiated, take the normal place of `Score`.

This test should show a score with proportional notation and bigger note heads.

`context-score-level.ly`



Using `\contextStringTuning` does not break compiling.

`context-string-tuning.ly`

A musical score with two staves. The top staff is in treble clef with a common time signature (C). It contains a sequence of notes: a whole note on the second line (G4), followed by a half note on the second line (G4), a quarter note on the second line (G4), a quarter note on the second line (G4), a quarter note on the second line (G4), and a quarter note on the second line (G4). The bottom staff is a guitar fretboard with strings A, B, and E. The fret numbers are: A string (0, 4, 0, 5), B string (2, 5, 2, 3), and E string (0, 4, 0, 5).

Test for cross-staff beams. Three issues are covered. All stems, beams, and note heads should be positioned correctly and there should be no programming errors.

`cross-staff-beams.ly`



Test for cross-staff stems. We check for properly connected chords, triplets, and auto-beamed beams correctly ended.

`cross-staff-stems.ly`



Cue clefs can be printed after a bar line.

`cue-clef-after-barline.ly`



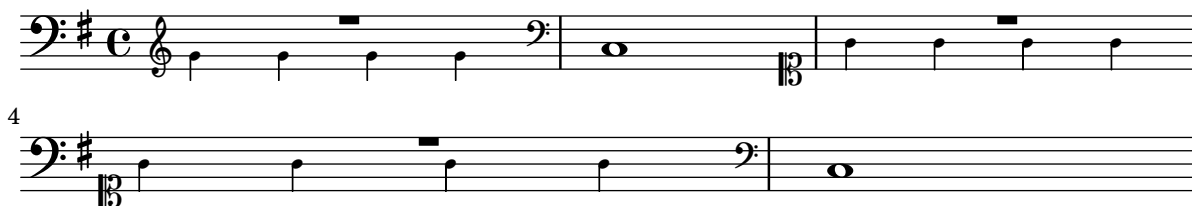
Clefs for cue notes at the start of a score should print the standard clef plus a small cue clef after the time/key signature.

`cue-clef-begin-of-score.ly`



Clefs for cue notes should not influence the printed key signature.

cue-clef-keysignature.ly



Cue clefs can be printed manually.

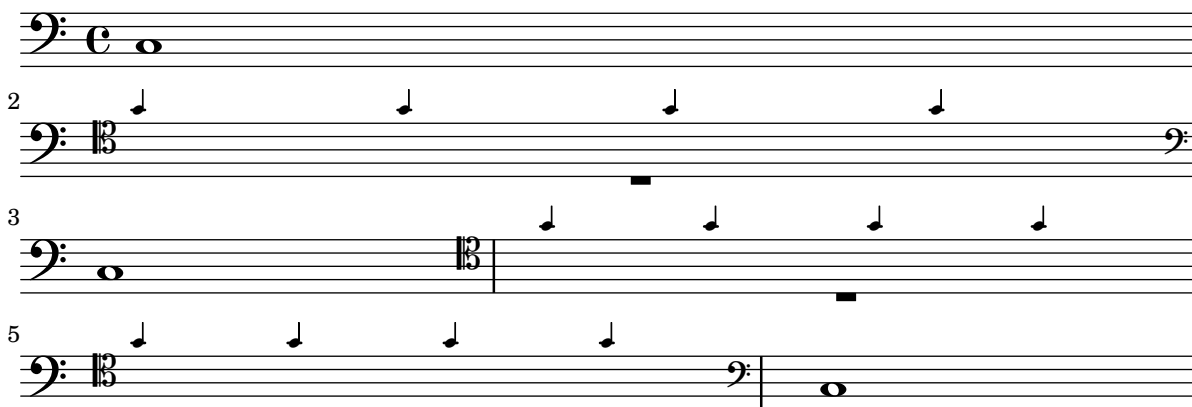
cue-clef-manually.ly



Clefs for cue notes and line breaks. If the cue notes start in a new line, the cue clef should not be printed at the end of the previous line. Similarly, an end clef for cue notes ending at a line break should only be printed at the end of the line.

Cue notes going over a line break should print the standard clef on the new line plus an additional cue clef after the time/key signature.

cue-clef-new-line.ly



Optional transposition for clefs for cue notes is supported by using parentheses or brackets around the transposition number.

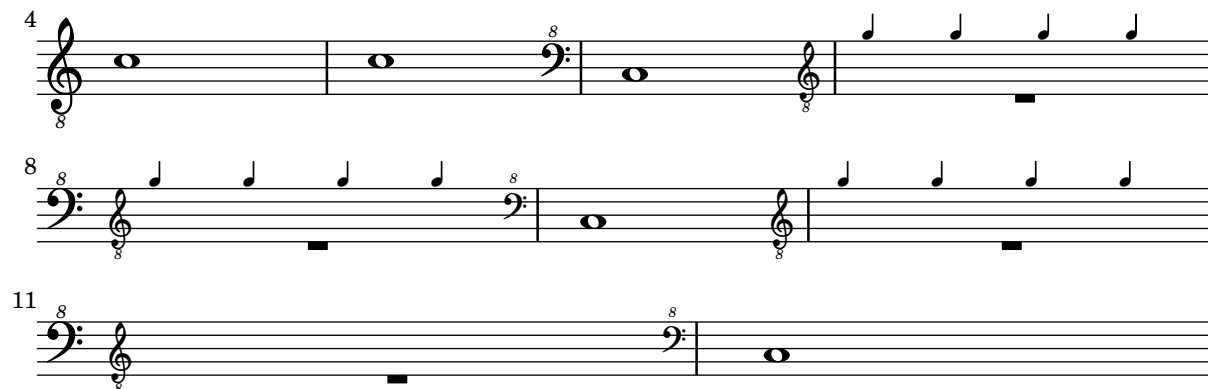
cue-clef-transposition-optional.ly



Transposition for clefs for cue notes.

cue-clef-transposition.ly





Clefs for cue notes: Print a cue clef at the begin of the cue notes and a canceling clef after the cue notes.

cue-clef.ly



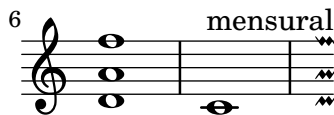
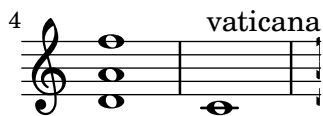
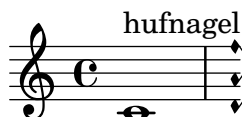
Custos_engraver accepts (and ignores) unpitched notes.

custos-unpitched.ly



Custodes may be engraved in various styles.

custos.ly





Muted notes (also called dead notes) are supported within normal staves and tablature. They are printed correctly, even if another font for TabNoteHead is used.

dead-notes.ly

default-font	
TabNoteHead- font: DejaVu	
Sans Mono	

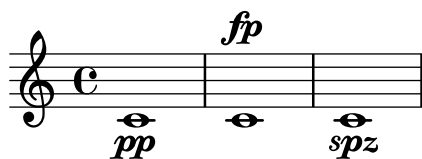
Cyclic dependencies are detected and warned about. When the debug-property-callbacks option is set, a backtrace is printed with the warning.

debug-property-callbacks.ly



Tests define-event-function by creating a trivial function converting a markup into a dynamic script post-event. As opposed to music functions, a direction indicator is not required.

define-event-function.ly



The VerticalAxisGroup.remove-layer property can be used for typesetting temporary divisi staves where the switch to split staves is done only at line breaks such that all complex passages are rendered in separate staves.

divisi-staves.ly

Violins	
V I&II	


The image displays a series of musical staves for regression testing. The staves are labeled as follows:

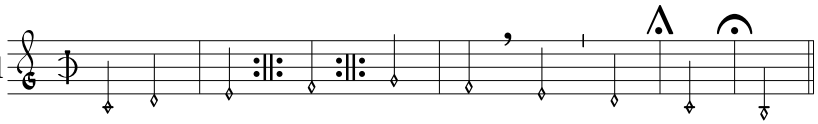
- Staff 1: V I&II (measures 12-17)
- Staff 2: V I&II (measures 18-23)
- Staff 3: V I (measures 24-29) and V II (measures 24-29)
- Staff 4: V I&II (measures 30-35)
- Staff 5: V I&II (measures 36-40)
- Staff 6: V I&II (measures 41-45)
- Staff 7: V I&II (measures 46-50)

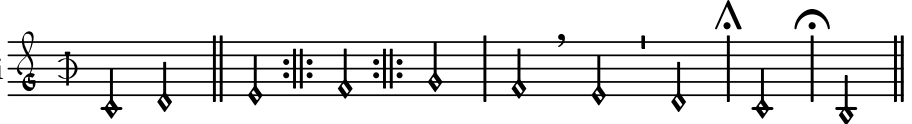
This test exercises ancient divisions (divisiones) with settings that are overridden in various built-in Staff contexts. Each Staff is in a separate `\score`.

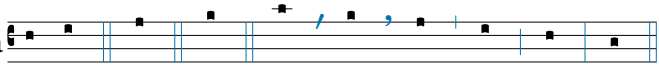
`divisiones-staff-override-alone.ly`

This block compares a staff with Gregorian transcription. The top staff is labeled "Staff" and includes annotations for "measure", "caesura", "virgula", "divisio", and "finalis". The bottom staff is labeled "Gregor. Transcr." and shows the corresponding Gregorian notation.

Kievan 

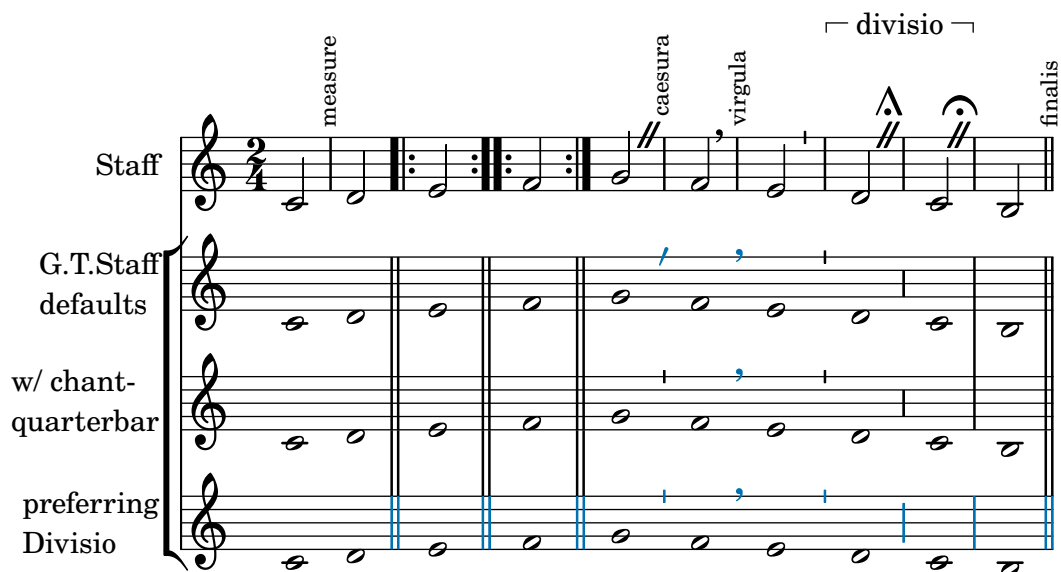
Mensural 

Petrucchi 

Vaticana 

By default, `GregorianTranscriptionStaff` creates `BarLine` grobs for `\divisio...` commands, but `\EnableGregorianDivisiones` makes it create `Divisio` grobs like the ancient-notation staves.

`divisiones-staff-override-gregorian-transcription-style.ly`



The image shows a comparison of four musical staves for the same piece of music. The top staff, labeled 'Staff', shows standard Gregorian notation with bar lines and labels for 'measure', 'caesura', 'virgula', 'divisio', and 'finalis'. The second staff, 'G.T.Staff defaults', shows the same notation but with different bar line styles. The third staff, 'w/ chant-quarterbar', shows the notation with a quarter bar line style. The bottom staff, 'preferring Divisio', shows the notation with a 'Divisio' style bar line.

This test exercises ancient divisions (`divisiones`) with settings that are overridden in various built-in `Staff` contexts. All staves are in one `StaffGroup`.

`divisiones-staff-override-grouped.ly`

The image shows a musical score with six staves. The top staff is labeled 'Staff' and contains a melody in 2/4 time. Above it are annotations: 'measure' above the first measure, 'caesura' above a double bar line, 'virgula' above a single bar line, 'divisio' above a triangle and a circle with a dot, and 'finalis' above the final measure. The other staves are labeled 'Gregor. Transcr.', 'Kievana', 'Mensural', 'Petrucci', and 'Vaticana', each showing a different notation style for the same piece of music.

This test exercises semantic divisions with settings that are overridden in various built-in Staff contexts. Each Staff is in a separate `\score`.

`divisions-staff-override-alone.ly`

The image shows a musical score with six staves, similar to the one above. The top staff is labeled 'Staff' and contains a melody in 2/4 time. Above it are annotations: 'measure' above the first measure, 'caesura' above a double bar line, 'section' above a double bar line, and 'fine' above the final measure. The other staves are labeled 'Gregor. Transcr.', 'Kievana', 'Mensural', 'Petrucci', and 'Vaticana', each showing a different notation style for the same piece of music.

By default, `GregorianTranscriptionStaff` creates `BarLine` grobs for semantic division commands, but `\EnableGregorianDivisions` makes it create `Divisio` grobs like the ancient-notation staves.

divisions-staff-override-gregorian-transcription-style.ly

The image shows a musical score with four staves. The top staff is labeled 'Staff' and contains a melodic line in 2/4 time with various repeat signs and a caesura. The second staff is 'G.T.Staff defaults', the third is 'w/ chant-quarterbar', and the fourth is 'preferring Divisio'. The score is annotated with 'measure', 'caesura', 'section', and 'fine' markers.

This test exercises semantic divisions with settings that are overridden in various built-in Staff contexts. All staves are in one StaffGroup.

divisions-staff-override-grouped.ly

The image shows a musical score with six staves. The top staff is labeled 'Staff' and contains a melodic line. The other staves are 'Gregor. Transcr.', 'Kievan', 'Mensural', 'Petrucci', and 'Vaticana', each showing different notational styles for the same piece. The score is annotated with 'measure', 'caesura', 'section', and 'fine' markers.

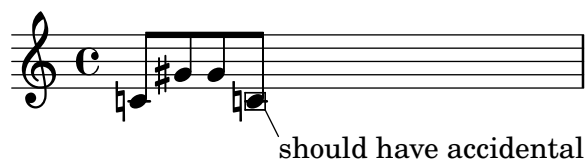
\cadenzaOn should not confuse the dodecaphonic-no-repeat accidental style. In this test, the second C should have a printed accidental since it is not immediately repeated.

dodecaphonic-no-repeat-cadenza.ly



Partials do not confuse the `dodecaphonic-no-repeat` accidental style. In this test, the second C should have a printed accidental since it is not immediately repeated.

`dodecaphonic-no-repeat-partial.ly`



Dot Columns are engraved in the Staff by default, enabling dots to move vertically to make room for dots from another voice. If `Dot_column_engraver` is moved to `Voice`, separate dot columns are engraved, and these dots avoid notes in other voices.

`dot-column-engraver.ly`



move `Dot_column_engraver` to `Voice` :



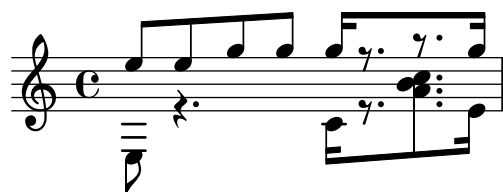
Dots and note-heads should not collide.

`dot-column-note-collision.ly`



Dot columns do not trigger beam slanting too early. This input should compile with no programming error message, and the dots should be correctly placed on their rests.

`dot-column-rest-collision.ly`



Dot columns should not trigger vertical spacing before line breaking. If the regtest issues a programming_error saying that vertical spacing has been called before line breaking, it has failed.

dot-column-vertical-positioning.ly



The dot-count property for Dots can be modified by the user.

dot-dot-count-override.ly



Dots move to the right when a collision with the (up)flag happens.

dot-flag-collision.ly



Dotted rests connected with beams do not trigger premature beam calculations. In this case, the beam should be sloped, and there should be no programming_error() warnings.

dot-rest-beam-trigger.ly



The dots on a dotted rest are correctly accounted for in horizontal spacing.

dot-rest-horizontal-spacing.ly



in collisions, the dots of outer voices avoid stems and flags of the inner voices.

dot-up-voice-collision.ly

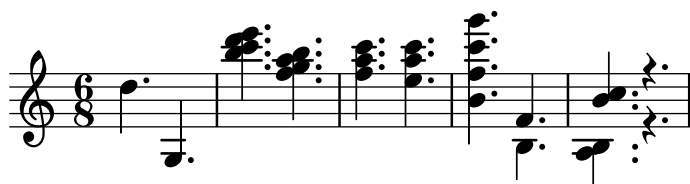


Both noteheads and rests can have dots. Augmentation dots should never be printed on a staff line, but rather be shifted vertically. They should go up, but in case of multiple parts, the down stems have down shifted dots. In case of chords, all dots should be in a column. The dots follow the shift of rests when avoiding collisions.

The priorities to print the dots are (ranked in importance):

- keeping dots off staff lines,
- keeping dots close to their note heads,
- moving dots in the direction specified by the voice,
- moving dots up.

dots.ly



Pitches for drums may have a defined articulation sign. This test checks the predefined drum-styles and prints only drum-pitches with an articulation sign.

drum-scripts.ly

drums-style closedhihat openhihat

No scripts defined

agostini-drums-style

weinberg-drums-style closedhihat openhihat

No scripts defined

timbales-style

congas-style mutehiconga muteloconga openhiconga openloconga

bongos-style mutehibongo mutelobongo openhibongo openlobongo

percussion-style longguiro mutetriangle opentriangle shortguiro

In drum notation, there is a special clef symbol, drums are placed to their own staff positions and have note heads according to the drum, an extra symbol may be attached to the drum, and the number of lines may be restricted.

drums.ly

timbales crash h.h.

drums crash h.h.

3

The compression factor of a duration identifier is correctly accounted for by the parser.
 duration-identifier-compressed.ly

Duration_line_engraver works nicely with \partCombine.

If \partCombine combines notes to chords both note heads get a DurationLine.

duration-line-and-partCombine.ly

At line break a broken DurationLine, like Glissando, avoids items with break-aligned-interface, like KeySignature, BreathingSign etc., but not items with the break-alignable-interface, like TextMark, MetronomeMark, etc..

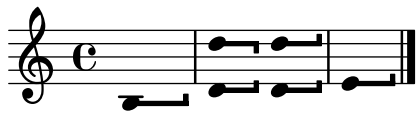
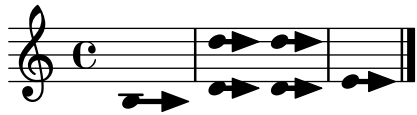
duration-line-at-line-break.ly

2 **Allegretto, ma non troppo**

3

A DurationLine grob may end with a special behavior. Currently available are hooks (with settable direction) and arrows.

duration-line-end-items.ly



Duration lines are placed vertically correct for non-default staff sizes and all styles.

duration-line-magnified-staff.ly

A complex musical score consisting of three systems of staves. Each system has four staves. The first system is labeled 'Standard' on the left. The second system is labeled '\magnifyStaff' on the left. The third system is labeled '\staffSize' on the left. Each staff contains three measures of music. The first measure has a quarter note on G4. The second measure has two eighth notes on G4 and A4. The third measure has a quarter note on G4. Vertical lines (duration lines) are placed below the notes in each measure, extending downwards from the bottom line of the staff. The notation is consistent across all systems, but the staff sizes and magnification levels vary, demonstrating the correct placement of duration lines in these cases.

A musical score consisting of four systems of staves. Each system contains two grand staves (treble and bass clef). The score is divided into three measures. The first measure shows complex rhythmic patterns with many notes. The second measure shows notes connected by horizontal dashed lines, representing duration lines. The third measure shows notes connected by horizontal dotted lines, representing another type of duration line. The duration lines are shown to span across staff changes within each system.

Duration lines work across staff changes.

duration-line-staff-change.ly

A musical score with two staves in common time (C). The top staff has a treble clef and the bottom staff has a bass clef. A single horizontal line with a note head at the end spans across both staves, illustrating a duration line that crosses a staff change.

A DurationLine grob may start/end at NoteHead, Rest, skip-event (if forced, otherwise skips are passed), NoteHeads of EventChord or at an entire NoteColumn. Start/end at MultiMeasureRest is only basically supported.

It stops automatically if the Voice pauses, i.e., no rhythmical events happen for some time, and at end of score.

Avoids Dots (if forced), Accidentals and Arpeggio (per changeable default).

duration-line-start-stop.ly

A musical score on a single staff in common time (C). It shows various musical events including notes, rests, and chords. Four arrows labeled 'skip' point to specific events: two above the staff and two below. The top arrows point to rests, and the bottom arrows point to notes. This illustrates how duration lines are affected by skip events.

A musical score on a single staff in common time (C). It shows a complex chordal passage with many notes and accidentals. A single horizontal line with a note head at the end spans across the entire passage, illustrating a duration line that works across a complex chordal structure.

Several styles for the DurationLine grob are available: 'beam, 'line, 'dashed-line, 'dotted-line, 'zigzag, 'trill and 'none.

duration-line-styles.ly



The visible thickness of a duration line is adjusted properly according to the staff space for all styles, like for long compressed MultiMeasureRest. Changes in StaffSymbol.thickness are disregarded.

duration-line-thickness-staff-sizes.ly

With changed staff-space (and unchanged StaffSymbol.thickness), DurationLine is adjusted nicely. For trill style one would need to set grob.font-size (here done) or context.fontSize additionally.

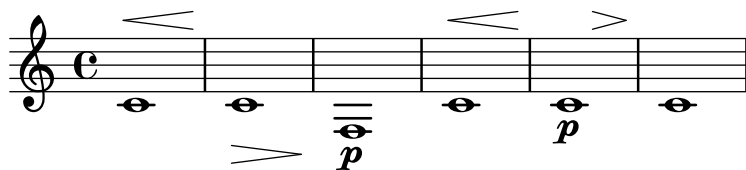
This block contains three groups of musical staves, each with three staves. The first group is labeled 'changed StaffSymbol staff-space' and shows three staves with a common time signature (C) and a note with a thick duration line. The second group is labeled '\magnifyStaff' and shows three staves with a common time signature (C) and a note with a thick duration line. The third group is labeled 'changed StaffSymbol thickness' and shows three staves with a common time signature (C) and a note with a thick duration line. The text '\magnifyStaff' is also written above the second group.

Duration multipliers can be specified as scheme expressions, either as rationals or as a moment.

`duration-multiplier-scheme.ly`

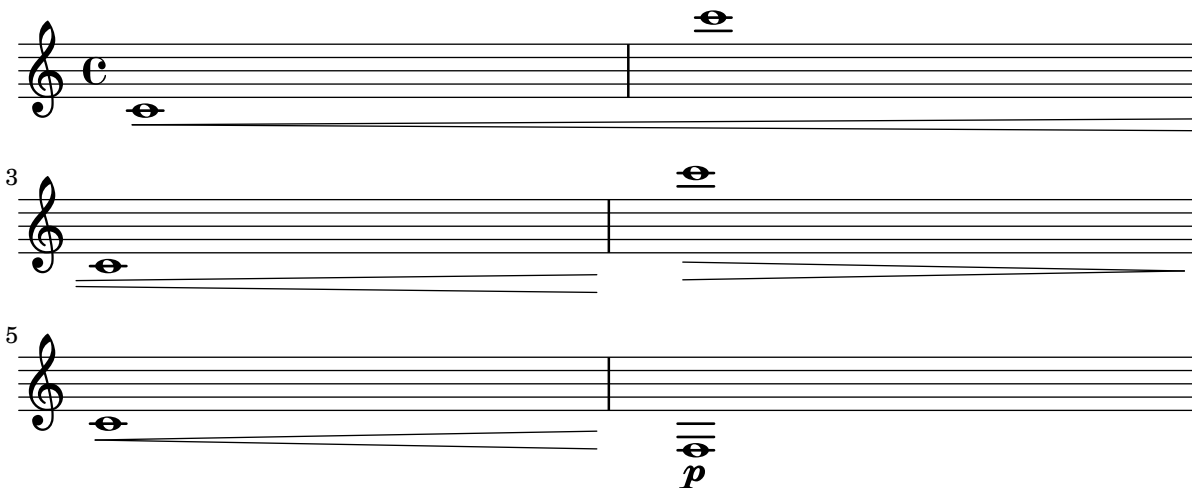
If a dynamic has an explicit direction that differs from the dynamic line spanner's direction, automatically break the dynamic line spanner.

`dynamics-alignment-autobreak.ly`



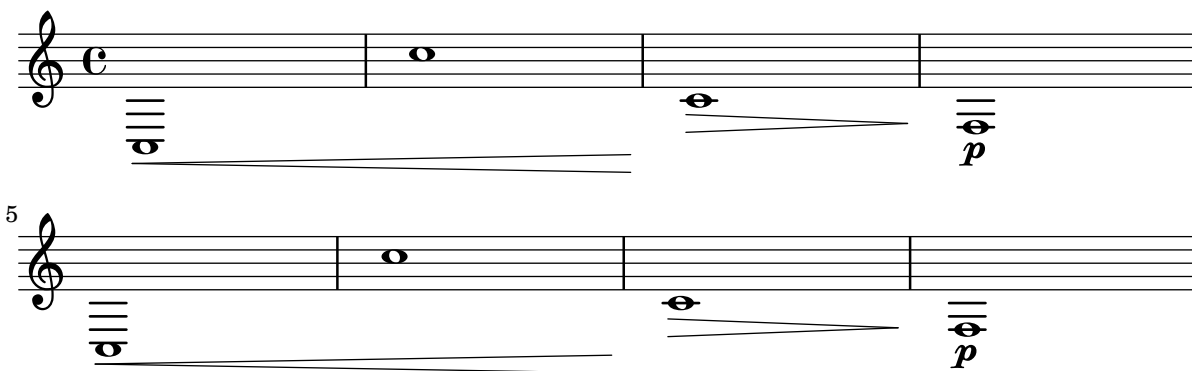
`\breakDynamicSpan` shall also work if a dynamic spanner crosses a line break.

`dynamics-alignment-breaker-linebreak.ly`



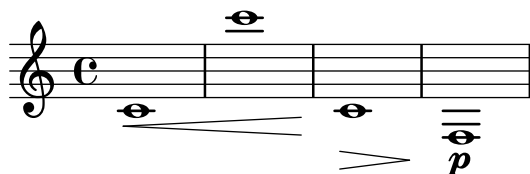
`\breakDynamicSpan` work whether it is placed together with the start or the end of a spanner. Both lines should be identical.

`dynamics-alignment-breaker-order.ly`



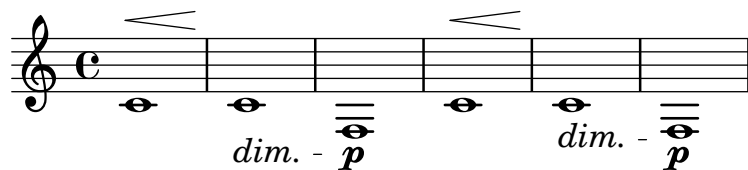
`\breakDynamicSpan` shall only have an effect on the current spanner, not on subsequent spanners.

`dynamics-alignment-breaker-subsequent-spanner.ly`



Hairpins, `DynamicTextSpanners` and dynamics can be positioned independently using `\breakDynamicSpan`, which causes the alignment spanner to end prematurely.

`dynamics-alignment-breaker.ly`



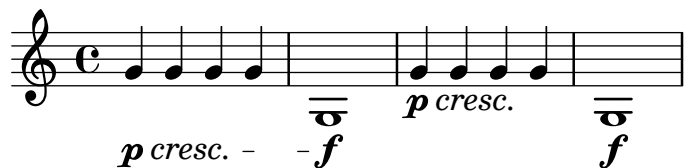
Setting the style of a `DynamicTextSpanner` to 'none' to hide the line altogether should also work over line breaks.

`dynamics-alignment-no-line-linebreak.ly`



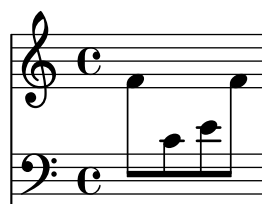
If the line for a `DynamicTextSpanner` is hidden, the alignment spanner for dynamics is ended early. This allows consecutive dynamics to be unlinked.

`dynamics-alignment-no-line.ly`



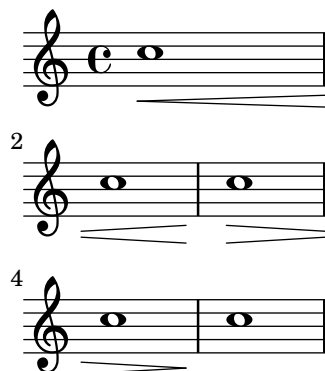
Cross-staff Dynamic does not trigger a cyclic dependency for direction look-up.

`dynamics-avoid-cross-staff-stem.ly`



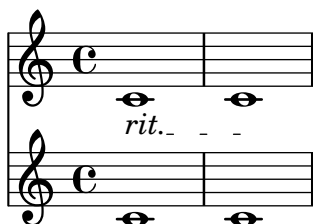
When a hairpin is broken, the broken parts should be open at the 'breaking point'.

`dynamics-broken-hairpin.ly`



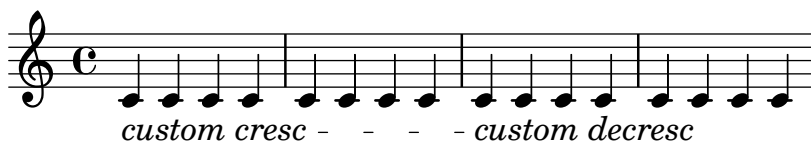
Text spanners work in the `Dynamics` context.

dynamics-context-textspan.ly



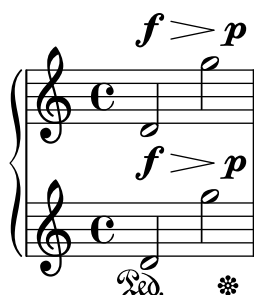
Postfix functions for custom crescendo text spanners. The spanners should start on the first note of the measure. One has to use `-\mycresc`, otherwise the spanner start will rather be assigned to the next note.

dynamics-custom-text-spanner-postfix.ly



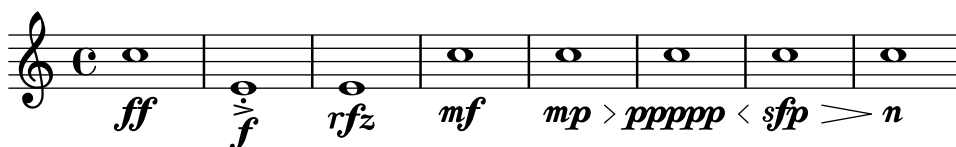
An empty Dynamics context does not confuse the spacing.

dynamics-empty.ly



Dynamic letters are kerned, and their weight matches that of the hairpin signs. The dynamic scripts should be horizontally centered on the note head. Scripts that should appear closer to the note head (staccato, accent) are reckoned with.

dynamics-glyphs.ly



By default hairpins extend to the extremes of the bound if there is no adjacent hairpin or dynamic text. A hairpin may instead extend to the LEFT, CENTER or RIGHT of NoteColumn grobs by overriding property `endpoint-alignments`, which is a pair of numbers representing the left and right ends of the hairpin. `endpoint-alignments` are expected to be directions (either -1, 0 or 1). Other values will be transformed with a warning. The right end of a hairpin terminating at a rest is not affected, always ending at the left edge of the rest.

dynamics-hairpin-endpoint-alignment.ly



10 **endpoint-alignments = #` (,LEFT . ,LEFT)**

19 **endpoint-alignments = #` (,RIGHT . ,LEFT)**

28 **endpoint-alignments = #` (,RIGHT . ,RIGHT)**

37 **endpoint-alignments = #` (,CENTER . ,CENTER)**

Ends adjacent to dynamic text are not influenced by endpoint-alignments

46

48

Hairpins extend to the extremes of the bound if there is no adjacent hairpin or dynamic-text. If there is, the hairpin extends to the center of the column or the bound of the text respectively.

dynamics-hairpin-length.ly

Dynamics appear below or above the staff. If multiple dynamics are linked with (de)crescendi, they should be on the same line. Isolated dynamics may be forced up or down.

dynamics-line.ly

DynamicText, DynamicLineSpanner, and Hairpin do not have outside-staff-priority in Dynamics contexts. This allows grobs with outside-staff-priority set to be positioned above and below them.

dynamics-outside-staff-priority.ly



Text dynamics are positioned correctly on rests, i.e., centered on the parent object.

dynamics-rest-positioning.ly



The X-offset of DynamicText grobs in a Dynamics context should be averaged over the center of NoteColumn grobs in the DynamicText's PaperColumn.

dynamics-text-dynamics-context.ly



The left text of a DynamicTextSpanner is left-aligned to its anchor note.

dynamics-text-left-text-alignment.ly



The space between an absolute dynamic and a dynamic text span can be changed using 'right-padding.

dynamics-text-right-padding.ly



left attach dir for text crescendi starting on an absolute dynamic is changed, so cresc. and the absolute dynamic don't overstrike.

dynamics-text-spanner-abs-dynamic.ly



The 2nd half of the cresc. stays at a reasonable distance from the notes.

dynamics-text-spanner-padding.ly



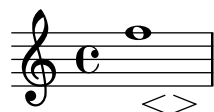
The `\cresc`, `\dim` and `\decreas` spanners are now postfix operators and produce one text spanner. Defining custom spanners is also easy. Hairpin and text crescendi can be easily mixed. `\<` and `\>` produce hairpins by default, `\cresc` etc. produce text spanners by default.

dynamics-text-spanner-postfix.ly



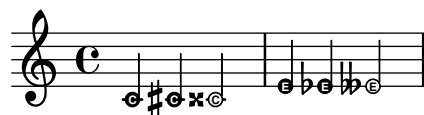
Crescendi may start off-notes, however, they should not collapse into flat lines.

dynamics-unbound-hairpin.ly



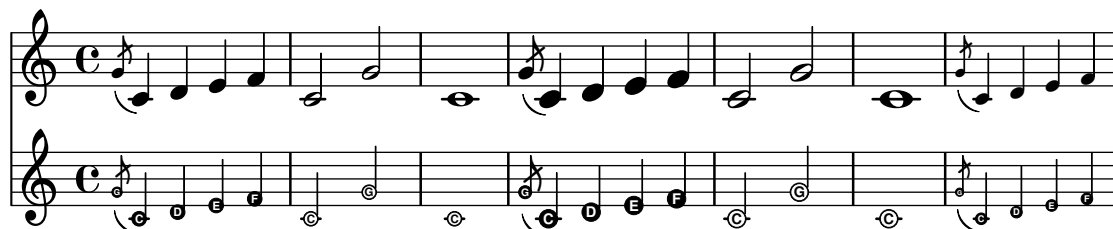
Accidentals are positioned correctly when using Easy notation.

easy-notation-accidentals.ly



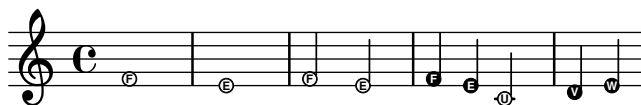
Easy noteheads should be scalable in size, like in grace notes.

easy-notation-size.ly



Easy-notation (or Ez-notation) prints names in note heads. You also get ledger lines, of course.

easy-notation.ly



PostScript code can be directly inserted inside a `\markup` block.

embedded-postscript.ly



Strings and comments inside of `#{...#}` should not be confusing to the embedded LilyPond parser. If this test succeeds, three notes with `(#)`, `($)`, and `(%)` underneath will get displayed here.

embedded-strings-comments.ly



The Emmentaler font contains kerning for many number pairs.

emmentaler-number-kerning.ly

time-signatures:

00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	-+	-.	-,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+-	++	+.	+,
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.-	.+	..	.,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,-	,+	,.	,,

figured bass (tnum, cv47, ss01):

00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	-+	-.	-,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+	++	+	+,
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.-	.+	..	.,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,-	,+	,.	,,

fingering (cv47, ss01):

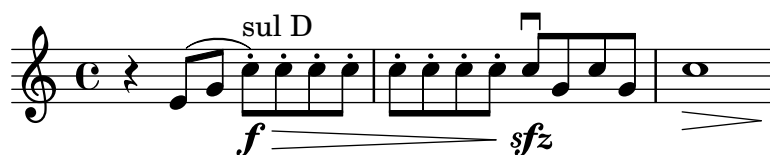
00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	+	.	,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+	++	+	,
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.	+	..	,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,	+	,	,

fixed-width (tnum, cv47, -kern):

00	01	02	03	04	05	06	07	08	09	0-	0+	0.	0,
10	11	12	13	14	15	16	17	18	19	1-	1+	1.	1,
20	21	22	23	24	25	26	27	28	29	2-	2+	2.	2,
30	31	32	33	34	35	36	37	38	39	3-	3+	3.	3,
40	41	42	43	44	45	46	47	48	49	4-	4+	4.	4,
50	51	52	53	54	55	56	57	58	59	5-	5+	5.	5,
60	61	62	63	64	65	66	67	68	69	6-	6+	6.	6,
70	71	72	73	74	75	76	77	78	79	7-	7+	7.	7,
80	81	82	83	84	85	86	87	88	89	8-	8+	8.	8,
90	91	92	93	94	95	96	97	98	99	9-	9+	9.	9,
-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-	+	.	,
+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+	++	+	+
.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	.-	+	..	,
,0	,1	,2	,3	,4	,5	,6	,7	,8	,9	,-	,+	,.	,,

Empty chords accept articulations, occupy no time, and leave the current duration unchanged.

empty-chord.ly



The functions `ly:engraver-make-item` and `ly:engraver-make-spanner` are similar to `ly:engraver-make-grob`. They are useful when the grob definition does not mandate a particular grob class.

engraver-make-item-spanner.ly



Spanner DynamicSpanner

An episema can be typeset over a single neume or a melisma. Its position is quantized between staff lines.

episema.ly



Music events can be extracted from a score with event listeners.

event-listener-output.ly

Black-box Testing

Graham Percival

violin-1

A mode switching command like `\lyricsto` will ‘pop state’ when seeing the lookahead token `\time`, a music function, after its non-delimited argument. This must not cause the extra token parsing state for the music function to disappear.

extratoken.ly

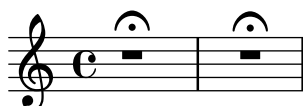
Fermatas have an appropriate distance to dots, note heads and other articulations.

fermata-dot-position.ly

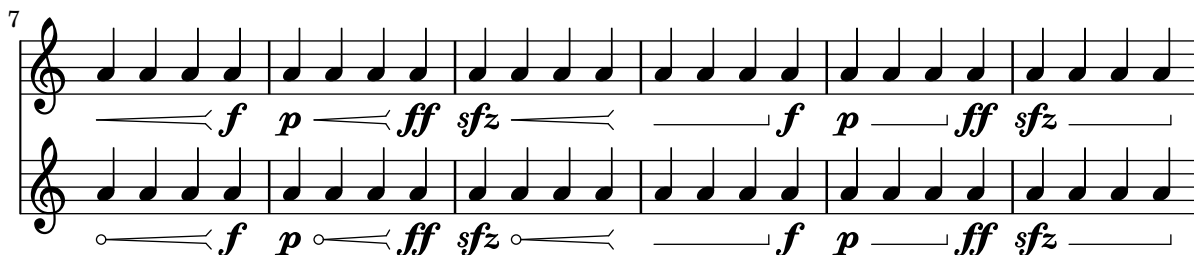
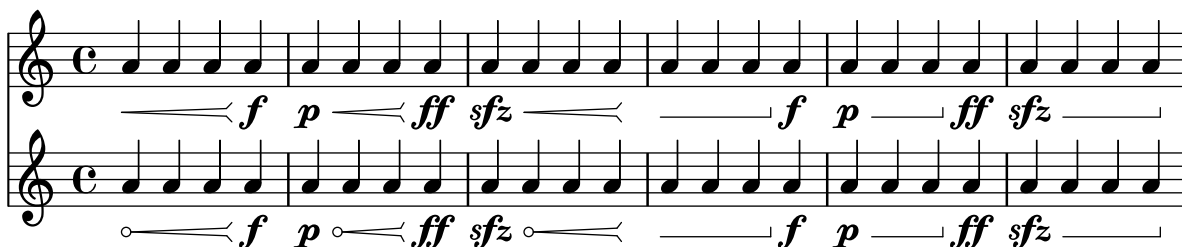
Trills and trill spanners should be below fermatas. Fermatas should be below ottava spanners.
 fermata-outside-staff-priority.ly



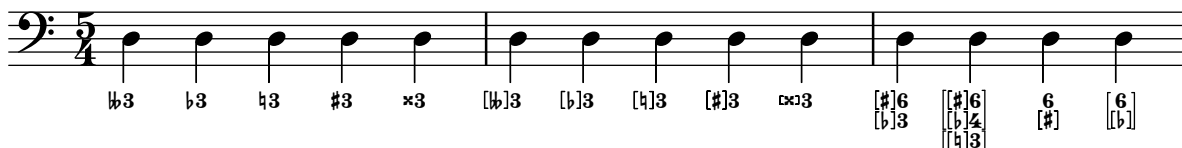
Fermatas over multimeasure rests are positioned as over normal rests.
 fermata-rest-position.ly



LilyPond creates hairpins found in Ferneyhough scores. Flared hairpins may print circled tips.
 ferneyhough-hairpins.ly



Bass figures can carry alterations, which may also be bracketed.
 figured-bass-alteration.ly



Pairs of congruent figured bass extender lines are vertically centered if `figuredBassCenterContinuations` is set to true.

figured-bass-continuation-center.ly

A figured bass continuation line after an empty bass figure has a correct vertical position.
 figured-bass-continuation-empty.ly

Figured bass extender for figures of different width (e.g., with alteration or two-digit figures) should still stop at the same position.
 figured-bass-continuation-end-position.ly

By adorning a bass figure with \!, an extender may be forbidden.
 figured-bass-continuation-forbid.ly

Figured bass extender lines shall be broken when a figure has a different alteration, augmentation, or diminishment.
 figured-bass-continuation-modifiers.ly

Figured bass extender lines run between repeated bass figures. They are switched on with `useBassFigureExtenders`.

`figured-bass-continuation.ly`



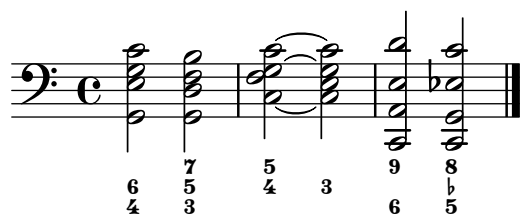
Bass figures and extenders shall also work correctly if the figure has a different duration than the bass note. In particular, if a timestep does not have a new figure (because the old figure still goes on), extenders should be drawn and not be reset.

`figured-bass-durations.ly`



Bass figures may be empty and still take up space.

`figured-bass-empty-figures.ly`



When using extender lines in figured bass, markup objects should be treated like ordinary figures and work correctly with extender lines.

Extenders should only be used if the markup is really identical.

`figured-bass-extendends-markup.ly`



Figured bass extenders do not distort vertical spacing.

`figured-bass-extendends-spacing.ly`



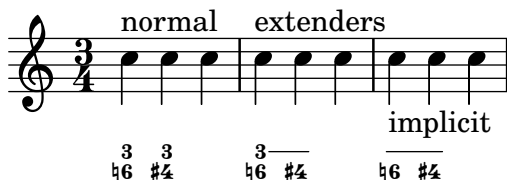
When figures appear inside a voice, `ignoreFiguredBassRest` causes all figures on rests to be discarded and all spanners ended. If set to `#f`, figures on rests are printed.

figured-bass-ignore-rest.ly



Implicit bass figures are not printed, but they do get extenders.

figured-bass-implicit.ly



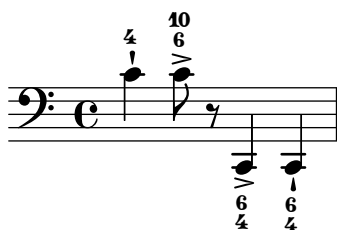
Bass figures with more than a single digit can be positioned differently.

figured-bass-large-numbers.ly



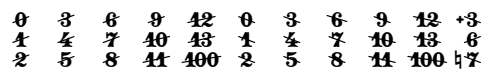
Figured bass in a Staff context doesn't collide with articulations.

figured-bass-script.ly



Figured bass supports numbers with slashes through them.

figured-bass-slashed-numbers.ly



Figured bass can also be added to Staff context directly. In that case, the figures must be entered with `\figuredmode` and be directed to an existing Staff context.

Since these engravers are on Staff level, properties controlling figured bass should be set in Staff context.

figured-bass-staff.ly



Figured bass is created by the FiguredBass context, which responds to figured bass and rest events.

You can also enter markup strings; the vertical alignment may also be tuned.

figured-bass.ly

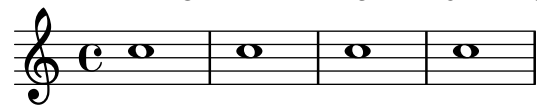
The image shows a musical staff in bass clef with a common time signature (C). The staff contains the following notes: a quarter note G2, a quarter note A2, a quarter note B2, and an eighth-note triplet of C3, D3, E3. The final measure contains a whole note G2. Below the staff are guitar chord diagrams for each measure:

- Measure 1: $\begin{matrix} 3 \\ [5] \\ [7] \end{matrix}$
- Measure 2: $\begin{matrix} +3 \\ [5] \\ 7 \\ [9] \\ [11] \end{matrix}$
- Measure 3: $\begin{matrix} \#3 \\ \flat 5 \\ \flat 7 \end{matrix}$
- Measure 4: $\begin{matrix} 3 \\ \flat 5 \\ \flat 7 \end{matrix}$
- Measure 5: $\begin{matrix} 3 \\ + \\ 5 \\ 7 \end{matrix}$
- Measure 6: $\begin{matrix} 3 \\ \flat 6 \\ 6 \end{matrix}$
- Measure 7: $\begin{matrix} V7 \\ [6] \\ [bla] \\ \sim \end{matrix}$

At the end of the staff, there is a bracketed chord diagram $\begin{matrix} [7] \\ [5] \\ 3 \end{matrix}$.

The fill-line markup command should align texts in columns. For example, the characters in the center should form one column.

1									1										2
1									2										3
1					2					3			4						4
1				2					3			4			5				5
1				2			3			4			5			6			6
1				2			3			4			5			6		7	7
1				2			3			4			5			6		7	8
1				2			3			4			5			6		7	9
1				2			3			4			5			6		7	10
1				2			3			4			5			6		7	11
1				2			3			4			5			6		7	12
1				2			3			4			5			6		7	13
1				2			3			4			5			6		7	14



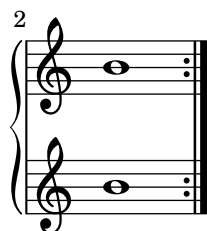
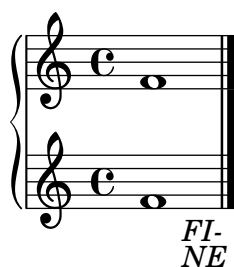
Context modification via `\with` filters translators of the wrong type: performers for an `Engraver_group` and engravers for a `Performer_group`. In this test, the `Instrument_name_engraver` is added to a `StaffGroup`, but does not affect midi output, since it is filtered out.

`filter-translators.ly`



`\fine` places a performance instruction below all staves and at end-of-line at a break, except at the written end of the music. The context property `fineText` controls the text.

`fine.ly`



Scripts left of a chord avoid accidentals.

`finger-chords-accidental.ly`



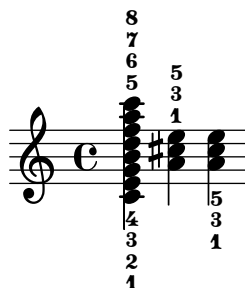
Scripts right of a chord avoid dots.

`finger-chords-dot.ly`



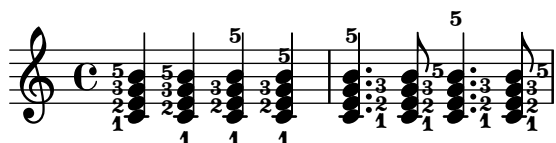
Ordering of the fingerings depends on vertical ordering of the notes, and is independent of up/down direction.

`finger-chords-order.ly`



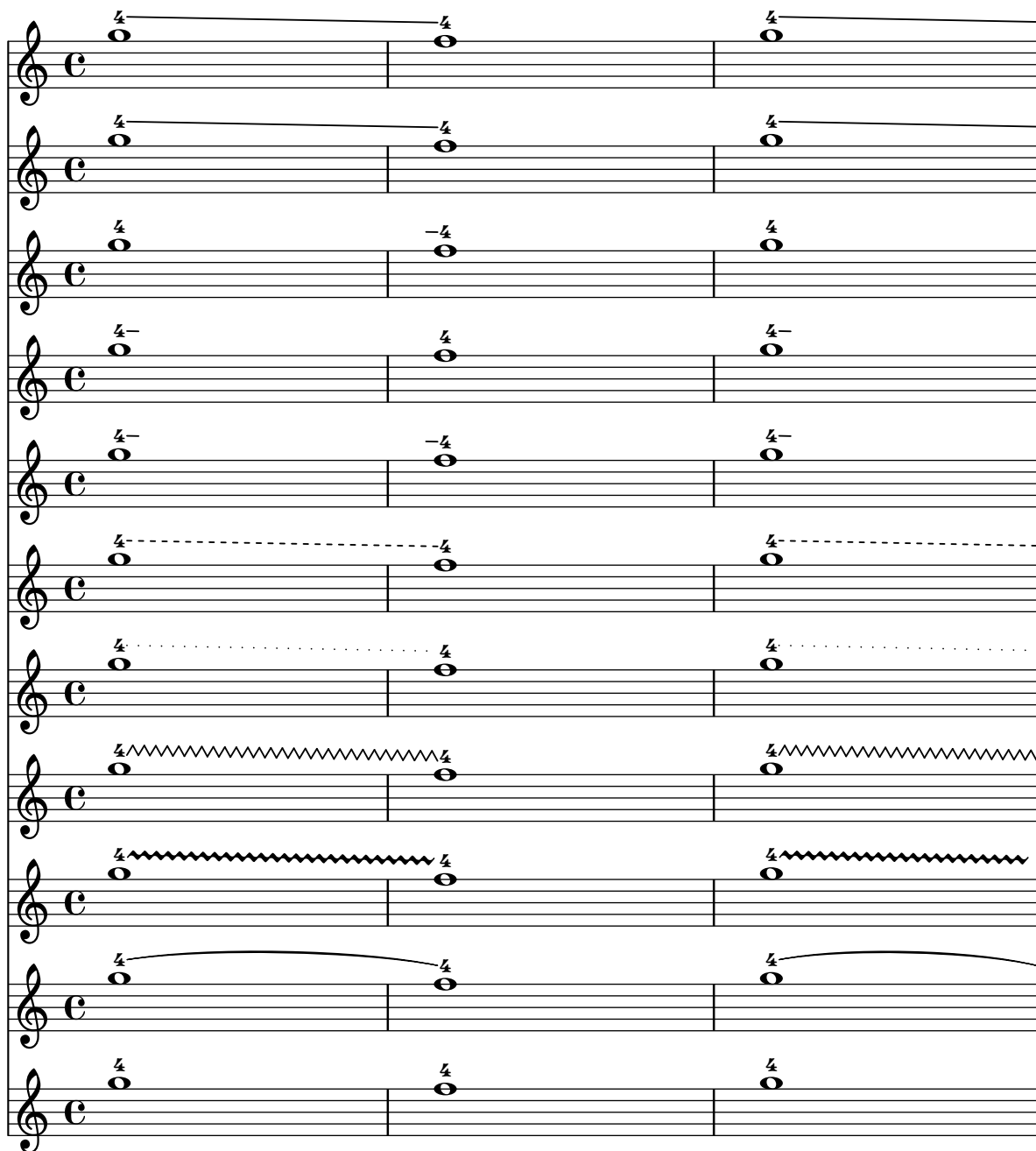
It is possible to associate fingerings uniquely with notes. This makes it possible to add horizontal fingerings to notes. Fingering defaults to not clearing flags and stems unless there is a collision or a beam.

`finger-chords.ly`



The FingerGlideSpanner grob prints nicely for all styles if there are line breaks. For the styles stub-right, stub-left and stub-right the printed line is intentionally shorter.

`finger-glide-spanner-line-break-styles.ly`

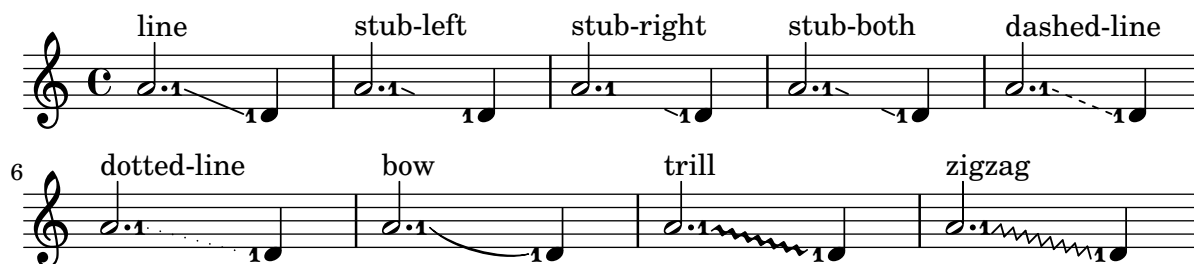


Nested FingerGlideSpanner grobs work. A breaking line does not disturb the printing, the part after the break continues with the same angle.

`finger-glide-spanner-nested-line-break.ly`

The FingerGlideSpanner may be printed in several styles.

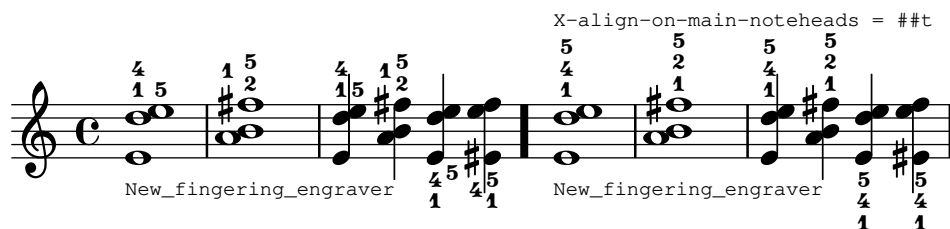
`finger-glide-spanner-styles.ly`



Fingering grobs created by the `New_fingering_engraver` (i.e., fingerings entered inside of `<>`) with `fingeringOrientations` set to up or down avoid accidentals of displaced notes that might get into the way in chords containing adjacent notes (seconds) or unison notes.

With `\override Fingering.X-align-on-main-noteheads = ##t`, the fingerings oriented up and down are arranged in a straight column aligned on the noteheads on the “correct” side of the stem.

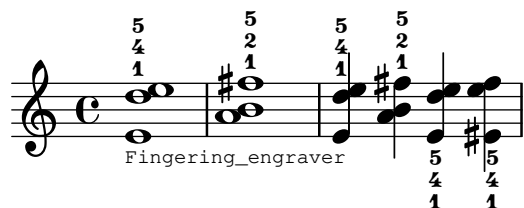
`fingering-adjacent-note-chord-new.ly`



Fingering grobs created by the `Fingering_engraver` (i.e., fingerings entered outside of `<>`) above or below chords containing adjacent notes (seconds) or unison notes should be aligned on the main noteheads, i.e., on the noteheads that are on the “correct” side of the stem.

Incidentally, this also avoids collisions with accidentals.

`fingering-adjacent-note-chord.ly`



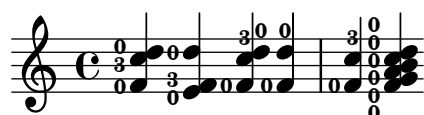
Horizontally-offset `Fingerings` align along the Y axis when they are within `FingeringColumn.snap-radius` of each other.

`fingering-column-snap-radius.ly`



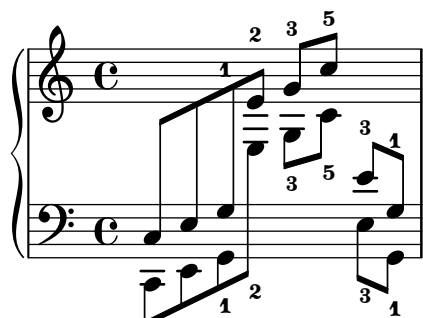
Horizontal `Fingering` grobs that collide do not intersect. Non-intersecting `Fingering` grobs are left alone. This is managed by the `FingeringColumn` grob.

`fingering-column.ly`



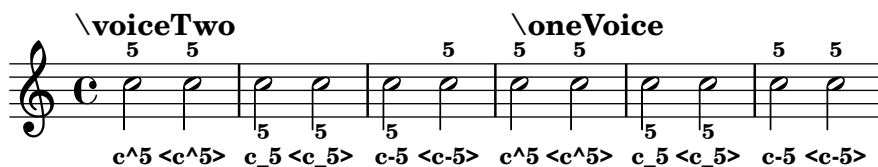
Fingerings work correctly with cross-staff beams.

fingering-cross-staff.ly



Fingering directions in directed and undirected contexts.

fingering-directions.ly



Fingerings don't segfault when their stencil is set to ##f.

fingering-no-stencil.ly



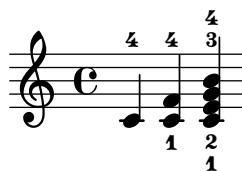
If a `Fingering` grob is left- or right-positioned, the `Y-offset` property is taken relative to the vertical position of its `X-parent` (i.e., its associated note head).

fingering-y-offset-new.ly



Automatic fingering tries to put fingering instructions next to noteheads.

fingering.ly



Stems reach correct begin points of merged noteheads.

flag-stem-begin-position.ly





`\flageolet` draws a small circle on top of the note when a natural harmonic is needed.
`flageolet.ly`



Default flag styles: '(), 'mensural, 'stacked, and 'no-flag.

Compare all three methods to print them: (1) C++ default implementation, (2) Scheme implementation using the 'style grob property, and (3) setting the 'flag property explicitly to the desired Scheme function.

All three systems should be absolutely identical.

`flags-default.ly`

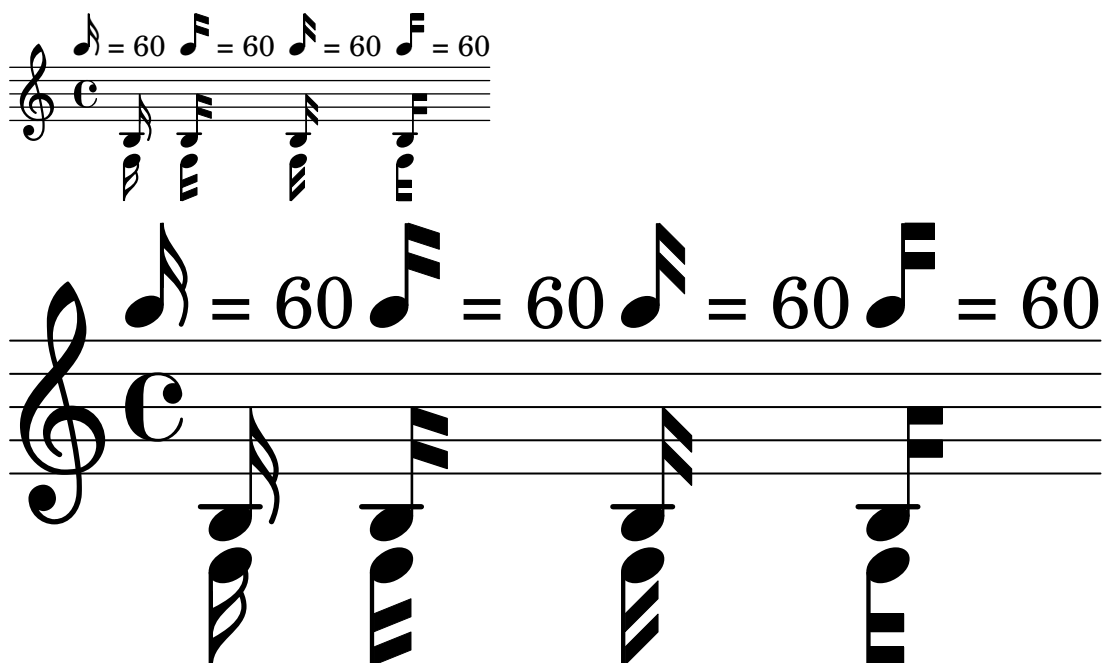
The 'stencil property of the Flag grob can be set to a custom scheme function to generate the glyph for the flag.

`flags-in-scheme.ly`

Straight flags scale according to `layout-set-staff-size` in `MetronomeMark`, `TextScript` and `music`.

`flags-straight-layout-staff-size.ly`





Flags can be drawn straight in the style used by Stockhausen and Boulez.

flags-straight-stockhausen-boulez.ly



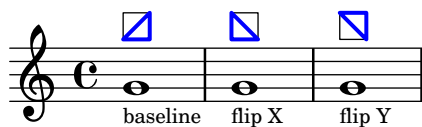
Straight flag styles.

flags-straight.ly



Stencils can be flipped horizontally or vertically within their bounding box using flip-stencil.

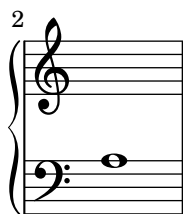
flip-stencil.ly



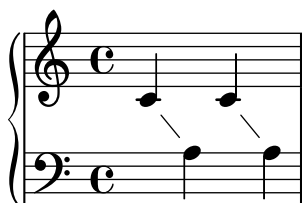
The line-spanners connects to the Y position of the note on the next line. When put across line breaks, only the part before the line break is printed.

follow-voice-break.ly



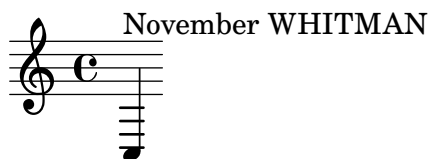


The voice follower is not confused when set for consecutive sets of staff switches.
 follow-voice-consecutive.ly



TM and No should not be changed into trademark/number symbols. This may happen with incorrect font versions.

font-bogus-ligature.ly



The default font families for text can be overridden.
 font-family-override.ly



Exercise font features. Requires a font that supports the features. This ensures no errors using the interface.

font-features.ly

Hello

HELLO

HELLO

HELLO

Hello

0123456789

0123456789

Hello 0123456789

Text gets kerned if the used font supports that.

font-kern.ly

With kerning:

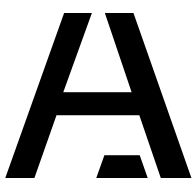


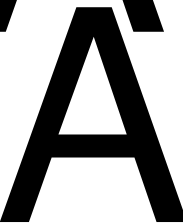
Without kerning:



External fonts may be used without being installed on the operating system, by loading either a specific font file or a directory that contains font files. In this example two logos ('GPL' and 'GFDL') should be printed, rather than letter glyphs.

font-name-add-files.ly

GPL logo: 

GFDL logo: 

Setting the `font-name` property does not change the font size. The two strings below should be concatenated and have the same font size.

Note that 'the same font size' is related to what lilypond reports on the console if in verbose mode (3.865234375 units for this regression test). If you actually look at the two fonts the optical size differs enormously.

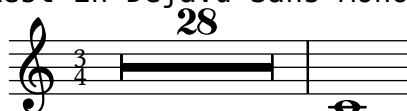
font-name-font-size.ly

`pfsmppsm`

Other fonts can be used by setting `font-name` for the appropriate object. The string should be a Pango font description without size specification.

font-name.ly

Rest in DejaVu Sans Mono

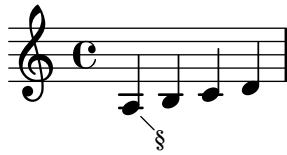


This text is in large Vera Sans Bold

This is an example of automatic footnote numbering where the number is reset on each page. It uses the `symbol-footnotes` numbering function, which assigns the symbols *, †, ‡, § and ¶ to successive footnotes, doubling up on the symbol after five footnotes have been reached.

footnote-auto-numbering-page-reset.ly

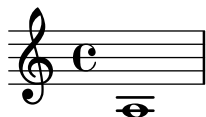
a b* d† f‡
h i



*c
†e
‡g
§j



2
k l*



*m
†n
‡o
§p

LilyPond v2.25.16

This regtest makes sure that footnote numbers are laid out in the correct vertical order.

The first system of music consists of two staves in common time. The upper staff begins with a treble clef and a common time signature. It contains a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. A triplet of eighth notes (C5, D5, E5) is marked with a '3' above it. This is followed by a quarter note F5, a quarter note E5, and a quarter note D5. A dynamic marking of *f* (forte) is placed below the staff, with a line connecting it to the triplet. The lower staff begins with a treble clef and a common time signature. It contains a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. A triplet of eighth notes (C5, D5, E5) is marked with a '3' above it. This is followed by a quarter note F5, a quarter note E5, and a quarter note D5. A dynamic marking of *f* (forte) is placed below the staff, with a line connecting it to the triplet.

The second system of music consists of two staves in common time. The upper staff begins with a treble clef and a common time signature. It contains a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. A triplet of eighth notes (C5, D5, E5) is marked with a '3' above it. This is followed by a quarter note F5, a quarter note E5, and a quarter note D5. A dynamic marking of *f* (forte) is placed below the staff, with a line connecting it to the triplet. The lower staff begins with a treble clef and a common time signature. It contains a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. A triplet of eighth notes (C5, D5, E5) is marked with a '3' above it. This is followed by a quarter note F5, a quarter note E5, and a quarter note D5. A dynamic marking of *f* (forte) is placed below the staff, with a line connecting it to the triplet.

- 1n
- 2n
- 3o
- 4o
- 5p
- 6p
- 7n
- 8n
- 9o
- 10o
- 11p
- 12p



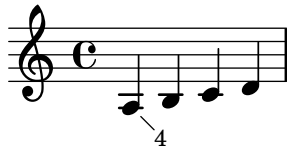
The image shows a musical score with two staves. The first staff has a treble clef and a key signature of one flat. The second staff has a bass clef and a key signature of one flat. The music consists of a series of notes and rests. A footnote is attached to the first staff, starting at measure 7 and ending at measure 14. The footnote contains the number '1'.

13n
14n
15o
16o
17p
18p

LilyPond v2.25.16

This is an example of automatic footnote numbering where the number is not reset on each page. It uses the default numbering function, which assigns numbers starting at 1 to successive footnotes.

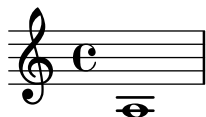
a b¹ d² f³
h i



1c
2e
3g
4j



2
k l⁵

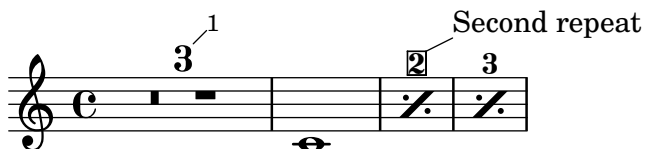


5m
6n
7o
8p

LilyPond v2.25.16

Balloons and footnotes on multi-measure rest numbers and percent repeat counters are correctly placed.

footnote-balloon-on-counter.ly

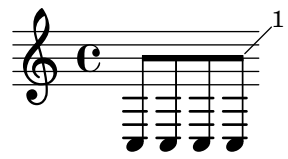


¹Rest during three measures

LilyPond v2.25.16

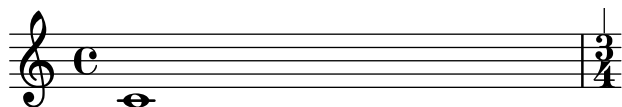
Automatic beams may receive footnotes.

footnote-beam.ly

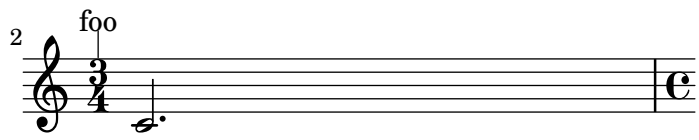


With grobs that have break visibility, footnotes will automatically take the break visibility of the grob being footnoted. This behavior can be overridden.

footnote-break-visibility.ly



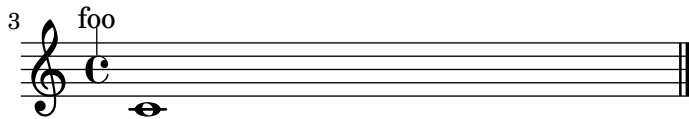
2



bar



3

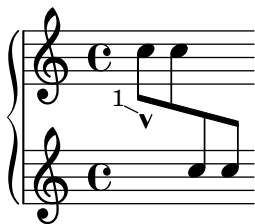


bar

LilyPond v2.25.16

Footnotes work on cross-staff grobs.

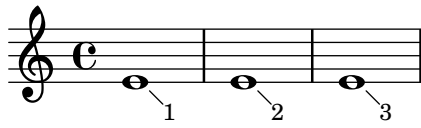
footnote-cross-staff.ly

¹marcato

LilyPond v2.25.16

The padding between a footnote and the footer can be tweaked.

footnote-footer-padding.ly



-
1. Tiny space below.
 2. Tiny space below.
 3. Big space below.

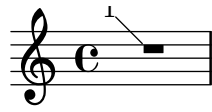
LilyPond v2.25.16

Lyrics may receive footnotes.

footnote-lyrics.ly

aaah
1

Multi-measure rests may receive footnotes.



Footnotes are annotated at the correct place, and the annotation goes to the correct page.

footnote-spanner.ly



1. Goes to the first broken spanner.

The image displays six staves of musical notation, each representing a regression test case. The staves are numbered 2, 7, 10, 13, 16, 19, and 22. Each staff begins with a treble clef and contains a sequence of notes: a quarter note, a quarter note, a quarter note, and a quarter note, followed by a bar line, then another quarter note, quarter note, quarter note, quarter note, followed by a bar line, and finally a quarter note, quarter note, quarter note, quarter note. The notes are positioned on the staff lines, with the first staff (2) starting on the second line, the second staff (7) on the second space, the third staff (10) on the second line, the fourth staff (13) on the second space, the fifth staff (16) on the second line, the sixth staff (19) on the second space, and the seventh staff (22) on the second line. The notes are connected by stems, and the staves are separated by double horizontal lines.

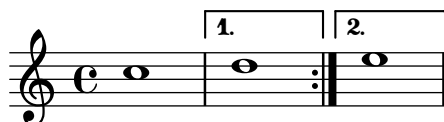


2. Goes to the last broken spanner.

LilyPond v2.25.16

Footnotes on volta brackets also work

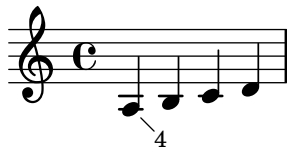
footnote-volta-spanner.ly



Lilypond does footnotes.

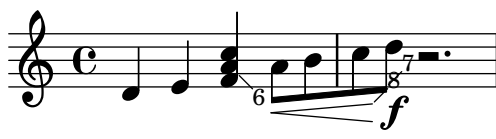
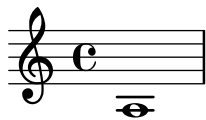
footnote.ly

a b¹ d² f³
h i



1. c
 2. e
 3. g
 4. j
-

2
k l⁵

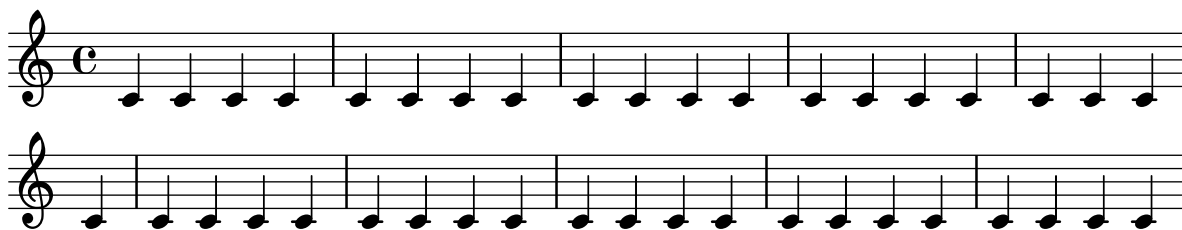


5. m
6. n
7. o
8. p

LilyPond v2.25.16

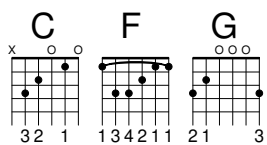
`forbidBreakBetweenBarLines` controls whether `Bar_engraver` forbids line breaks where there is no bar line. The output should have a break in the middle of a measure.

`forbid-break-between-bar-lines.ly`



`FretBoards` should be aligned in the Y direction at the fret-zero, string 1 intersection.

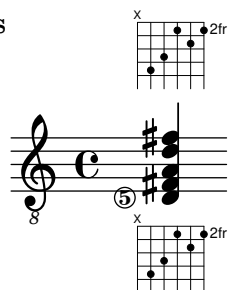
`fret-board-alignment.ly`



Frets can be assigned automatically. The results will be best when one string number is indicated in advance

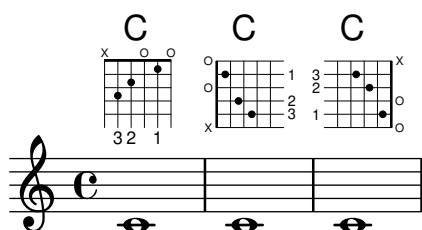
`fret-boards.ly`

autofrets



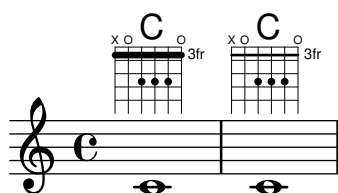
Fret diagrams of different orientation should share a common origin of the topmost fret or string.

fret-diagram-origins.ly



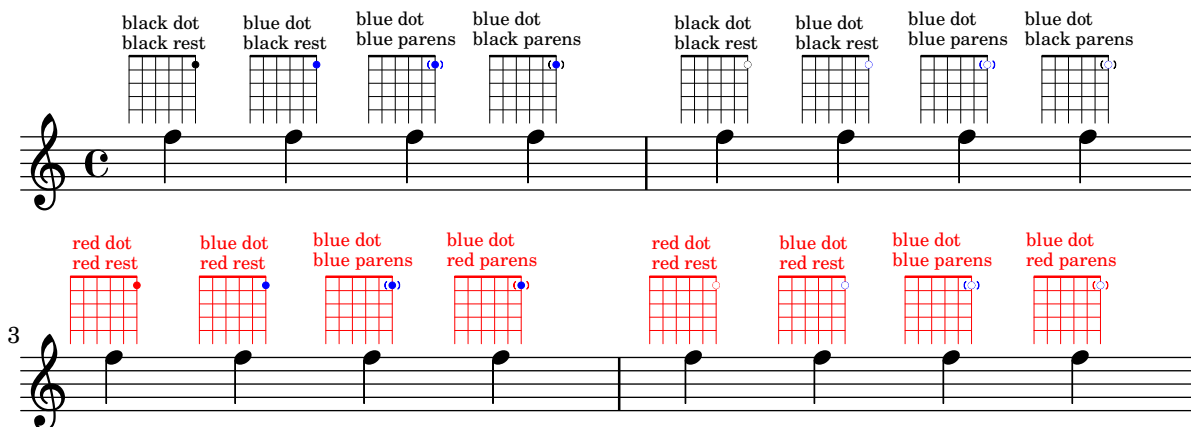
A capo indicator can be added with a fret-diagram-verbose string, and its thickness can be changed.

fret-diagrams-capo.ly



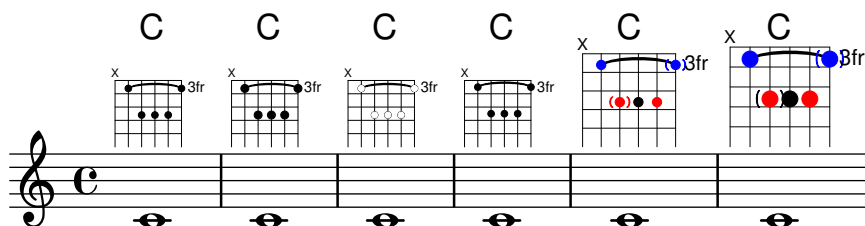
Dots in fret diagrams may be colored as well as the entire fret diagram. Not explicitly colored dots take the color from `TextScript` grob or from `with-color`. Otherwise the specified color is preserved. Parentheses take their color from the dot, if `default-paren-color` is used they take their color from the overall color. Works for inverted dots as well.

fret-diagrams-dot-color.ly



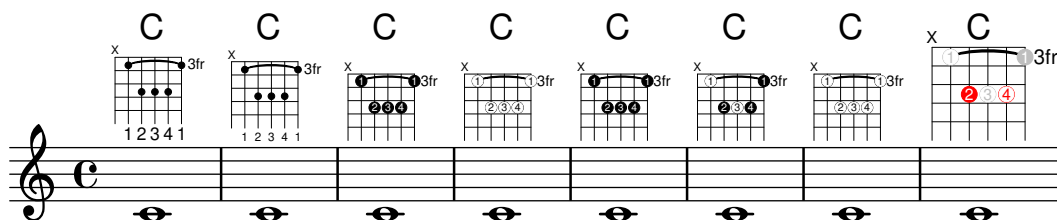
Dots indicating fingerings can be changed in location, size, and coloring. It is possible to parenthesize a single dot. The color of the paranthesis may be taken from dot or default. A possible collision between paranthesis and fret-label- indication can be resolved by an override for `fret-label-horizontal-offset` in `fret-diagram-details`.

fret-diagrams-dots.ly



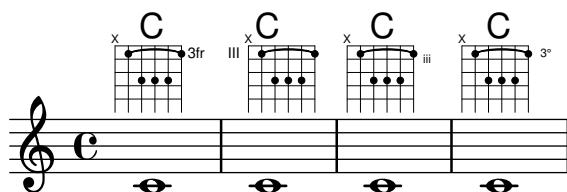
Finger labels can be added, either in dots or below strings. Dot color can be changed globally or on a per-dot basis, and fingering label font size can be adjusted.

fret-diagrams-fingering.ly



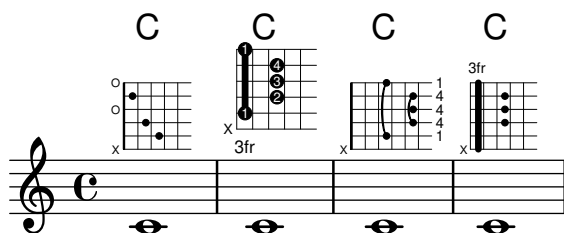
The label for the lowest fret can be changed in location, size, and number type.

fret-diagrams-fret-label.ly



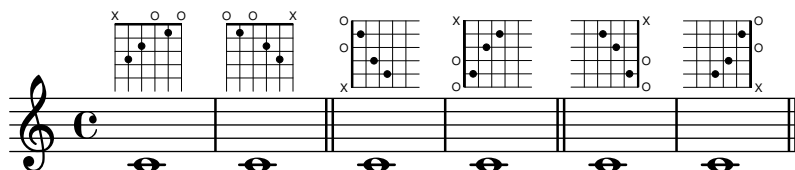
Fret diagrams can be presented in landscape mode.

fret-diagrams-landscape.ly



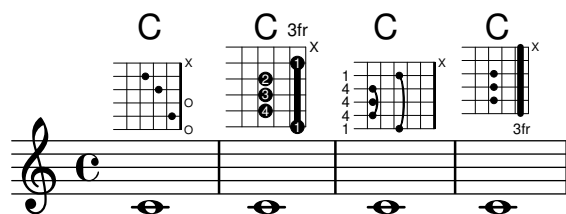
Fret-diagrams may be printed left-handed

fret-diagrams-left-handed.ly



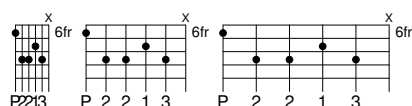
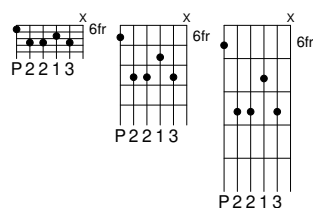
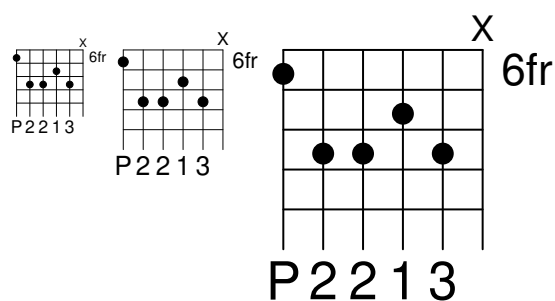
Fret diagrams can be presented in landscape mode.

fret-diagrams-opposing-landscape.ly



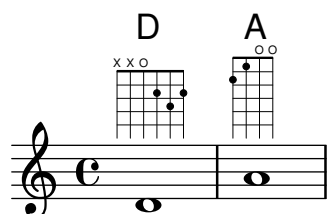
Fret diagrams can be scaled using the `size` property. Also, scaling the distance between the frets and/or strings is possible with the properties `fret-distance` and/or `string-distance` of `fret-diagram-details`. The position and size of first fret label, mute/open signs, fingers, relative to the diagram grid, shall be the same in all cases.

`fret-diagrams-size.ly`



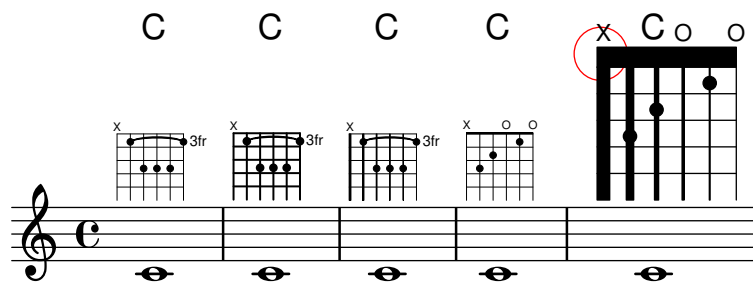
Number of frets and number of strings can be changed from the defaults.

`fret-diagrams-string-frets.ly`



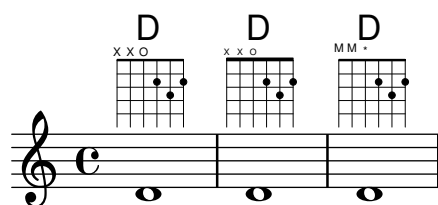
String thickness can be changed, and diagrams can have variable string thickness. The thick zero-fret is adjusted accordingly for changed `size`, `fret-diagram-details.string-thickness-factor` and `fret-diagram-details.top-fret-thickness`. There should be no visible gap inside the red circle.

`fret-diagrams-string-thickness.ly`



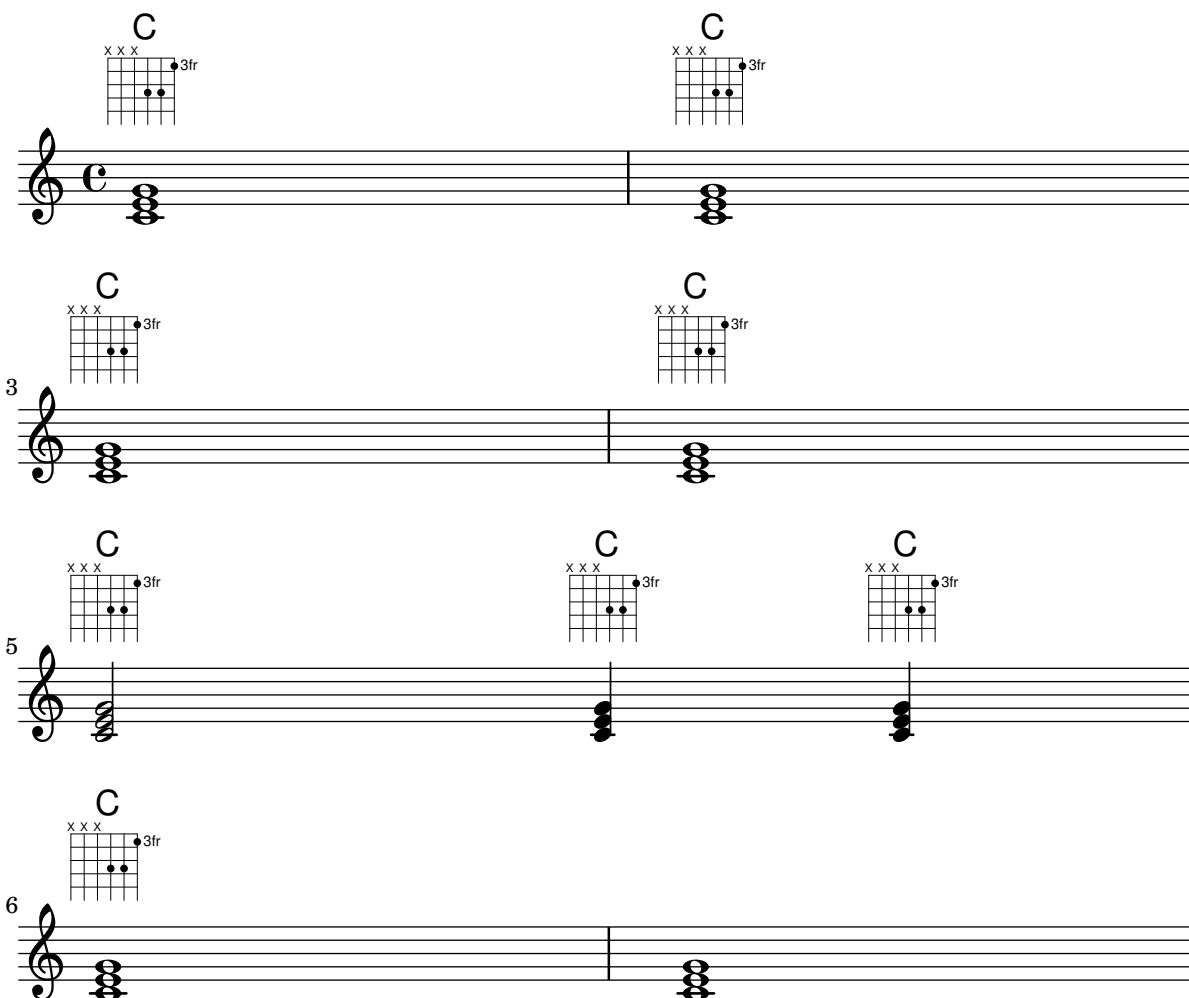
The size, spacing, and symbols used to indicate open and muted strings can be changed.

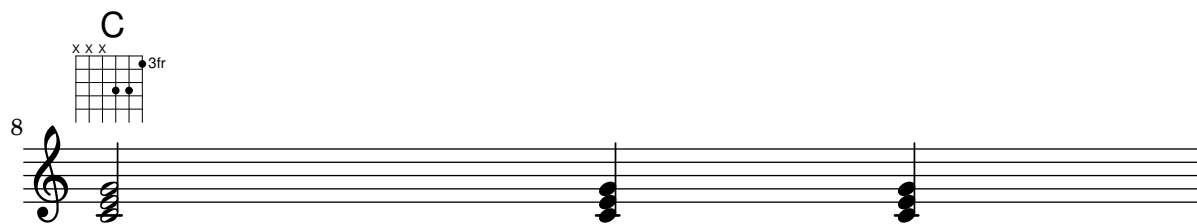
fret-diagrams-xo-label.ly



FretBoards can be set to display only when the chord changes or at the beginning of a new line.

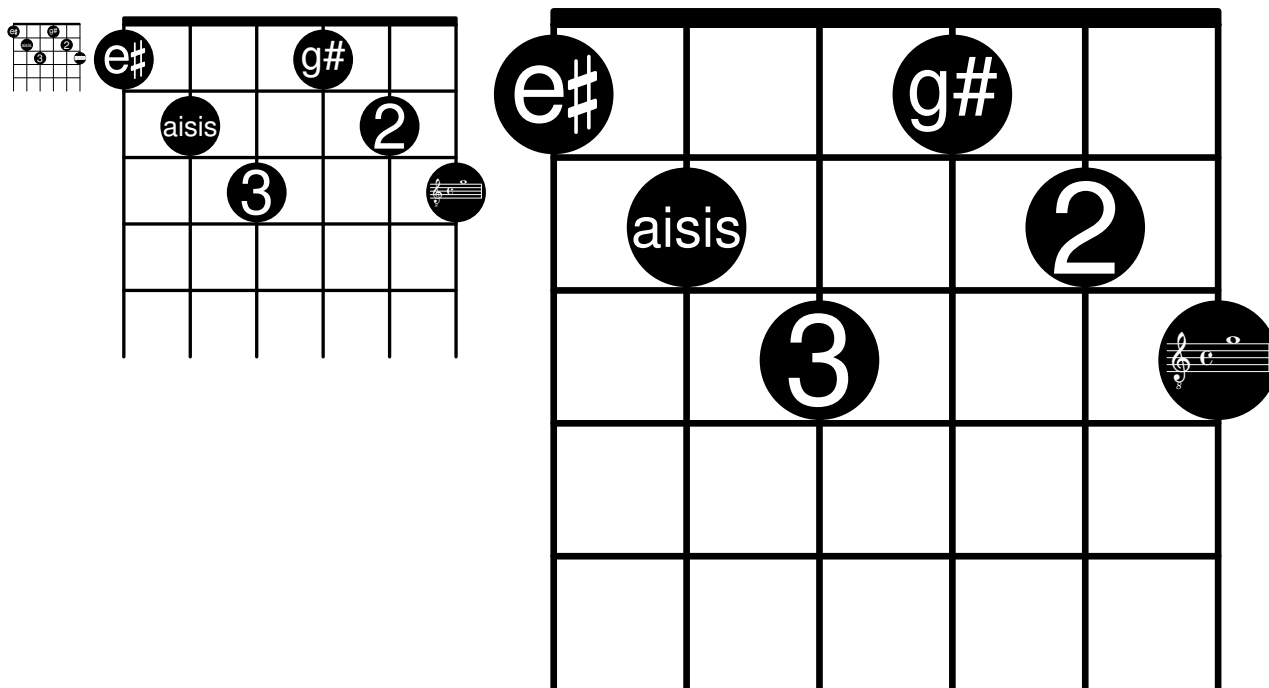
fretboard-chordchanges.ly





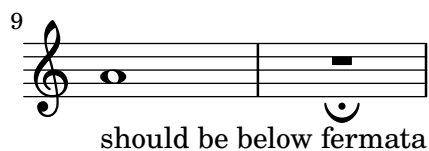
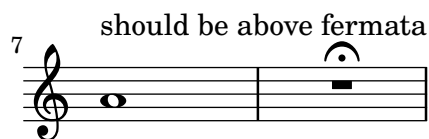
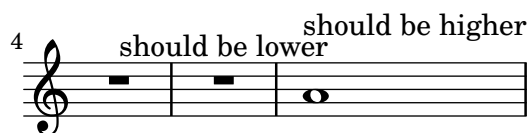
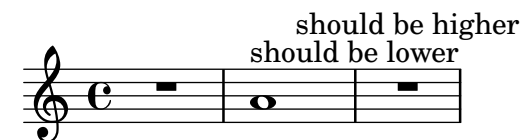
Markups can be put into the dots of a fret-diagram. Those markups are scaled automatically to fit into the dots.

fretdiagram-markup-in-dots.ly



Fermata over full-measure rests should invert when below and be closer to the staff than other articulations.

full-measure-rest-fermata.ly



This file tests various Scheme utility functions.

`general-scheme-bindings.ly`

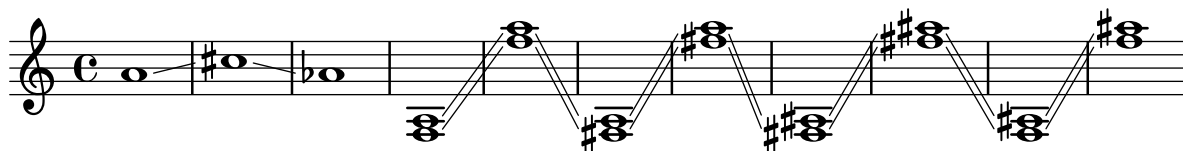
As a last resort, the placement of grobs can be adjusted manually, by setting the `extra-offset` of a grob.

`generic-output-property.ly`



Glissandi stop before hitting accidentals. Chord glissandi stop at the same horizontal position and have the same slope, they do not cross.

`glissando-accidental.ly`



When broken, glissandi can span multiple lines.

`glissando-broken-multiple.ly`

A series of musical staves illustrating a broken glissando line. The first staff shows a glissando line starting on a note. The second staff (labeled '2') shows the line continuing. The third staff (labeled '3') shows the line continuing. The fourth staff (labeled '4') shows the line continuing with a *ff* dynamic and a trill (*tr*) marking. The fifth staff (labeled '7') shows the line continuing. The sixth staff (labeled '8') shows the line continuing. The seventh staff (labeled '9') shows the line continuing with a *ff* dynamic and a trill (*tr*) marking.

Broken glissandi anticipate the pitch on the next line.

glissando-broken-unkilled.ly

The image shows musical notation for a regression test case. It consists of two systems of four staves each. The first system shows a glissando starting on the first staff, moving up to the second staff, then down to the third staff, and finally up to the fourth staff. The second system shows a similar glissando starting on the first staff, moving up to the second staff, then down to the third staff, and finally up to the fourth staff. The glissando is represented by a line connecting the notes on each staff.

If broken, Glissandi anticipate on the pitch of the next line.

glissando-broken.ly

The image shows musical notation for a regression test case. It consists of two staves. The first staff shows a glissando starting on the first staff, moving up to the second staff, and then down to the first staff of the second system. The glissando is represented by a line connecting the notes on each staff.

A glissando between chords should not interfere with line breaks. In this case, the music should be in two lines and there should be no warning messages issued. Also, the glissando should be printed.

glissando-chord-linebreak.ly

The image shows musical notation for a regression test case. It consists of two systems of two staves each. The first system shows a glissando starting on the first staff, moving up to the second staff, and then down to the first staff of the second system. The glissando is represented by a line connecting the notes on each staff.

LilyPond typesets glissandi between chords.

glissando-chord.ly

The image shows two staves of music in common time. The first staff starts with a treble clef and a common time signature. It contains a sequence of notes and chords with glissandi lines connecting them. The second staff, starting at measure 11, continues the sequence with similar notes and chords, also featuring glissandi lines.

Lilypond prints consecutive glissandi.

glissando-consecutive.ly

The image shows a single staff of music in common time. It contains a sequence of notes with consecutive glissandi lines connecting them.

Broken cross-staff glissandi have acceptable slopes when one staff is removed.

glissando-cross-staff-broken-remove-empty.ly

The image shows a broken cross-staff glissando. The first staff is a bass clef staff with a common time signature and a note. The second staff is a treble clef staff with a common time signature and a note. A glissando line connects the note in the bass staff to the note in the treble staff. The second staff is then removed, leaving the first staff empty.

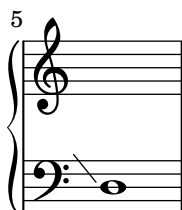
Broken cross-staff glissandi can span more than two systems.

glissando-cross-staff-broken-several-systems.ly

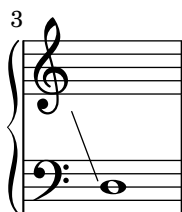
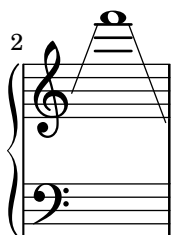
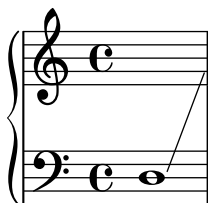
The image shows a broken cross-staff glissando spanning two systems. The first system has a treble clef staff and a bass clef staff. The second system has a treble clef staff and a bass clef staff. A glissando line connects a note in the bass staff of the first system to a note in the treble staff of the second system.

The image shows a broken cross-staff glissando spanning two systems. The first system has a treble clef staff and a bass clef staff. The second system has a treble clef staff and a bass clef staff. A glissando line connects a note in the bass staff of the first system to a note in the treble staff of the second system.

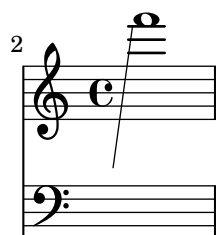
The image shows a broken cross-staff glissando spanning three systems. The first system has a treble clef staff and a bass clef staff. The second system has a treble clef staff and a bass clef staff. The third system has a treble clef staff and a bass clef staff. A glissando line connects a note in the bass staff of the first system to a note in the treble staff of the third system.



Cross-staff glissandi have acceptable slopes when they cross line breaks.
glissando-cross-staff-broken.ly

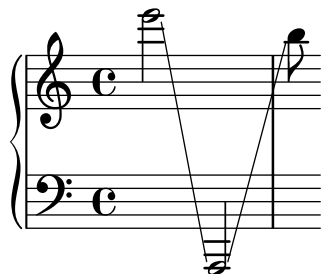


Broken cross-staff glissandi have acceptable slopes when one staff is removed.
glissando-cross-staff-staff-absent.ly



Cross staff glissandi reach their endpoints correctly.

`glissando-cross-staff.ly`



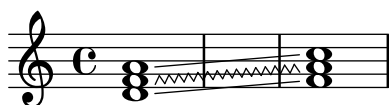
Glissandi begin after dots by default. This behavior may be changed by overriding the `start-at-dot` property.

`glissando-dots.ly`



Individual glissandi within a chord can be tweaked.

`glissando-index.ly`



Glissandi are not broken. Output of this test is expected to run off the page.

`glissando-no-break.ly`



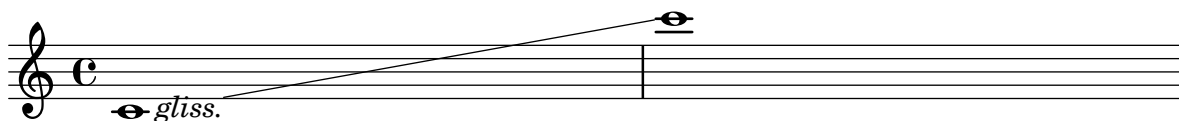
NoteColumn grobs can be skipped over by glissandi.

`glissando-skip.ly`



`stencil-align-dir-y` also works on glissandi.

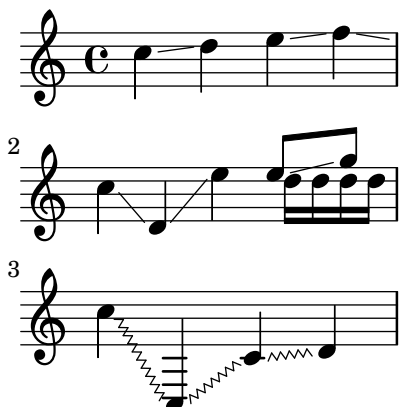
`glissando-stencil-align-dir-y.ly`



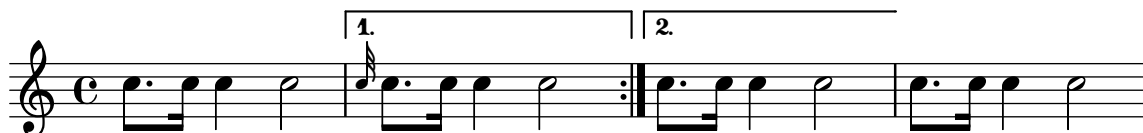
Between notes, there may be simple glissando lines. Here, the first two glissandi are not consecutive.

The engraver does no time-keeping, so it involves some trickery to get `<< { s8 s8 s4 } { c4 \gliss d4 } >>` working correctly.

glissando.ly



A grace in the first alternative does not cause the beaming to go awry in subsequent material
 grace-alternative.ly



A separate 'Grace_auto_beam_engraver' initiates autobeaming at the start of each \grace command.

grace-auto-beam-engraver.ly



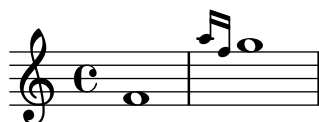
The autobeamer is not confused by grace notes.

grace-auto-beam.ly



Bar line should come before the grace note.

grace-bar-line.ly



Grace notes do tricky things with timing. If a measure starts with a grace note, the measure does not start at 0, but earlier. Nevertheless, lily should not get confused. For example, line breaks should be possible at grace notes, and the bar number should be printed correctly.

`grace-bar-number.ly`



Grace beams and normal beams may occur simultaneously. Unbeamed grace notes are not put into normal beams.

`grace-beam.ly`



The `\voiceOne` setting is retained after finishing the grace section.

`grace-direction-polyphony.ly`



Grace notes at the end of an expression don't cause crashes.

`grace-end-expression.ly`



Grace notes after the last note do not confuse the timing code.

`grace-end.ly`



Grace-timed elements in sequence line up before the next main note in the obvious way.

`grace-multiple.ly`



`startGraceMusic` and `stopGraceMusic` may be overridden to change the properties of grace notes. In this test, the stems of the grace notes point down.

`grace-music-override.ly`



Grace code should not be confused by nested sequential music containing grace notes; practically speaking, this means that the end-bar and measure bar coincide in this example.

`grace-nest1.ly`



Grace code should not be confused by nested sequential music containing grace notes; practically speaking, this means that the end-bar and measure bar coincide in this example.

`grace-nest2.ly`



In nested syntax, graces are still properly handled.

`grace-nest3.ly`



Also in the nested syntax here, grace notes appear rightly.

`grace-nest4.ly`



Graces notes may have the same duration as the main note.

grace-nest5.ly



Grace notes may be put in a `partCombiner`.

grace-part-combine.ly



A `\partial` may be combined with a `\grace`.

grace-partial.ly



Create grace notes with slashed stem, but no slur. That can be used when the grace note is tied to the next note.

grace-slashed-no-slur.ly



Stripped version of `trip.ly`. Staves should be of correct length.

grace-staff-length.ly



The various kinds of grace music are similar in how they create contexts. In this test, each grace note should create a new staff.

grace-start-context.ly



Pieces may begin with grace notes.

`grace-start.ly`



Stem lengths for grace notes should be shorter than normal notes, if possible. They should never be longer, even if that would lead to beam quanting problems.

`grace-stem-length.ly`



Here `startGraceMusic` should set `no-stem-extend` to true; the two grace beams should be the same here.

`grace-stems.ly`



Grace notes in different voices/staves are synchronized.

`grace-sync.ly`



There are three different kinds of grace types: the base grace switches to smaller type, the appoggiatura inserts also a slur, and the acciaccatura inserts a slur and slashes the stem.

`grace-types.ly`



When grace notes are entered with unfolded repeats, line breaks take place before grace notes.

`grace-unfold-repeat.ly`



A volta repeat may begin with a grace. Consecutive ending and starting repeat bars are merged into one :...:

`grace-volta-repeat-merge-barline.ly`



Repeated music can start with grace notes. Bar checks preceding the grace notes do not cause synchronization effects.

`grace-volta-repeat.ly`



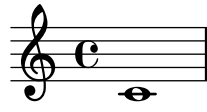
You can have beams, notes, chords, stems etc. within a `\grace` section. If there are tuplets, the grace notes will not be under the brace.

Main note scripts do not end up on the grace note.

`grace.ly`



The graphviz feature draws dependency graphs for grob properties.



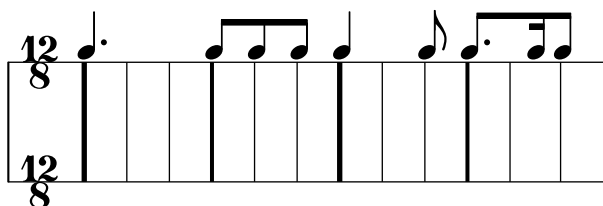
GregorianTranscriptionStaff does not print ligatures.

gregorian-transcription-no-ligatures.ly



With grid lines, vertical lines can be drawn between staves synchronized with the notes.

grid-lines.ly



With the full form of the `\tweak` function, individual grobs that are indirectly caused by events may be tuned.

grob-indirect-tweak.ly



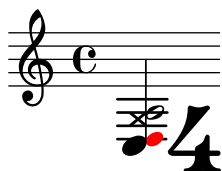
ly:grob-object supports a third optional parameter, the fallback value to use when the property is undefined in the grob. This test should print 'Test OK' twice.

grob-object-fallback.ly



With the `\tweak` function, individual grobs that are directly caused by events may be tuned directly.

grob-tweak.ly



Hairpins in Dynamics contexts do not collide with arpeggios.

hairpin-arpeggio.ly



If a hairpin ends on the first note of a new staff, we do not print that ending. But on the previous line, this hairpin should not be left open, and should end at the bar line.

hairpin-barline-break.ly

The image shows three staves of musical notation. The first staff has a treble clef, a common time signature 'C', and a single note on the second line. A hairpin starts below the note and tapers to the right. The second staff is labeled '2' and has a treble clef and common time signature. It has two notes on the second line, with a hairpin ending at the bar line. The third staff is labeled '4' and has a treble clef and common time signature. It has a single note on the second line with a hairpin starting below it.

Hairpins can have circled tips. A decrescendo del niente followed by a crescendo al niente should only print one circle. If a decrescendo ends at first note of a new line the circle is printed at the end of the previous line or in the new line, depending on the setting of `after-line-breaking`.

hairpin-circled.ly

The image shows three systems of musical notation. The first system has two staves, each with a treble clef and common time signature. Each staff has seven notes on the second line, with hairpins below them that have circled tips. The second system is labeled '8' and has two staves, each with a treble clef and common time signature. Each staff has two notes on the second line, with hairpins below them that have circled tips. The third system is labeled '9' and has two staves, each with a treble clef and common time signature. Each staff has three notes on the second line, with hairpins below them that have circled tips.

14

Musical notation for test case 14. It consists of two staves. The top staff has a treble clef and two notes. The bottom staff has a bass clef and two notes. Both staves have broken hairpins (V-shaped lines) positioned below the notes.

15

Musical notation for test case 15. It consists of two staves. The top staff has a treble clef and one note. The bottom staff has a bass clef and one note. Both staves have broken hairpins with a small circle at the end, positioned below the notes.

Broken hairpins are not printed too high after treble clefs.

hairpin-clef.ly

Musical notation for test case showing dashed hairpin crescendi. It consists of two staves. The top staff has a treble clef, a common time signature (C), and four notes. The bottom staff has a bass clef and four notes. Dashed hairpin crescendi are placed below the notes on both staves.

Hairpin crescendi may be dashed.

hairpin-dashed.ly

Musical notation for test case showing hairpin dynamics ending. It consists of one staff with a treble clef, a common time signature (C), and a sequence of notes. A dashed hairpin dynamic is placed below the notes, ending before a sharp sign.

Hairpin dynamics start under notes if there are no text-dynamics. If there are text dynamics, the hairpin does not run into them.

hairpin-ending.ly

Musical notation for test case showing hairpins with text dynamics. It consists of one staff with a treble clef, a common time signature (C), and a sequence of notes. A hairpin dynamic is placed below the notes, with text dynamics *ff* and *p* and the text "a loooong" placed below it.

Broken hairpins are not printed too high after key signatures.

hairpin-key-signature.ly

Musical notation for test case showing broken hairpins after key signatures. It consists of two staves. The top staff has a treble clef, a key signature of two sharps (F# and C#), and a common time signature (C). The bottom staff has a bass clef and four notes. Broken hairpins are placed below the notes on both staves.

Bound padding for hairpins also applies before following `DynamicTextSpanner` grobs. In this case, `bound-padding` is not scaled down.

`hairpin-neighboring-span-dynamics.ly`

The image shows three staves of musical notation. The first staff has a treble clef and a common time signature 'c'. It contains four quarter notes. A hairpin starts under the first note and ends under the second, with the word 'dim.' centered between them. A dashed line continues from the end of the first hairpin to the start of the second, which also has 'dim.' centered between its notes. The second staff is marked with a '3' and contains four quarter notes. It has two hairpins, each with 'dim.' centered between its notes. The third staff is marked with a '5' and contains four quarter notes. It has three hairpins, each with a dynamic marking (likely 'dim.') centered between its notes.

The `shorten-pair` property works with circled-tip hairpins. When two hairpins share a circle, the adjoining ends are not moved. The same holds, if `flared-hairpin` is used to get hairpins in the style of Ferneyhough.

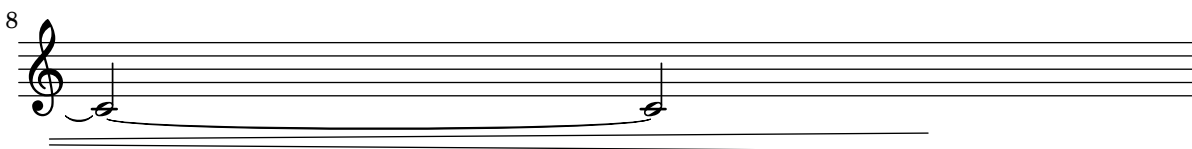
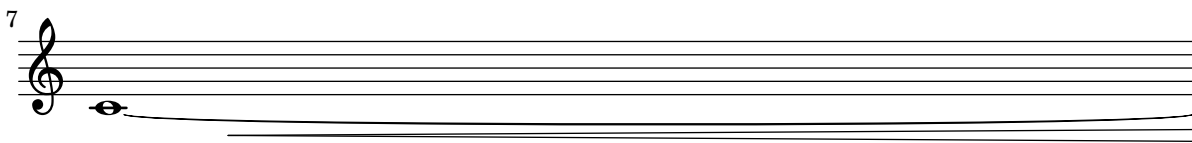
`hairpin-shorten-pair-circled-tip.ly`

The image shows two systems of musical notation. The first system has two staves. The top staff has a treble clef and a common time signature 'c'. It contains four quarter notes. Below the notes are two hairpins, each with a circled tip. The second staff of the first system also has a treble clef and a common time signature 'c'. It contains four quarter notes and two hairpins with circled tips. The second system has two staves. The top staff is marked with a '5' and contains four quarter notes. Below the notes are two hairpins with circled tips. The bottom staff of the second system also contains four quarter notes and two hairpins with circled tips.

The ends of hairpins may be offset with the `shorten-pair` property. Positive values offset ends to the right, negative values to the left.

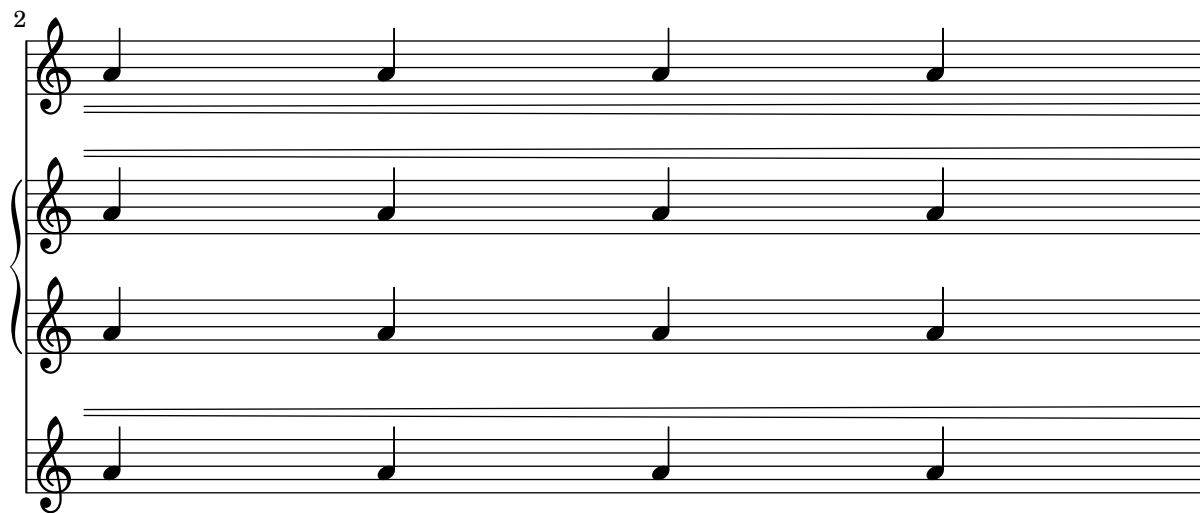
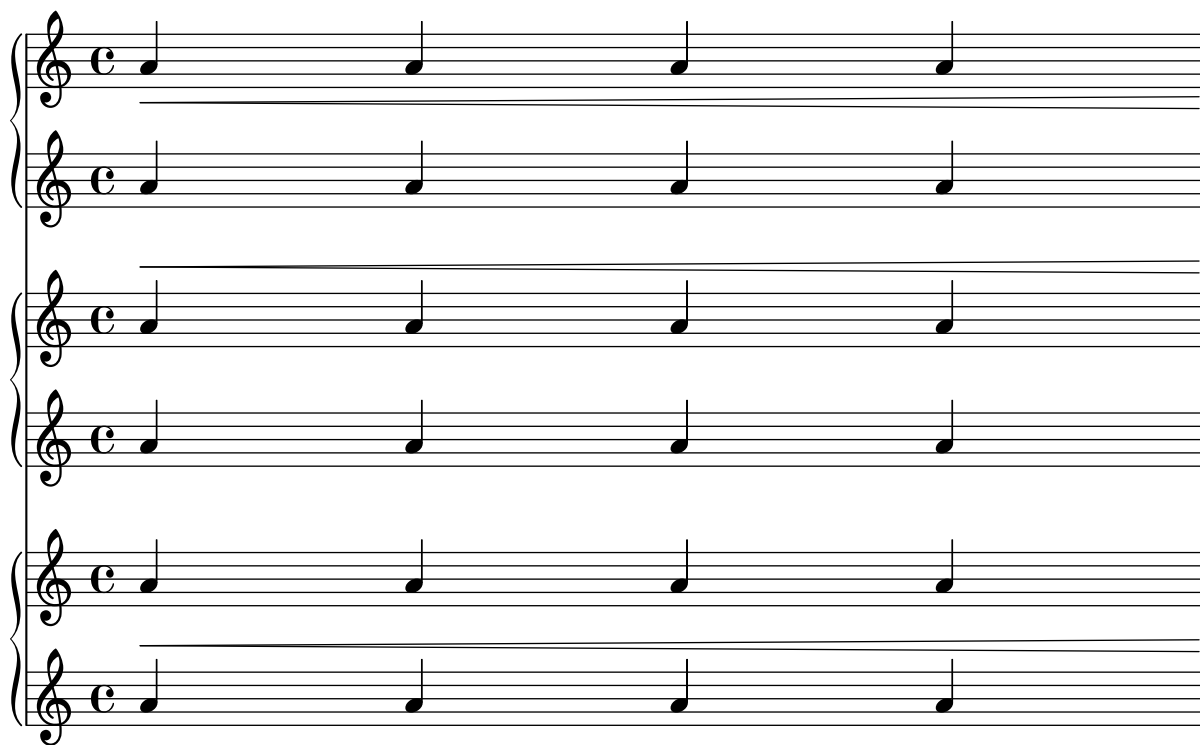
`hairpin-shorten-pair.ly`

The image shows two staves of musical notation. The first staff has a treble clef and a common time signature 'c'. It contains four quarter notes. Below the notes are two hairpins. The ends of the hairpins are offset to the right. The second staff is marked with a '4' and contains four quarter notes. Below the notes are two hairpins. The ends of the hairpins are offset to the left.



Hairpin grobs do not collide with SpanBar grobs. Hairpin grobs should, however, go to the end of a line when the SpanBar is not present.

hairpin-span-bar.ly



3

'to-barline is not confused by very long marks.

hairpin-to-barline-mark.ly

This is quite a long mark text

Hairpins whose end note is preceded by a bar line should end at that bar line.

hairpin-to-barline.ly

Hairpins end at the left edge of a rest.

hairpin-to-rest.ly

The halfopenvertical articulation is available.

halfopenvertical.ly

Staves in a PianoStaff remain alive as long as any of the staves has something interesting.

hara-kiri-alive-with.ly

The image shows a musical score for 'hara-kiri-alive-with.ly'. It consists of three systems of staves. The first system has three staves: a single treble clef staff with a whole note, and a grand staff (treble and bass clefs) with a whole note in the bass and a bar line in the treble. The second system is labeled '2' and has three staves: a single treble clef staff with a whole note, a grand staff with a whole note in the bass and a bar line in the treble, and a single bass clef staff with a whole note. The third system is labeled '3' and has a single treble clef staff with a whole note.

Hara-kiri staves are suppressed if they are empty. This example really contains three drum staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

Any staff brackets and braces are removed, both in the single staff and no staff case.

hara-kiri-drumstaff.ly

The image shows a musical score for 'hara-kiri-drumstaff.ly'. It consists of two systems of drum staves. The first system is labeled '2' and has three staves, each with a treble clef and a common time signature. The top staff has four quarter notes, the middle staff has four 'x' marks, and the bottom staff has four quarter notes. The second system is labeled '3' and has two staves, each with a treble clef and a common time signature. The top staff has four quarter notes and the bottom staff has four quarter notes.

4



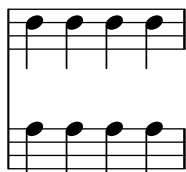
Inserting the harakiri settings globally into the Staff context should not erase previous settings to the Staff context.

hara-kiri-keep-previous-settings.ly



2

3

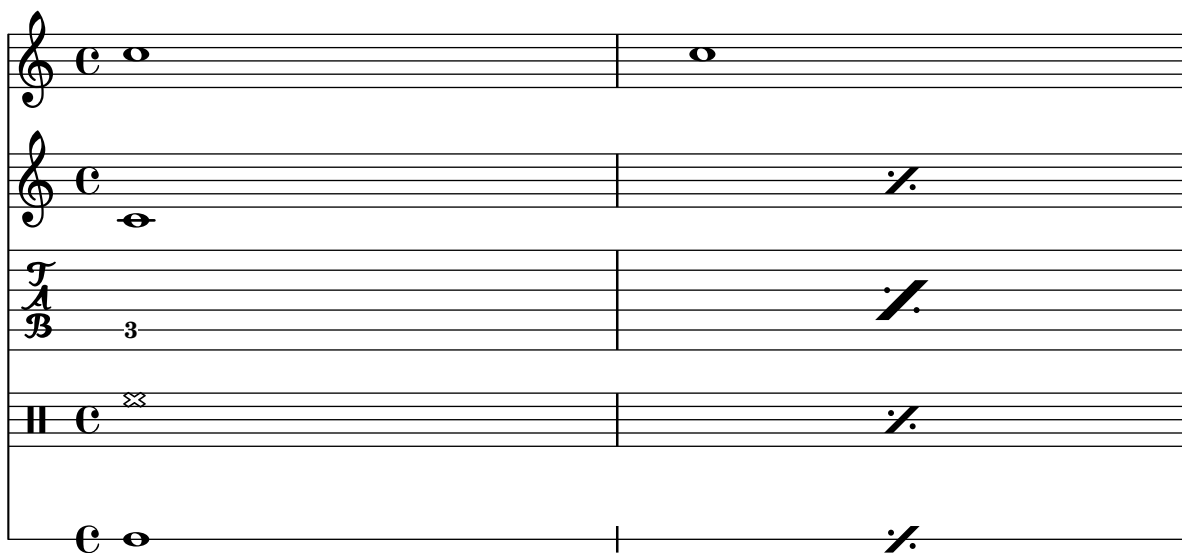


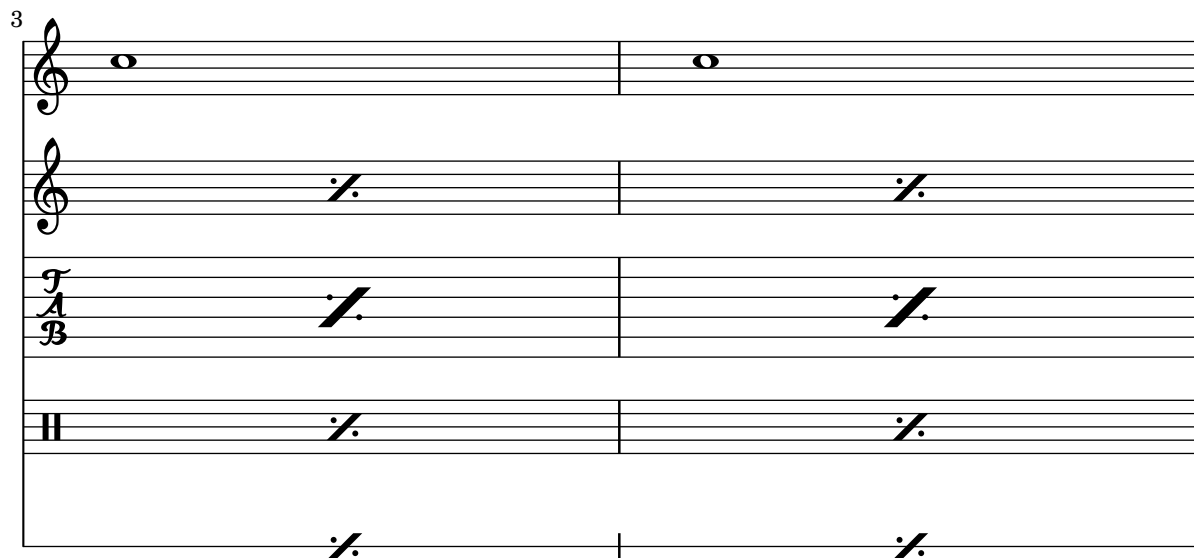
4



Staves, RhythmicStaves, TabStaves and DrumStaves with percent repeats are not suppressed.

hara-kiri-percent-repeat.ly

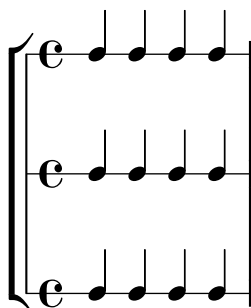




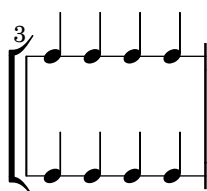
Hara-kiri staves are suppressed if they are empty. This example really contains three rhythmic staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

Any staff brackets and braces are removed, both in the single staff and no staff case.

`hara-kiri-rhythmicstaff.ly`



2



4

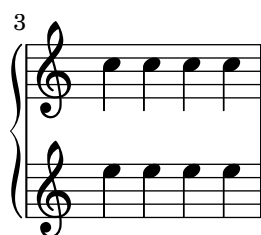
Hara-kiri staves kill themselves if they are empty. This example really contains three staves, but as they progress, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

Any staff brackets and braces are removed, both in the single staff and no staff case.

`hara-kiri-staff.ly`



2



3



4

stanza numbers remain, even on otherwise empty lyrics lines.

`hara-kiri-stanza-number.ly`



Verse 2.

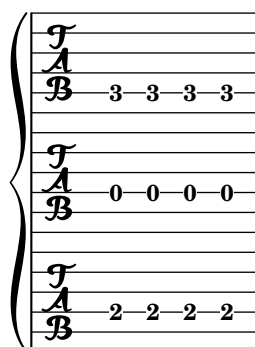


2

bla bla

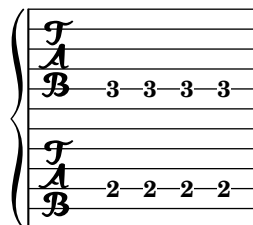
Hara-kiri staves are suppressed if they are empty. This example really contains three tab staves, but as it progresses, empty ones are removed: this example has three staves, but some of them disappear: note how the 2nd line only has the bar number 2. (That the bar number is printed might be considered a bug, however, the scenario of all staves disappearing does not happen in practice.)

`hara-kiri-tabstaff.ly`

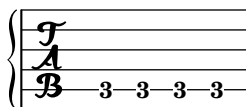


2

3

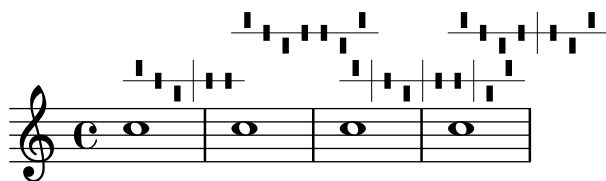


4



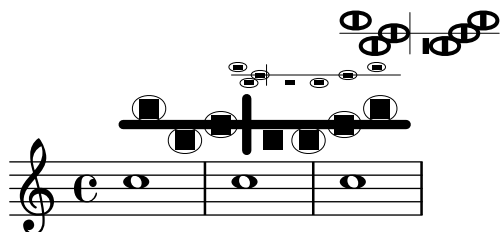
The harp-pedal markup function does some sanity checks. All the diagrams here violate the standard (7 pedals with divider after third), so a warning is printed out, but they should still look okay.

harp-pedals-sanity-checks.ly



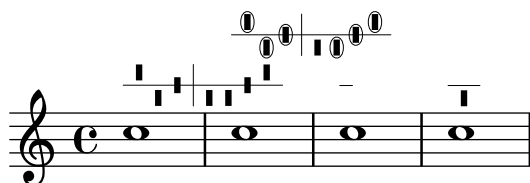
Harp pedals can be tweaked through the size, thickness and harp-pedal-details properties of TextScript.

harp-pedals-tweaking.ly



Basic harp diagram functionality, including circled pedal boxes. The third diagram uses an empty string, the third contains invalid characters. Both cases will create warnings, but should still not fail with an error.

harp-pedals.ly



A second book-level header block and headers nested in bookpart and score should not clear values from the first header block. This score should show composer, piece, subtitle and title.

header-book-multiple.ly

Title correct (superseded at book level)

Subtitle correct (superseded in bookpart)

Composer correct (set in book)

Note: title, subtitle, piece, and composer expected.

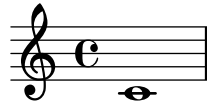
Piece correct (superseded in score)



Changing the header fields in a book or a bookpart shall not have any effect on the global default values.

Title correct (set at top level)
Subtitle (set at book level)

Note: expect title and subtitle.



A second bookpart-level header block shall retain previously set values from a first header block at the same or higher levels unless overridden.

Title correct (set in book)
Subtitle correct (superseded in bookpart)

Composer correct (set at top level)

Note: expect title, subtitle, piece and composer.

Piece correct (superseded at bookpart level)



Cyclic references in header fields should cause a warning, but not crash LilyPond with an endless loop

`header-cyclic-reference.ly`

Cyclic reference to

Cyclic reference to Cyclic reference to



A second score-level header block shall not entirely replace a first header block, but only update changed variables.

`header-score-multiple.ly`

Note: expect piece and opus.

Piece correct (set in score)

Opus correct (superseded at score level)



Header blocks may appear before and after the actual music in a score.

`header-score-reordered.ly`

Note: expect piece and opus.

Piece correct (set in score)

Opus correct (superseded at score level)



A second top-level header block shall not entirely replace a first header block, but only changed variables.

header-toplevel-multiple.ly

Title correct (superseded at top level)

Note: expect title and piece.

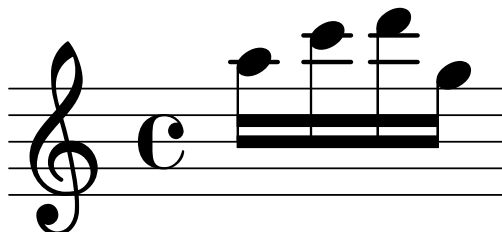
Piece correct (set at top level)



Using `\override Beam.damping = #+inf.0` should always make beams horizontal. A threshold is implemented to avoid rounding errors that would cause non-horizontal beams otherwise.

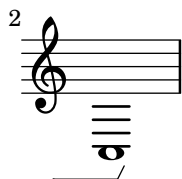
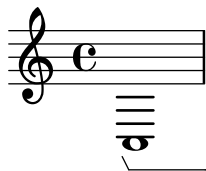
Here, the beam should be horizontal.

horizontal-beams-damping.ly



Horizontal brackets connect over line breaks.

horizontal-bracket-break.ly



Text is parenthesized when analysis brackets cross line breaks.

horizontal-bracket-broken-texted.ly

Labels may be added to analysis brackets through the `text` property of the `HorizontalBracketText` object. Use of the `weak` command is necessary for assigning text uniquely to brackets beginning at the same moment. Text assignments reflect the usual nesting order of brackets.

`horizontal-bracket-texted.ly`

Horizontal brackets are created with the correct event-cause, ensuring tweaks are applied to the correct spanner.

`horizontal-bracket-tweak.ly`

Note grouping events are used to indicate where analysis brackets start and end.

`horizontal-bracket.ly`

Shows the `id` property of a grob being set. This should have no effect.

`id.ly`

Music variables may be structured into alists indexed by numbers or symbols.

`identifier-alists.ly`

Identifiers following a chordmode section are not interpreted as chordmode tokens. In the following snippet, the identifier ‘m’ is not interpreted by the lexer as a minor chord modifier.

identifier-following-chordmode.ly

Music identifiers containing arbitrary characters may be initialized using

```
"violin1" = { c''4 c'' c'' c'' }
```

and used as:

```
\new Voice { \ "violin1" }
```

identifier-quoted.ly

test identifiers.

identifiers.ly

title

Composer

hoi polloi



In-notes can be controlled via `\paper` variables.

`in-note-configuration.ly`



¹An in-note.





An in-note without number.

Another in-note without number.



LilyPond v2.25.16

LilyPond does in-notes.

in-note.ly

this is a test

4

8

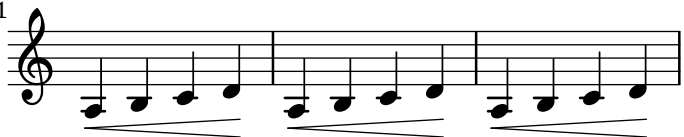
12

15


18

1foo
2foo

2
21




24




27


this is a test




30



33



36



¹foobar

3

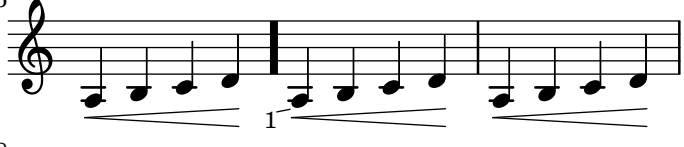
39 this is a test



42




45



48



51 this is a test



54



¹foobar

4
57

60

63

¹foobar

LilyPond v2.25.16

Incipits can be printed using an `InstrumentName` grob. In the second line of the second score the `InstrumentName` grob should appear left-aligned.

`incipit.ly`

Instrument

Instrument

Instrument

²

`ly:parser-include-string` should include the current string like a file `\include`.

`include-string.ly`

Combine several kinds of stems in parallel voices.

`incompatible-stem-warning.ly`



`\inherit-acceptability` allows for one context def to be accepted wherever an existing one is.

`inherit-acceptability.ly`



The argument of `\initialContextFrom` is susceptible to modification by tags. The expected output is a single measure with "PASS" in the left margin.

`initial-context-from-tags.ly`



Alignment of lyrics, dynamics, textscripts and articulations attached to chords with suspended notes doesn't depend on input order. All these items are aligned on the "main" notehead (the one at the end of the stem).

`input-order-alignment.ly`



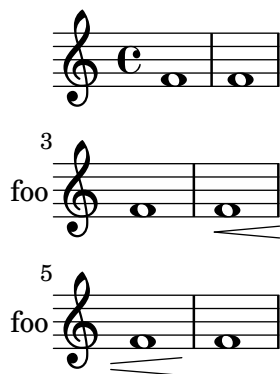
The `Voice.instrumentCueName` property generates instrument names for cue notes. It can also be unset properly.

`instrument-cue-name.ly`



Instrument names (aligned on axis group spanners) ignore dynamic and pedal line spanners.

`instrument-name-dynamic.ly`



Instrument names can also be attached to staff groups.

`instrument-name-groups.ly`

Right
PianoStaff
Left

ChoirStaff

StaffGroup

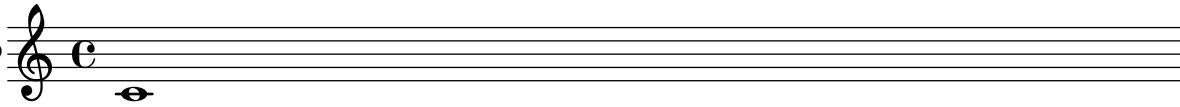
I
GrandStaff
II

nested group

Instrument names are removed when the staves are killed off.

In this example, the second staff (marked by the bar number 2) disappears, as does the instrument name.

`instrument-name-hara-kiri.ly`

up 
 2

Instrument names are set with `Staff.instrument` and `Staff.instr`. You can enter markup texts to create more funky names, including alterations.

`instrument-name-markup.ly`

Clarinetti 
 in B \flat

²
 Cl(B \flat) 


Instrument names are also printed on partial starting measures.


`instrument-name-partial.ly`


foo 

Dynamics and Lyrics lines below a PianoStaff do not affect the placement of the instrument name.

`instrument-name-pedal-lyrics.ly`

Piano 

Ad. * 

la la 

InstrumentName is reasonable positioned even for unusual system-start-delimiters.

Below, the instrumentName neither collides with the SystemStartBracket nor moves to far to the left.

instrument-name-system-start-delimiter.ly

The image shows two musical staves, each labeled 'StaffGroup' on the left. The top staff has a treble clef, a common time signature 'C', and a whole note 'c' on the first line. A vertical brace on the right side of the staff indicates the system start. The bottom staff is identical but has a vertical bar line on the right side of the staff, also indicating the system start. The instrument name 'StaffGroup' is positioned to the left of the staves, and its right edge is aligned with the system start delimiters.

Moving the Volta_engraver to the Staff context does not affect InstrumentName alignment.

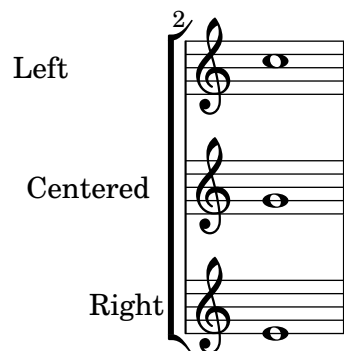
instrument-name-volta.ly

The image shows three musical staves. The top staff has a treble clef, a common time signature 'C', and a whole note 'c' on the first line. The middle staff is labeled 'Instr.' on the left and has a treble clef, a common time signature 'C', and a whole note 'c' on the first line. Above the staff is a first ending bracket labeled '1.' with a double bar line and repeat dots. The bottom staff is labeled 'Instr.' on the left and has a treble clef, a common time signature 'C', and a whole note 'c' on the first line. Above the staff is a second ending bracket labeled '2.' with a double bar line and repeat dots. The instrument name 'Instr.' is positioned to the left of the staves, and its right edge is aligned with the first ending brackets.

Instrument names horizontal alignment is tweaked by changing the Staff.InstrumentName.self-alignment-X property. The \layout variables indent and short-indent define the space where the instrument names are aligned before the first and the following systems, respectively.

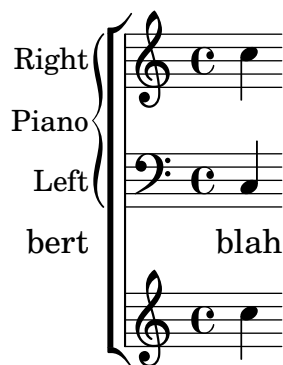
instrument-name-x-align.ly

The image shows three musical staves, each with a treble clef, a common time signature 'C', and a whole note 'c' on the first line. The staves are grouped by a large vertical brace on the right. To the left of the staves, the text 'Left aligned instrument name' is aligned with the first staff, 'Centered instrument name' is centered between the first and second staves, and 'Right aligned instrument name' is aligned with the third staff. The instrument names are positioned to the left of the staves, and their horizontal alignment is adjusted relative to the staves.



Staff margins are also markings attached to bar lines. They should be left of the staff, and be centered vertically with respect to the staff. They may be on normal staves, but also on compound staves, like the PianoStaff.

`instrument-name.ly`



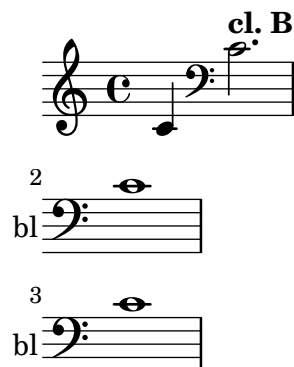
The `switchInstrument` music function prints a warning if the given instrument definition does not exist.

`instrument-switch-invalid-warning.ly`



The `switchInstrument` music function modifies properties for an in staff instrument switch.

`instrument-switch.ly`



Engravers which do not exist produce a warning.

`invalid-engraver.ly`



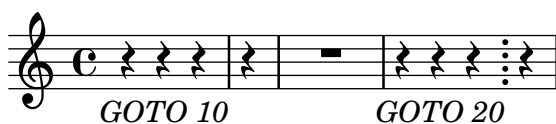
When `\jump` is at a line break, the text appears at the end of the line.

`jump-break.ly`



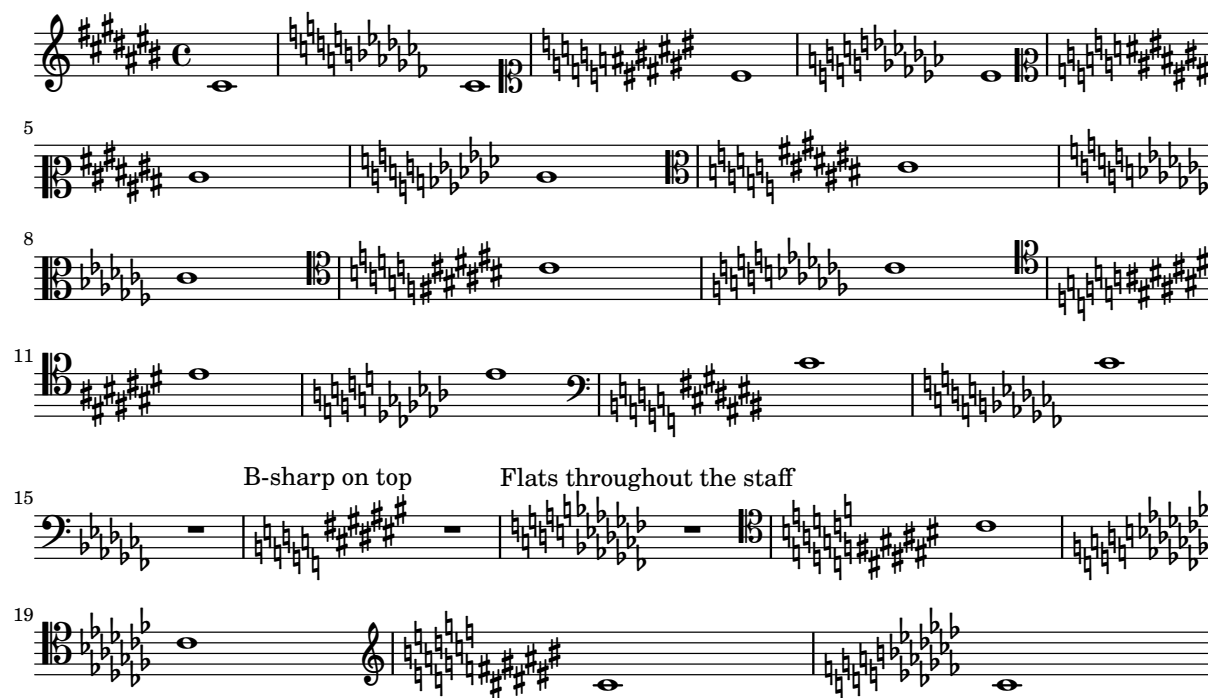
Where a `\jump` is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, “GOTO 10” should have a normal bar line and “GOTO 20” should have a dotted bar line.

`jump-unaligned.ly`



Each clef has its own accidental placing rules, which can be adjusted using `sharp-positions` and `flat-positions`.

`key-clefs.ly`



Key cancellation signs consists of naturals for pitches that are not in the new key signature. Naturals get a little padding so the stems don’t collide.

`key-signature-cancellation.ly`



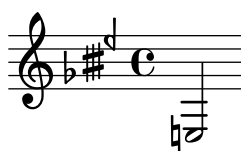
If the clef engraver is removed, the key signature shall use a proper padding > 0 to the start of the staff lines.

key-signature-left-edge.ly



With the padding-pairs property, distances between individual key signature items can be adjusted.

key-signature-padding.ly



When a custom key signature has entries which are limited to a particular octave, such alterations should persist indefinitely or until a new key signature is set.

Here, only the fis' shows an accidental, since it is outside the octave defined in keyAlterations.

key-signature-scordatura-persist.ly



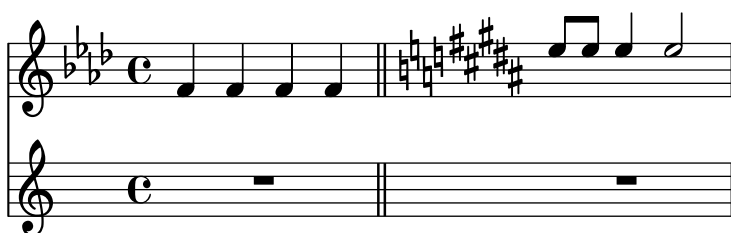
By setting Staff.keyAlterations directly, key signatures can be set individually per pitch.

key-signature-scordatura.ly



Key signatures get the required amount of horizontal space.

key-signature-space.ly



Key signatures may appear on key changes, even without a bar line. In the case of a line break, the restoration accidentals are printed at end of a line. If createKeyOnClefChange is set, key signatures are created also on a clef change.

keys.ly



Kievan notation can contain dots, also in ligatures.

kievan-notation-dots.ly



LilyPond typesets Kievan notation.

kievan-notation.ly



Го-спо-ди по-ми-луй.

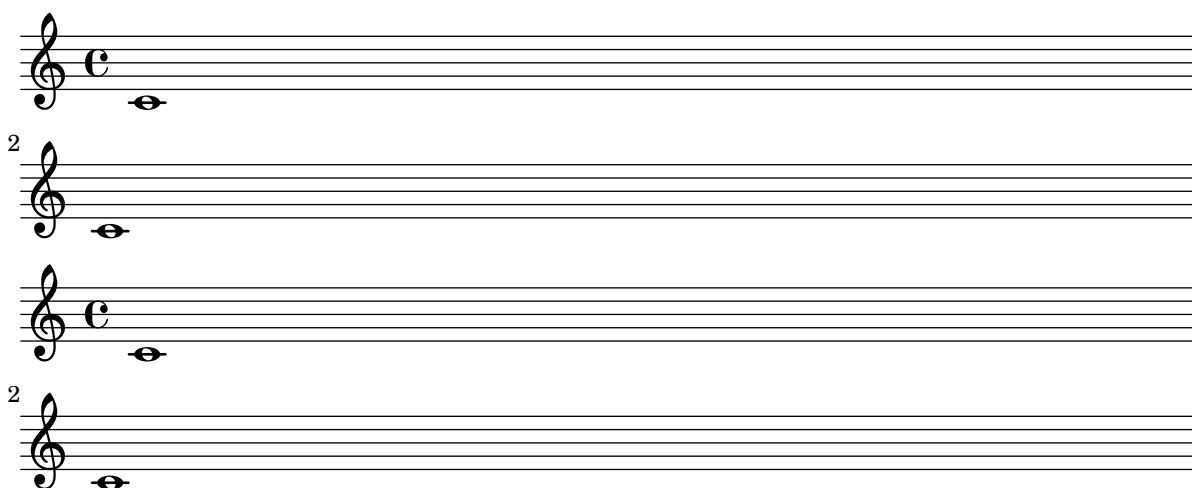
When a label straddles at a page break, the chosen page is the second one. This also works when there are several bookparts.

Note: you need to compile this regtest on its own to check it, as the `lilypond-book` setup does not work for page references.

label-straddling-page-break-bookparts.ly

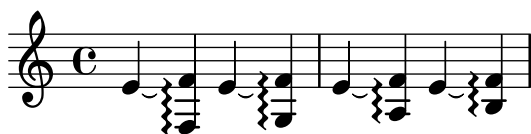
Should be 3:??

Should be 5:??



l.v. ties should not collide with arpeggio indications.

laissez-vibrer-arpeggio.ly



`\laissezVibrer` ties should also work on individual notes of a chord.

`laissez-vibrer-chords.ly`



`\laissezVibrer` ties on beamed notes don't trigger premature beam slope calculation.

`laissez-vibrer-tie-beam.ly`



The `'head-direction` of a `LaissezVibrerTieColumn` should be able to be set without causing a segmentation fault.

`laissez-vibrer-tie-head-direction.ly`



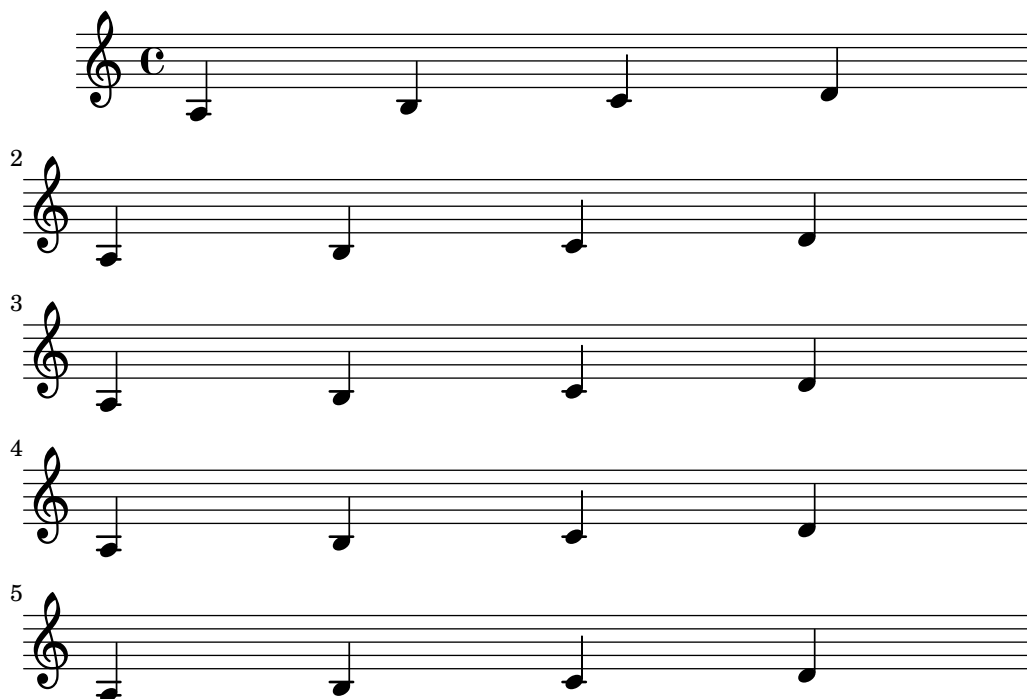
`l.v.` ties should avoid dots and staff lines, similar to normal ties. They have fixed size. Their formatting can be tuned with `tie-configuration`.

`laissez-vibrer-ties.ly`



Scores may be printed in landscape mode.

`landscape.ly`



2

6

7

8

9

10

11

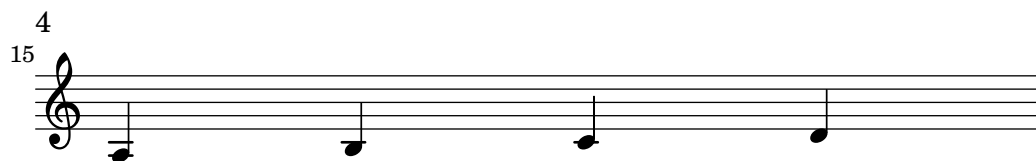
12

13

14

3

Detailed description: The image displays 13 musical staves, each representing a regression test case. Each staff begins with a treble clef and contains four quarter notes. The notes are positioned on the first four lines of the staff, representing the notes C4, D4, E4, and F4. Case 2 has a '2' above the staff. Case 11 has a '3' to the right of the staff. The staves are numbered 2, 6, 7, 8, 9, 10, 11, 12, 13, and 14 from top to bottom.



LilyPond v2.25.16

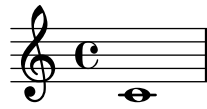
Inside of output definitions like `\layout` or `\midi`, music is harvested for layout definitions in order to turn them into context modifications.

```
layout-from.ly
```



A `\layout` block inside a `\paper` block does not error out, and the variables from `\paper` are accessible in `\layout`.

```
layout-in-paper.ly
```



The ledger-extra grob property increases the number of ledger lines drawn, but they are not drawn on top of staff lines.

ledger-extra.ly



When ledgered notes are very close, for example, in grace notes, they are kept at a minimum distance to prevent the ledgers from disappearing.

ledger-line-minimum.ly



Ledger lines are shortened when they are very close. This ensures that ledger lines stay separate.

ledger-line-shorten.ly



Dynamics and other outside staff objects avoid ledger lines.

ledger-lines-dynamics.ly



In some rare cases like these the extents of two ledger lines at the same vertical position in the same note column do not overlap horizontally, and they should not be merged into a single ledger line. See LSR 505: Displaying complex chords <http://lsr.di.unimi.it/LSR/Item?id=505>

ledger-lines-non-merging.ly



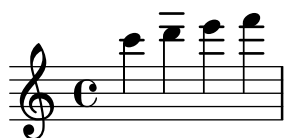
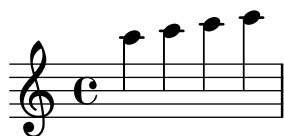
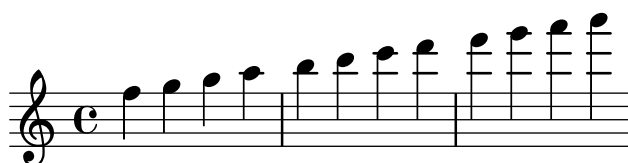
Ledger lines should appear at every other location for a variety of staves using both line-count and line-positions.

ledger-lines-varying-staves.ly



3 ways to customize ledger line positions.

ledger-positions-customization.ly



Highly tweaked example of lilypond output

les-nereides.ly

LES NÉRÉIDES

THE NEREIDS

ARTHUR GRAY

Allegretto scherzando

The musical score is written for piano and m.d. (likely mandolin or guitar) in a key signature of two sharps (D major) and a common time signature (C). The tempo is marked "Allegretto scherzando".

Piano Part:

- Starts with a forte (*f*) dynamic.
- Includes markings for *red.* (ritardando) and **red.* (ritardando with a star).
- Features a section marked *m.g.* (mezzo-giochiato) with a finger number 8.
- Includes a *rall.* (rallentando) marking.
- Reverts to *a tempo*.
- Ends with a **red.* marking.

m.d. Part:

- Starts with a mezzo-forte (*mf*) dynamic.
- Includes a section marked *m.d.* (mezzo-dolce).
- Features a *rall.* marking.
- Reverts to *a tempo*.
- Includes a **red.* marking.

The score contains various musical notations including slurs, accents, and fingerings (e.g., 5 4 1, 1 2 1, 5 2 3 5 5 2).

Ligature brackets should align to visible or transparent stems only. For stemless notes they should span the whole note width.

ligature-bracket-X-positions.ly



The ligature bracket right-end is not affected by other voices.

ligature-bracket.ly



LilyPond syntax can be used inside scheme to build music expressions, with the `#{ ... #}` syntax. Scheme forms can be introduced inside these blocks by escaping them with a `$`, both in a LilyPond context or in a Scheme context.

In this example, the `\withpaddingA`, `\withpaddingB` and `\withpaddingC` music functions set different kinds of padding on the `TextScript` grob.

lily-in-scheme.ly



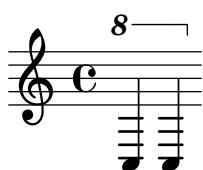
Arrows can be applied to text-spanners and line-spanners (such as the Glissando)

line-arrows.ly



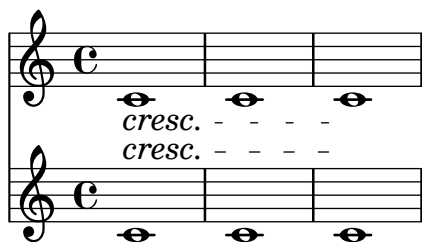
Generate valid postscript even if dash-period is small compared to line thickness.

line-dash-small-period.ly



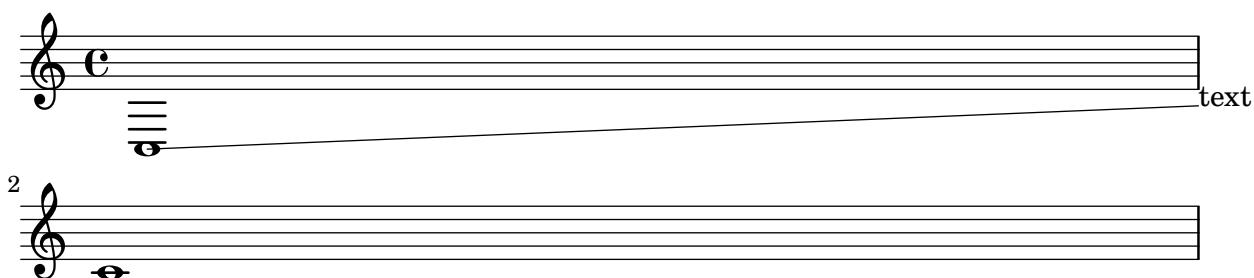
The period of a dashed line is adjusted such that it starts and ends on a full dash.

line-dashed-period.ly



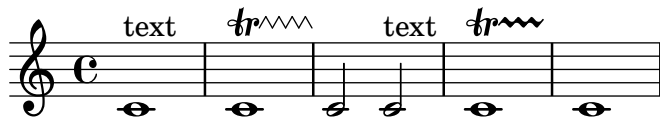
The absence of left or right in the bound-details of a line spanner combined with the presence of non-empty left-broken or right-broken should not cause an error.

line-spanner-bound-details-right-broken-without-right.ly



Setting 'zigzag' style for spanners does not cause spacing problems: in this example, the first text markup and zigzag trillspanner have the same outside staff positioning as the second markup and default trillspanner.

line-style-zigzag-spacing.ly



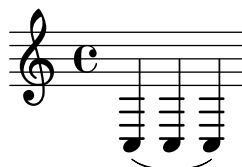
Cover all line styles available.

line-style.ly



Test the different loglevels of lilypond. Run this file with -loglevel=NONE, ERROR, WARN, PROGRESS, DEBUG to see the different loglevels. The errors are commented out. Comment them in to check the output manually.

loglevels.ly



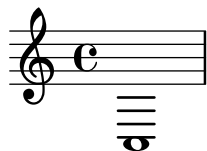
For Voice-derived contexts like CueVoice, the lyrics should still start with the first note.

lyric-combine-derived-voice.ly



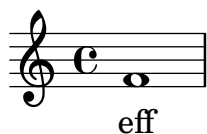
If lyrics are assigned to a non-existing voice, a warning should be printed. However, if the lyrics context does not contain any lyrics, then no warning should be printed.

lyric-combine-empty-warning.ly



This tests `\lyricsto` as the first element of sequential music.

lyric-combine-in-sequential.ly



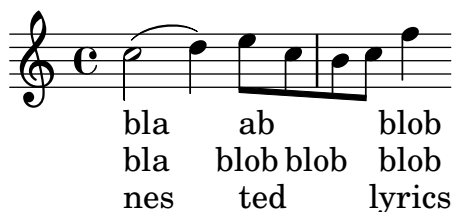
This tests `\lyricsto` as an element of simultaneous music.

lyric-combine-in-simultaneous.ly



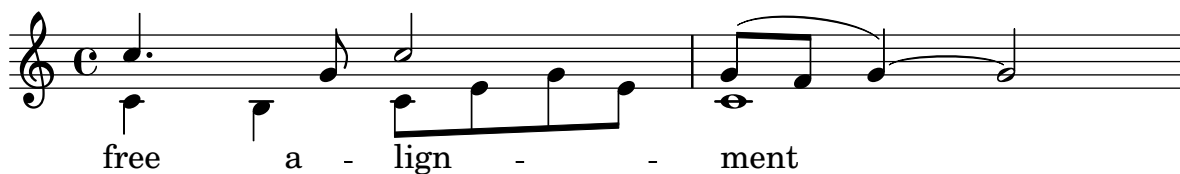
With the `\lyricsto` mechanism, individual lyric lines can be associated with one melody line. Each lyric line can be tuned to either follow or ignore melismata.

lyric-combine-new.ly



Lyrics can be aligned to a `NullVoice` context, which prints no notes, with the usual mechanisms for melismata.

lyric-combine-nullvoice.ly



Polyphonic rhythms and rests do not disturb `\lyricsto`.

lyric-combine-polyphonic.ly



Lyric repeat counts continue to work when lyrics are applied to music with `\lyricsto`.
`lyric-combine-repeat-count.ly`

F-f *ij.* G *ij.* A *iv.* B *j.* C

Switching the melody to a different voice works even if the switch occurs together with context instantiation.

`lyric-combine-switch-new-voice.ly`

Ty - ran-no - sau - rus

switching voices in the middle of the lyrics is possible using `lyricsto`.

`lyric-combine-switch-voice.ly`

two two | this

A score with lyrics and no music fails gracefully.

`lyric-combine-top-level-no-music.ly`

Lyrics can be set to a melody automatically. Excess lyrics will be discarded. Lyrics will not be set over rests. You can have melismata either by setting a property `melismaBusy`, or by setting `automaticMelismas` (which will set melismas during slurs and ties). If you want a different order than first Music, then Lyrics, you must precook a chord of staves/lyrics and label those. Of course, the lyrics ignore any other rhythms in the piece.

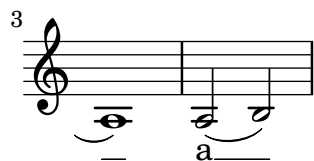
`lyric-combine.ly`

la — la - - la_ la la
 da - da³ da - da da
 melisma

Lyric extenders run to the end of the line if it continues the next line. Otherwise, it should run to the last note of the melisma.

`lyric-extender-broken.ly`

a



A LyricExtender should end at the right place even if there are more notes in the voice than lyrics.

lyric-extender-completion.ly



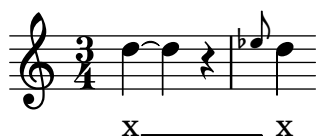
If includeGraceNotes is enabled, lyric extenders work as expected also for syllables starting under grace notes.

lyric-extender-includegraces.ly



Extender engraver also notices the lack of note heads. Here the extender ends on the 2nd quarter note, despite the grace note without a lyric attached.

lyric-extender-no-heads.ly



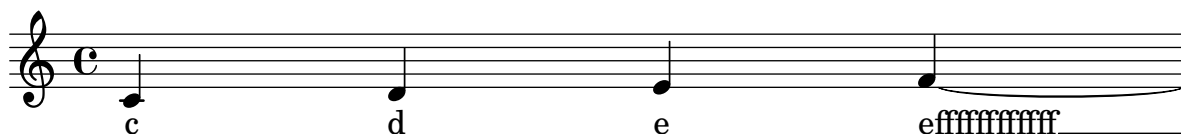
If extendersOverRests is set, an extender is not terminated upon encountering a rest.

lyric-extender-rest.ly



Extenders will not protrude into the right margin

lyric-extender-right-margin.ly



2

— e d c

A LyricExtender may span several notes. A LyricExtender does not extend past a rest, or past the next lyric syllable.

lyric-extender.ly

ah__ ha a.haaaaaaaaaaaaa

Hyphens are printed at the beginning of the line only when they go past the first note, or when property `after-line-breaking` is `#t`.

lyric-hyphen-break.ly

blablabla-

2

blablabla-

3

- blablabla-

4

-blablabla-

5

-verylongsyllableblablabla

No hyphen should be printed under a grace note at the start of a line if the grace's main note starts a new syllable.

lyric-hyphen-grace.ly

bla - - - - bla - - - -
bla - - - - bla - - - -

2

3

4

The minimum distance between lyrics is determined by the `minimum-distance` of `LyricHyphen` and `LyricSpace`.

The ideal length of a hyphen is determined by its `length` property, but it may be shortened down to `minimum-length` in tight situations. If in this it still does not fit, the hyphen will be omitted.

Like all overrides within `\lyricsto` and `\addlyrics`, the effect of a setting is delayed is one syllable.

`lyric-hyphen-retain.ly`

syllab word syl-lab word syl-labword

A lyric hyphen or vowel transition may occur anywhere in a sequence of skips. It spans the entire sequence.

`lyric-hyphen-skip.ly`

`x→a - b - c`

`xa - b————→c`

`a - b - c`

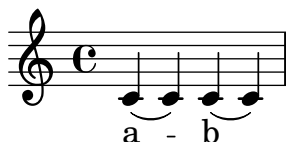
`a————→b`

`a - b`

a-b

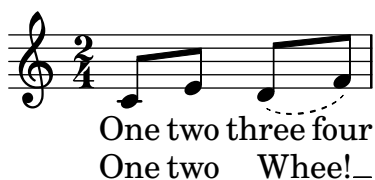
In lyrics, hyphens may be used.

lyric-hyphen.ly



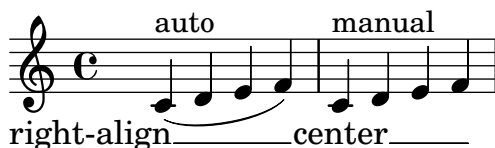
If ignoreMelismata is set, lyrics should remain center-aligned.

lyric-ignore-melisma-alignment.ly



lyricMelismaAlignment sets the default alignment for melismata. It works with both automatic and manual melismata.

lyric-melisma-alignment.ly



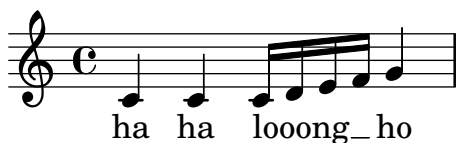
Melismata may be entered manually by substituting _ for lyrics on notes that are part of the melisma.

lyric-melisma-manual.ly



A syllable aligned with a melisma delimited with \melisma and \melismaEnd should be left-aligned.

lyric-melisma-melisma.ly



When lyrics are not associated with specific voices, the lyric placement should follow lyric rhythms. In particular, the second syllable here should not be attached to the first note of the first staff.

lyric-no-association-rhythm.ly



Lyrics should still slide under TimeSignature when an OctaveEight is present.
 lyric-octave-eight.ly

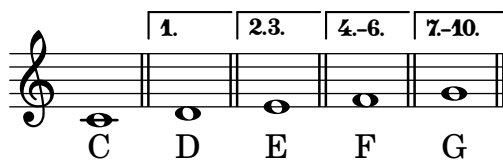


Normally, the lyric is centered on the note head. However, on melismata, the text is left aligned on the left-side of the note head.

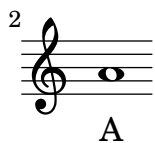
lyric-phrasing.ly



No lyric repeat count appears at the end of a volta alternative.
 lyric-repeat-count-alternatives.ly

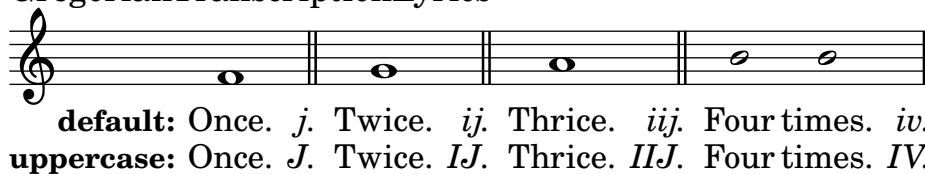


At a line break, a lyric repeat count is visible at the end of the line.
 lyric-repeat-count-break.ly

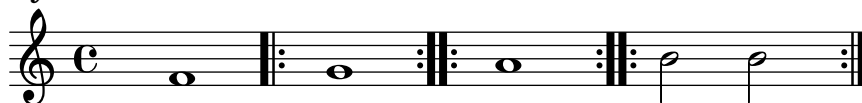


This shows the default format of LyricRepeatCount and that it can be overridden.
 lyric-repeat-count-format.ly

GregorianTranscriptionLyrics



Lyrics

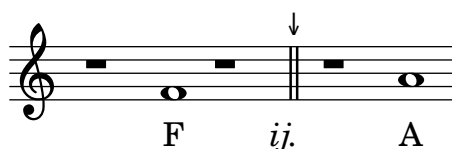


default: Once. *j.* Twice. *ij.* Thrice. *ijj.* Four times. *iv.*

silly: Once. ① Twice. ② Thrice. ③ Four times. ④

A lyric repeat count is placed at the end of a repeated section even when that occurs during a rest. In this test, an arrow marks the expected position of the repeat count.

lyric-repeat-count-rest.ly



F *ij.* A

This tests the appearance of repeats for modern transcriptions of Gregorian chant. The repeat count appears in the lyric line under the finalis sign (double line) that ends the repeated section, even if the repeat count is 1. The count is an italicized lowercase roman number followed by a period. A final “i” is replaced by “j”.

lyric-repeat-count.ly



Tildes in lyric syllables are converted to tie symbols.

lyric-tie.ly

wa o a

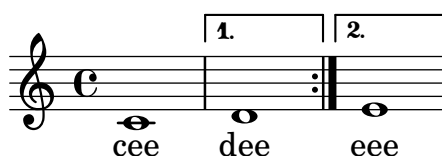
The `\tweak` function can be used in Lyrics.

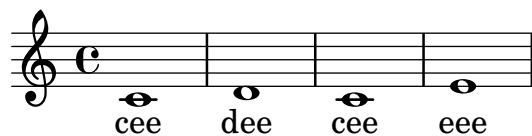
lyric-tweak.ly

One fish, *two* fish, red fish, blue fish.

Lyrics can be structured using repeats with alternative endings. This case has a repeat that ends at the end of the score.

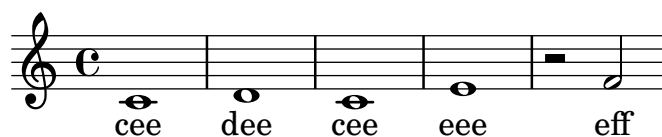
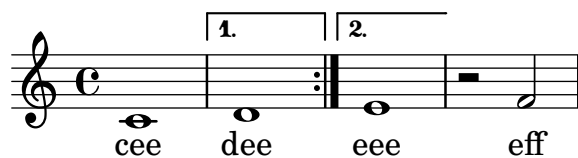
lyric-volta-alternative-end.ly





Lyrics can be structured using repeats with alternative endings. This case has a repeat that ends before the end of the score. The volta bracket ends before the rest.

lyric-volta-alternative.ly



Lyrics can be structured using repeats and `\fine`. In the folded output, *Fine* should appear at the end of the first measure.

lyric-volta-fine.ly



Lyrics are ignored for aftergrace notes.

lyrics-after-grace.ly



Lyrics aligned above a context should stay close to that context when stretching. The Bass I lyric line stays with the Bass staff.

lyrics-aligned-above-stay-close-to-staff.ly

Aligned-above lyrics should stay close to their staff

Te - - - - nor
 Te - - - - nor
 Bas - - - - ses
 Bas - - - - ses

one! A - - - -
 two! Be - - - -
 one! A - - - -
 two! Be - - - -

bove!
 low!
 bove!
 low!

Adding a `Bar_engraver` to the `Lyrics` context makes sure that lyrics do not collide with bar lines.

`lyrics-bar.ly`

bars ||:lengthened:| if
 required for noncollision

Setting `includeGraceNotes` enables lyrics syllables to be assigned to grace notes.

`lyrics-includegraces.ly`

normal case, grace case, aftergrace case, app. case, acc. case.

10

I continued... working... correctly.

Lyrics are not lowered despite the presence of a clef transposition (8 below the clef).

lyrics-tenor-clef.ly

bla bla bla bla

Dot size and beamlet length should be scaled along with notation size when using the `\magnifyMusic` command.

magnifyMusic-dots-beamlets.ly

50% 100% 200%

Laissez vibrer ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

magnifyMusic-laissez-vibrer-ties.ly

50% 100% 200%

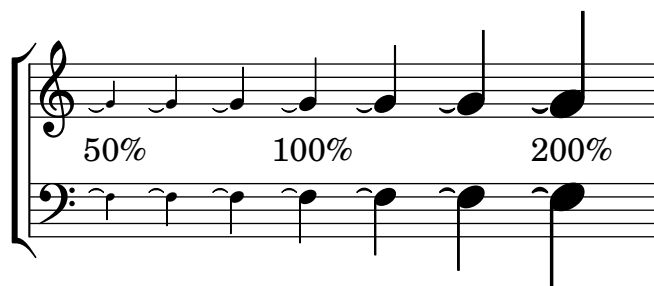
Phrasing slurs should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

magnifyMusic-phrasing-slurs.ly

50% 100% 200%

Repeat ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

magnifyMusic-repeat-ties.ly



Slurs should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

`magnifyMusic-slurs.ly`



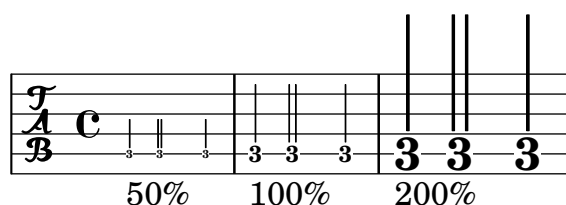
Stem length/thickness, beam spacing/thickness, and horizontal spacing should be scaled along with notation size when using the `\magnifyMusic` command. Stems can get thicker than the default, but not thinner.

`magnifyMusic-stem-beam-spacing.ly`



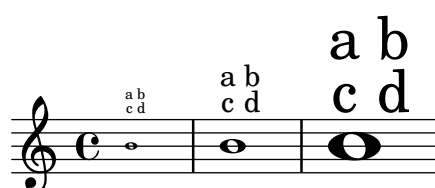
Tablature half-note double-stems should be scaled along with notation size when using the `\magnifyMusic` command.

`magnifyMusic-tablature-double-stems.ly`



All text-interface grobs should have `baseline-skip` and `word-space` values scaled along with notation size when using the `\magnifyMusic` command.

`magnifyMusic-text-interface.ly`



Ties should be scaled along with notation size when using the `\magnifyMusic` command. They can get thicker than the default, but not thinner.

magnifyMusic-ties.ly

A musical score consisting of four staves. The top two staves are treble clef, and the bottom two are bass clef. The music features a series of eighth notes with ties. The score is divided into three sections labeled '50%', '100%', and '200%', showing the effect of the magnifyMusic command on the tie symbols.

Bar line thickness and spacing should be scaled along with notation size when using the `\magnifyStaff` command.

magnifyStaff-bar-lines.ly

A musical score showing a single staff with a treble clef. The score is divided into three sections labeled '0.50', '1.00', and '2.00', showing the effect of the magnifyStaff command on the bar lines and staff lines.

Dot size and beamlet length should be scaled along with notation size when using the `\magnifyStaff` command.

magnifyStaff-dots-beamlets.ly

A musical score showing a single staff with a treble clef. The score is divided into five sections labeled '0.50', '0.71', '1.00', '1.41', and '2.00', showing the effect of the magnifyStaff command on the dot size and beamlet length.

`\magnifyStaff` also works for Dynamics contexts. This test should print a huge forte dynamic.

magnifyStaff-dynamics.ly

A musical score showing a single staff with a treble clef and a common time signature 'c'. Below the staff is a large, bold, italicized 'f' representing a forte dynamic.

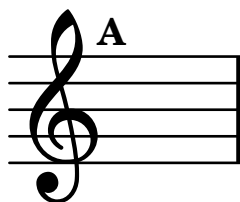
In a piece with a single, magnified staff, the presence of a bar number does not affect spacing from the left edge. The clefs in the two systems should appear the same distance from the left edge.

`magnifyStaff-left-edge-bar-number.ly`



In a piece with a single, magnified staff, the presence of a rehearsal mark does not affect spacing from the left edge. The clefs in the two systems should appear the same distance from the left edge.

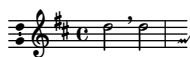
`magnifyStaff-left-edge-rehearsal-mark.ly`



`space-alist` values should be scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-space-alist.ly`

0.50:

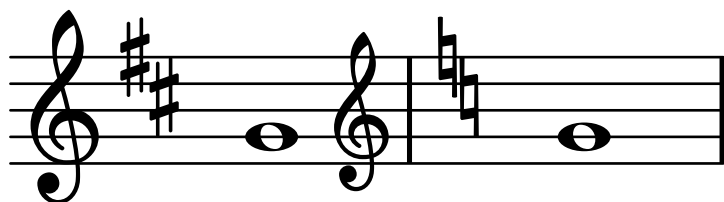


1.00:



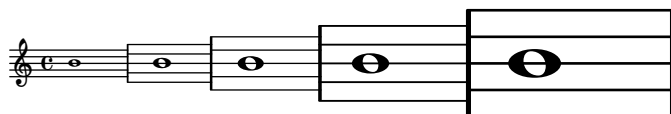


2.00:



Staff line thickness should be scaled along with staff size when using the `\magnifyStaff` command. Staff lines can get thicker than the default, but not thinner.

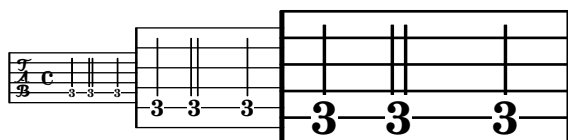
`magnifyStaff-staff-line-thickness.ly`



0.50 0.71 1.00 1.41 2.00

Tablature half-note double-stems should be scaled along with notation size when using the `\magnifyStaff` command.

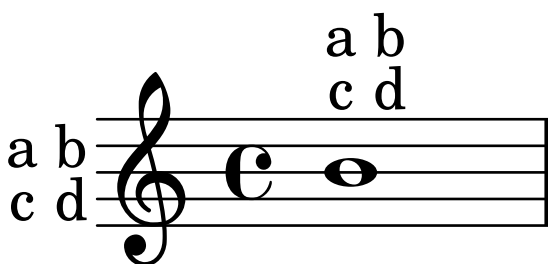
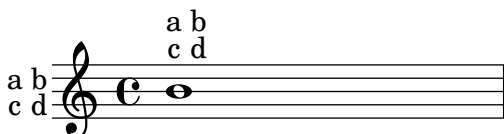
`magnifyStaff-tablature-double-stems.ly`



50% 100% 200%

All text-interface grobs that are within the Staff context should have `baseline-skip` and `word-space` values scaled along with notation size when using the `\magnifyStaff` command.

`magnifyStaff-text-interface.ly`



Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

`makam-accidental-glyphs.ly`

All #



#

`make-relative` has to copy its argument expressions in case the generated music expression is getting copied and modified.

The code here defines a `\reltranspose` function working inside of `\relative` and uses it. Both staves should appear identical.

`make-relative-copies.ly`



`make-relative` can make relativization on music function calls behave as one would expect from looking at the function's arguments rather than at the actually resulting expressions. This regtest defines an example function `\withOctave` which works equally well inside and outside of `\relative`.

`make-relative-music.ly`

Three musical staves in treble clef with a common time signature (C). The first staff is labeled 'original' and shows a sequence of notes and rests. The second staff is labeled '\relative \withOctave' and shows the same sequence of notes and rests, but with some notes shifted to a higher octave. The third staff is labeled '\withOctave \relative' and shows the same sequence of notes and rests, but with some notes shifted to a higher octave.

`make-relative` is a Scheme utility macro mainly useful for creating music functions accepting pitches as arguments. Its purpose is to make music functions taking pitch arguments for producing complex music fragments integrate nicely within a `\relative` section. This regtest typesets a short music fragment twice, once without using `\relative`, once using it. The fragment should appear identical in both cases.

`make-relative.ly`

The first system of musical notation consists of two staves. The upper staff is in treble clef and the lower staff is in bass clef. The time signature is common time (C). The music begins with a whole rest in the treble staff and a half note G2 in the bass staff. The treble staff then plays a series of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. The bass staff plays a series of quarter notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

The second system of musical notation starts at measure 2. It features a treble staff with a whole rest and a bass staff with a whole note G2. The treble staff then plays a series of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. The bass staff plays a series of quarter notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

The third system of musical notation starts at measure 10. It features a treble staff with a whole rest and a bass staff with a half note G2. The treble staff then plays a series of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. The bass staff plays a series of quarter notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

The fourth system of musical notation starts at measure 32. It features a treble staff with a whole rest and a bass staff with a half note G2. The treble staff then plays a series of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. The bass staff plays a series of quarter notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

The fifth system of musical notation starts at measure 34. It features a treble staff with a whole rest and a bass staff with a half note G2. The treble staff then plays a series of eighth notes: A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5. The bass staff plays a series of quarter notes: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

The sixth system of musical notation is identical to the first system, showing a piano piece in common time with a treble and bass staff.

When the break-align-symbols property is given as a list, the alignment depends on which symbols are visible.

mark-align-priority.ly

Marks still align correctly if Mark_engraver is moved to Staff context.

mark-align-staff-context.ly

Text_mark_engraver may be moved to staff-group contexts. Five marks should appear in black above the second staff from the top. The same marks should appear in red above the third staff from the top.

mark-align-staff-group-context.ly

LilyPond issues warnings when `\mark markup` conflicts with certain other simultaneous marks, and engraves only the first.

Marks 1! to 3! should appear alone. Marks 4! to 8! should appear with various performance marks.

`mark-tracking-conflict-ad-hoc-mark.ly`

LilyPond issues warnings when `\codaMark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Coda marks 1 to 3 should appear with various rehearsal marks. Coda marks 4 to 6, 8, and 9 should appear alone.

`mark-tracking-conflict-default-coda-mark.ly`

LilyPond issues warnings when `\mark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Rehearsal marks 1, 2, and 4 should appear alone. Rehearsal marks 5 to 9 should appear with various performance marks.

`mark-tracking-conflict-default-rehearsal-mark.ly`

LilyPond issues warnings when `\segnoMark \default` conflicts with certain other simultaneous marks, and engraves only the first.

Segno marks 1 to 3 should appear with various rehearsal marks. Segno mark 4 and then 9 to 12 should appear alone.

mark-tracking-conflict-default-segno-mark.ly

A musical staff in common time (C) with nine measures. Above the staff, the following marks are placed: **A!** above the first measure, **1** above the second, **3** above the third, **4** above the fourth, **9** above the fifth, **10** above the sixth, **11** above the seventh, and **12** above the eighth. Each mark is followed by a percent sign (%).

LilyPond issues warnings when `\sectionLabel` conflicts with certain other simultaneous marks, and engraves only the first.

Section labels 1! to 3! should appear with various rehearsal marks. Section labels 4! to 8! should appear alone.

mark-tracking-conflict-section-label.ly

A musical staff in common time (C) with nine measures. Above the staff, the following marks are placed: **A!** above the first measure, **1** above the second, **3** above the third, **4** above the fourth, **5** above the fifth, **6** above the sixth, **7** above the seventh, and **8** above the eighth. Each mark is followed by an exclamation point (!).

LilyPond issues warnings when `\codaMark n` conflicts with certain other simultaneous marks, and engraves only the first.

Coda marks 1 to 3 should appear with various rehearsal marks. Coda marks 4 to 8 should appear alone.

mark-tracking-conflict-specific-coda-mark.ly

A musical staff in common time (C) with nine measures. Above the staff, the following marks are placed: **A!** above the first measure, **1** above the second, **3** above the third, **4** above the fourth, **5** above the fifth, **6** above the sixth, **7** above the seventh, and **8** above the eighth. Each mark is followed by a circled phi symbol (⊘).

LilyPond issues warnings when `\mark n` conflicts with certain other simultaneous marks, and engraves only the first.

Rehearsal marks 1 to 3 should appear alone. Rehearsal marks 4 to 9 should appear with various performance marks.

mark-tracking-conflict-specific-rehearsal-mark.ly

A musical staff in common time (C) with nine measures. Above the staff, the following marks are placed: **1** above the second, **2** above the third, **3** above the fourth, **4** above the fifth, **5** above the sixth, **6** above the seventh, **7** above the eighth, and **8** above the ninth. The marks 4, 5, 6, 7, and 8 are followed by a percent sign (%). The mark 8 is followed by the word "Coda".

LilyPond issues warnings when `\segnoMark n` conflicts with certain other simultaneous marks, and engraves only the first.

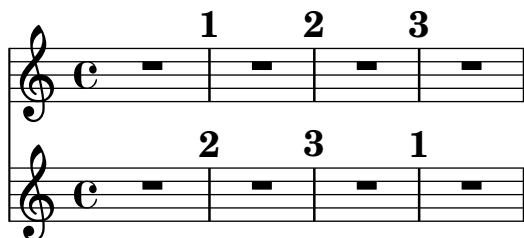
Segno marks 1 to 3 should appear with various rehearsal marks. Segno marks 4 to 8 should appear alone.

mark-tracking-conflict-specific-segno-mark.ly

A musical staff in common time (C) with nine measures. Above the staff, the following marks are placed: **A!** above the first measure, **1** above the second, **3** above the third, **4** above the fourth, **5** above the fifth, **6** above the sixth, **7** above the seventh, and **8** above the eighth. Each mark is followed by a percent sign (%).

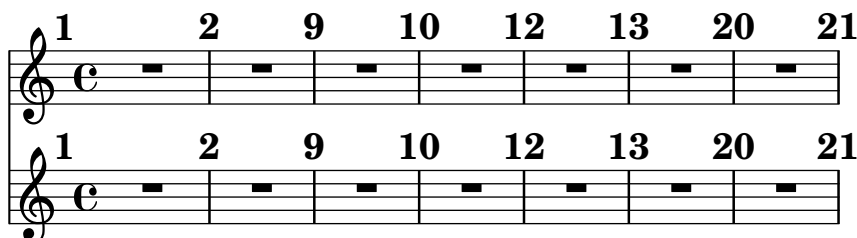
Mark_tracking_translators operate independently in independent contexts. The upper staff has marks 1, 2, and 3. The lower staff has marks 2, 3, and 1 at the same points.

mark-tracking-context.ly



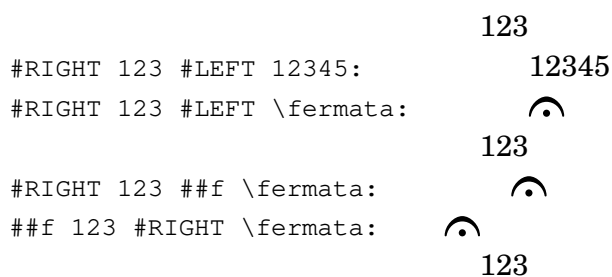
The Mark_tracking_translator manages one rehearsal-mark sequence for (potentially) many Mark_engravers. The expected marks on both staves are these: 1, 2, 9, 10, 12, 13, 20, 21.

mark-tracking-sequence.ly



The markup command \align-on-other accepts both numbers and ##f as position arguments; the latter indicates that the object's reference point should be used for alignment.

markup-align-on-other.ly



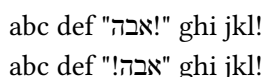
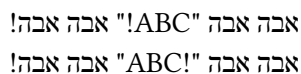
The feta font has arrow heads

markup-arrows.ly



The explicit directional embedding codes, U+202A and U+202B, are supported in single-line markup strings. The embeddings must be terminated with the pop directional formatting character, U+202C.

markup-bidi-explicit-embedding.ly



The explicit directional override codes, U+202D and U+202E, are supported in single-line markup strings. The overrides must be terminated with the pop directional formatting character, U+202C.

```
markup-bidi-explicit-overrides.ly
```

```
אבג דהו זחט יךכ  
כךי טחז והד גבא
```

```
abc def ghi jkl  
lkj ihg fed cba
```

The implicit directional marks, U+200E and U+200F, are supported in single-line markup strings.

```
markup-bidi-implicit-marks.ly
```

```
אבה "!ABC" אבה  
אבה "ABC!" אבה
```

```
abc "אבה!" def  
abc "!אבה" def
```

A single Pango string is processed according to the Unicode Bidirectional Algorithm. The strong Hebrew characters in this example are set right-to-left, and the Latin numerals, space character, and punctuation are set according to the rules of the algorithm.

```
markup-bidi-pango.ly
```

```
לל1ללל, רר2רר.
```

If `\left-brace` or `\right-brace` cannot find a match for the given point size, it should default gracefully to either `brace0` or `brace575` and display a warning.

```
markup-brace-warning.ly
```

```
{
```

The markup command `\left-brace` selects a `fetaBraces` glyph based on point size, using a binary search. `\right-brace` is simply a `\left-brace` rotated 180 degrees.

```
markup-braces.ly
```

```
{ }
```

Text markup using `center-column` shall still reserve space for its whole width and not overwrite the previous stencil.

```
markup-center-align-nocollision.ly
```

```
XXX + XXX  
Y     Y
```

Fixed horizontal alignment of columns of text can be set using `\left-column`, `\center-column` and `\right-column`.

```
markup-column-align.ly
```

one one one
two two two
three three three

test various markup commands.

`markup-commands.ly`



foo **foo** LOWER NORMAL normal Small-Caps SMALL-CAPS

LOWER

justify:

This is a field containing text. Blah blah blah. This
is a field containing text. Blah blah blah. This is a
field containing text. Blah blah blah. This is a field
containing text. Blah blah blah. This is a field
containing text. Blah blah blah.

wordwrap:

This is a field containing text. Blah blah blah.
This is a field containing text. Blah blah blah.
This is a field containing text. Blah blah blah.
This is a field containing text. Blah blah blah.
This is a field containing text. Blah blah blah.

draw-line:



underlined

multiple underlines

The `\compound-meter` markup command can produce various kinds of numeric time signature.

`markup-compound-meter.ly`

These are conventional time signatures: $3 \frac{3}{4} \frac{4}{4}$ (Aren't they pretty?)

This is single-digit compound time signature: $2 + 3$ (Isn't it pretty?)

This is an unusual time signature: $6.\underset{1}{2}2 + \overset{4}{3} + 3.14 + \overset{9876}{0} + \overset{5432}{0} + \underset{0}{-1}$ (Isn't it pretty?)

Test markup commands used for conditional constructs. See also `markup-conditionals-single-page.ly`.

`markup-conditionals-several-pages.ly`

1

Very first page only

Part first page only

Everywhere

New part



2

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



3

Part last page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



4

Part first page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page

New part



5

Page 5 only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



6

Very last page only

Part last page only

Everywhere

Everywhere except on the first page

Also everywhere except on the first page



LilyPond v2.25.16

Test markup commands used for conditional constructs. See also `markup-conditionals-several-pages.ly`.

`markup-conditionals-single-page.ly`

Printed because there is a single page.

Also printed, because `print-all-headers` is true.



LilyPond v2.25.16

Cyclic markup definitions should cause a warning, but not crash LilyPond with an endless loop

`markup-cyclic-reference.ly`

When a markup command takes a music argument, it sets the default duration for the following music, whereas a duration argument does not.

`markup-default-duration.ly`



Markups have a maximum depth to prevent non-termination.

`markup-depth-non-terminating.ly`

Test:

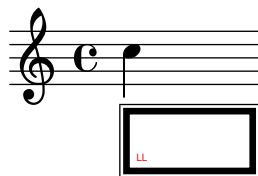
Diacritic marks are rendered and positioned correctly. The diacritic on line 1 looks like a lower-underline and is centered beneath the main character. The diacritic on line 2 is positioned to the left of the main character, with a tiny space of separation. The diacritic on line 3 is positioned directly above the main character, either centered or shifted slightly to the left.

`markup-diacritic-marks.ly`



The epsfile markup command reads an EPS file

`markup-eps.ly`



The eyeglasses markup function prints out eyeglasses.

`markup-eyeglasses.ly`



Fingerings and bass figures in markup are scaled with the font size.

markup-finger-figuredbass-fontsize.ly

The scale fingering 3 4 3 4 ...

The scale fingering 3 4 3 4 ...

The scale fingering 3 4 3 4 ...

The scale fingering 3 4 3 4 ...

The scale fingering 3 4 3 4 ...

Symbols like 6̣ or 4+ are common.

Symbols like 6̣ or 4+ are common.

Symbols like 6̣ or 4+ are common.

Symbols like 6̣ or 4+ are common.

Symbols like 6̣ or 4+ are common.

The markup command `\first-visible` uses the first argument that produces a non-empty stencil and ignores the rest.

The expected markup on this score is "Lame Songs for Testing" followed by a "C" time signature symbol.

markup-first-visible.ly

Lame Songs for Testing **C**



No elements:

One element (expect 111): 111

Single markup list (expect aaa): aaa

Multiple markup lists (expect ccc): ccc

Mixed markup and markup lists (expect fff): fff

Nested markup lists (expect jjj): jjj

Text is framed properly with `\box`, `\circle`, `\oval` and `\ellipse`

markup-frame-text.ly

text in boxes 1 12 123

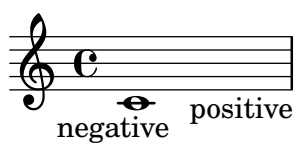
text in circles ① ⑫ ⑬

text in ovals ① ⑫ ⑬

text in ellipses ① ⑫ ⑬

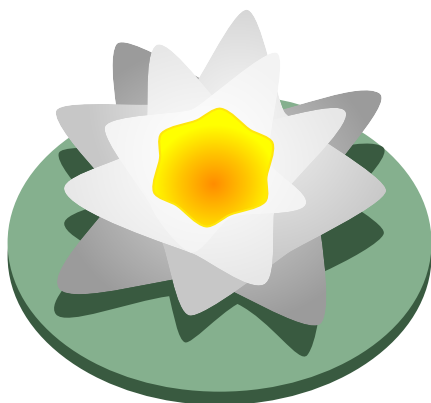
Text markup using `\hspace` with positive and negative arguments.

markup-hspace.ly



The file extension of a file passed to `\markup \image` can be uppercased.

markup-image-file-extension-uppercase.ly



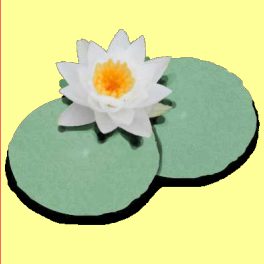
The `\image` markup command supports PNG and EPS images. The `background-color` property can be set, defaulting to a white background.

markup-image.ly

PNG image, white background (default):



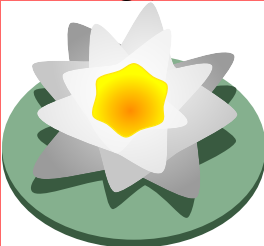
PNG image, yellow background:



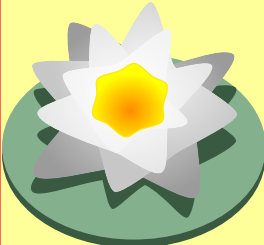
PNG image, no background:



EPS image, white background (default):



EPS image, yellow background:



EPS image, no background:



A warning is emitted when a markup command does not return a stencil as it should.

markup-invalid-stencil.ly



The markup-commands `\draw-dashed-line`, `\draw-dotted-line` and `\draw-squiggle-line` should print the same visual length as `\draw-line`. Also testing possible overrides for `\draw-squiggle-line`

markup-line-styles.ly

```

. \draw-dotted-line #(0.0 . 0)
- \draw-dashed-line #(0.0 . 0)
- \draw-line #(0.0 . 0)

. . \draw-dotted-line #(0.75 . 0)
- - \draw-dashed-line #(0.75 . 0)
- \draw-line #(0.75 . 0)

. . . \draw-dotted-line #(1.5 . 0)
- - - \draw-dashed-line #(1.5 . 0)
- \draw-line #(1.5 . 0)

. . . . \draw-dotted-line #(2.25 . 0)
- - - - \draw-dashed-line #(2.25 . 0)
- \draw-line #(2.25 . 0)

. . . . . \draw-dotted-line #(3.0 . 0)
- - - - - \draw-dashed-line #(3.0 . 0)
- \draw-line #(3.0 . 0)

. . . . . \draw-dotted-line #(3.75 . 0)
- - - - - \draw-dashed-line #(3.75 . 0)
- \draw-line #(3.75 . 0)

. . . . . \draw-dotted-line #(4.5 . 0)
- - - - - \draw-dashed-line #(4.5 . 0)
- \draw-line #(4.5 . 0)

. . . . . \draw-dotted-line #(5.25 . 0)
- - - - - \draw-dashed-line #(5.25 . 0)
- \draw-line #(5.25 . 0)

. . . . . \draw-dotted-line #(6.0 . 0)
- - - - - \draw-dashed-line #(6.0 . 0)
- \draw-line #(6.0 . 0)

. . . . . \draw-dotted-line #(6.75 . 0)
- - - - - \draw-dashed-line #(6.75 . 0)
- \draw-line #(6.75 . 0)

. . . . . \draw-dotted-line #(7.5 . 0)
- - - - - \draw-dashed-line #(7.5 . 0)
- \draw-line #(7.5 . 0)

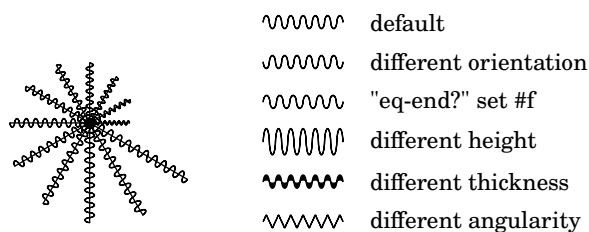
. . . . . \draw-dotted-line #(8.25 . 0)
- - - - - \draw-dashed-line #(8.25 . 0)
- \draw-line #(8.25 . 0)

. . . . . \draw-dotted-line #(9.0 . 0)
- - - - - \draw-dashed-line #(9.0 . 0)
- \draw-line #(9.0 . 0)

. . . . . \draw-dotted-line #(9.75 . 0)
- - - - - \draw-dashed-line #(9.75 . 0)
- \draw-line #(9.75 . 0)

. . . . . \draw-dotted-line #(10.5 . 0)
- - - - - \draw-dashed-line #(10.5 . 0)
- \draw-line #(10.5 . 0)

```



The thickness setting between markup lines and other lines is consistent.

markup-line-thickness.ly



Text that can spread over pages is entered with the `\markuplist` command. It can be assigned to a variable and inserted at top-level with or without preceding it by `\markuplist`.

markup-lines-identifier.ly

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed eiusmod tempor incididunt ut labore et dolore magna aliqua. ...

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed eiusmod tempor incididunt ut labore et dolore magna aliqua. ...

Text that can spread over pages is entered with the `\markuplist` command. Widowed and orphaned lines are avoided at the beginning and end of a `\markuplist` containing more than one line.

markup-lines.ly

Il y avait en Westphalie, dans le château de M. le baron de Thunder-ten-tronckh, un jeune garçon à qui la nature avait donné les mœurs les plus douces. Sa physionomie annonçait son âme. Il avait le jugement assez droit, avec l'esprit le plus simple ; c'est, je crois, pour cette raison qu'on le nommait Candide. Les anciens domestiques de la maison soupçonnaient qu'il était fils de la sœur de monsieur le baron et d'un bon et honnête gentilhomme du voisinage, que cette demoiselle ne voulut jamais épouser parce qu'il n'avait pu prouver que soixante et onze quartiers, et que le

2
 reste de son arbre généalogique
 avait été perdu par l'injure du
 temps. (not orphaned)

Monsieur le baron était un des
 plus puissants seigneurs de la
 Westphalie, car son château avait
 une porte et des fenêtres. Sa grande
 salle même était ornée d'une
 tapisserie. Tous les chiens de ses
 basses-cours composaient une
 meute dans le besoin ; ses
 palefreniers étaient ses piqueurs; le
 vicaire du village était son

3
 grand-aumônier. Ils l'appelaient
 tous monseigneur, et ils riaient
 quand il faisait des contes.

Madame la ... (may be orphaned)

This concatenates the same markup list several times.

markup-list-append.ly

Test Test Test .

\markupMap can be used for applying a markup function to music properties throughout a music expressions, like the `text` of all contained lyric events.

markup-map.ly



Markup commands can take music arguments, enclosed in braces. A bare pitch or duration is accepted.

markup-music-argument.ly





Reset fontname for musicglyph. For unknown glyphs, we print a warning.

markup-music-glyph.ly



A dotted whole note displayed via the `\note` command must separate the note head and the dot. The dot avoids the upflag.

markup-note-dot.ly



In the `\note` markup command, the position of dots may be changed.

markup-note-dots-direction.ly

Default:

Dots shifted up:




The `'style` property from grobs such as `TimeSignature` and `TextSpanner` does not affect the default note head style for `\note` and `\note-by-number`.

markup-note-grob-style.ly




The `note-by-number` markup-command is robust with all kinds of size changings. For every `Stem` the vertical length and thickness prints reasonable.

toplevel markup in \book: quavers: 

Andante (♩ = 88) Andante (♩ = 88) Andante (♩ = 88)



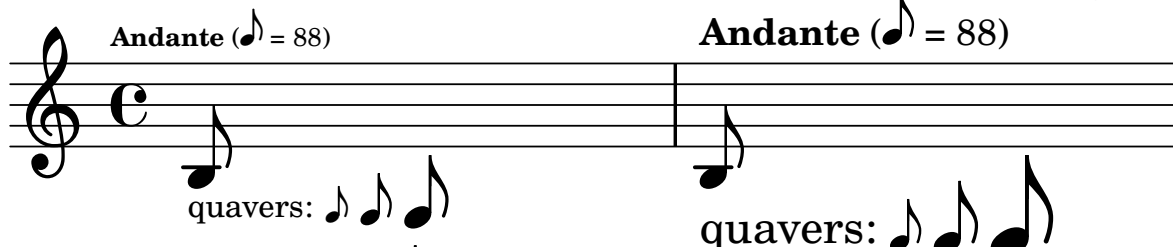
Andante (♩ = 88) Andante (♩ = 88) Andante (♩ = 88)



Andante (♩ = 88) Andante (♩ = 88) Andante (♩ = 88)



Andante (♩ = 88) Andante (♩ = 88)



3 Andante (♩ = 88)



Andante (♩ = 88) Andante (♩ = 88) Andante (♩ = 88)



`\note-by-number` and `\note` support all note head styles and all flag styles (default, straight, flat, mensural).

`markup-note-styles.ly`

Note-head-styles:

default										
altdefault										
baroque										
neomensural										
mensural										
petrucci										
semipetrucci										
blackpetrucci										
harmonic										
harmonic-black										
harmonic-mixed										
diamond										
cross										
xcircle										
triangle										
slash										

Modern-straight-flag:

default									
mensural									

Old-straight-flag:

default



Flat-flag:

default

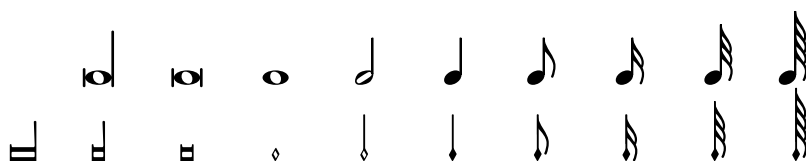


default-flag:

default

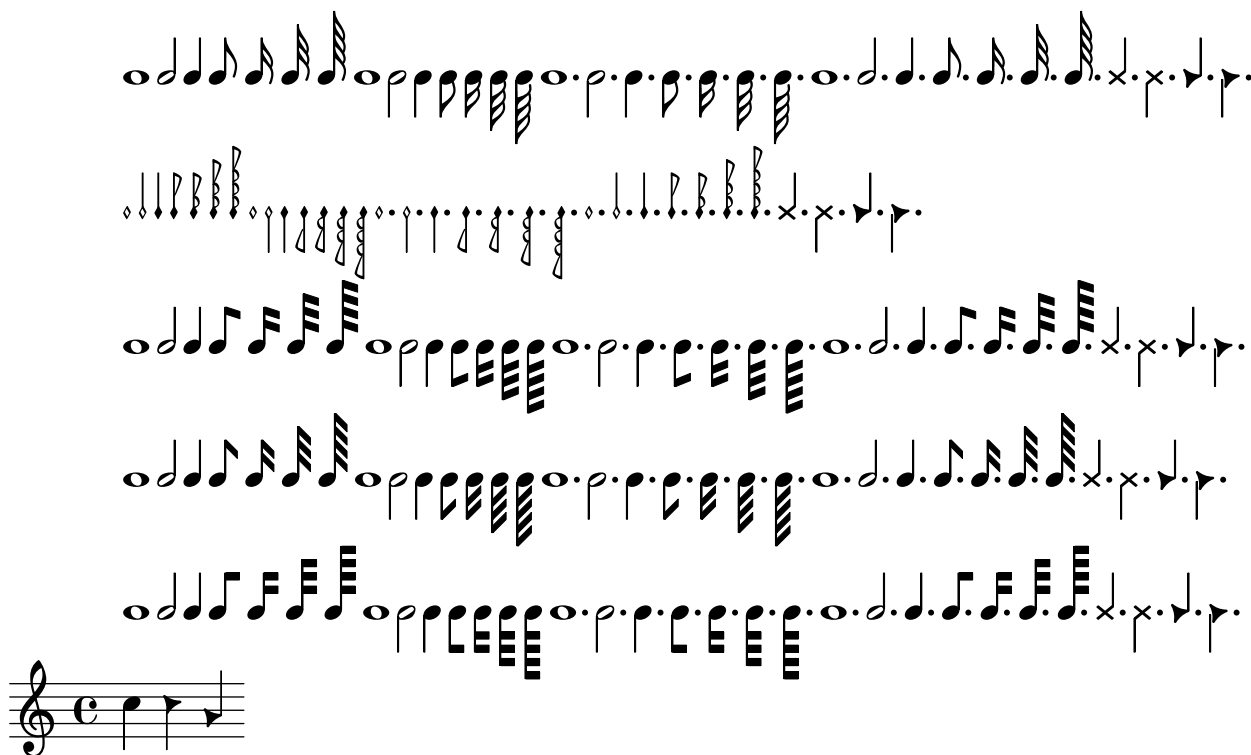


mensural



The note markup function may be used to make metronome markings. It works for a variety of flag, dot and duration settings.

markup-note.ly




Partial markups acts as a chain of markup commands where everything but some arguments of the final markup command has already been supplied.

markup-partial.ly

Bold red.

Bold

red**in****a****list.***Italic green.**Italic**green**in**a**list.*3/8: .

The `\path` markup command supports the `filled` property to toggle its fill.
`markup-path-fill.ly`



The `\path` markup command supports the `line-cap-style` property with values of `butt`, `round`, and `square`.

`markup-path-linecap.ly`



The `\path` markup command supports the `line-join-style` property with values of `bevel`, `round`, and `miter`.

`markup-path-linejoin.ly`



The `\path` markup command allows the user to draw arbitrary paths using a simple syntax. The two paths below should be identical.

`markup-path.ly`



A markup command can take a pitch argument and receive it between braces.
`markup-pitch-argument.ly`



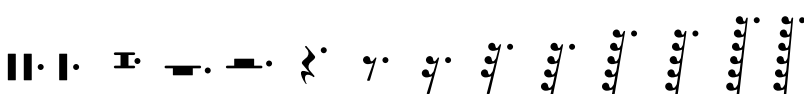

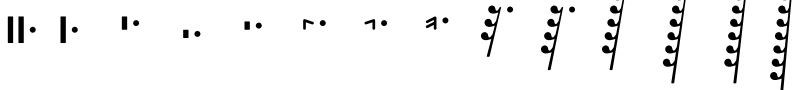
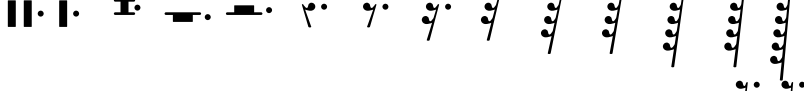
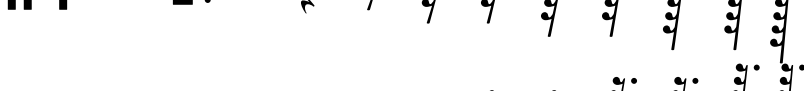
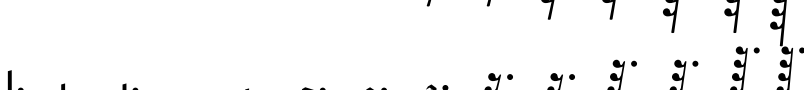
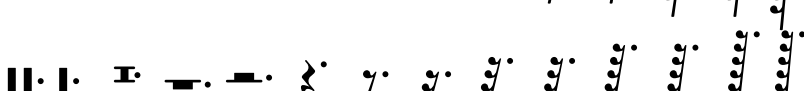
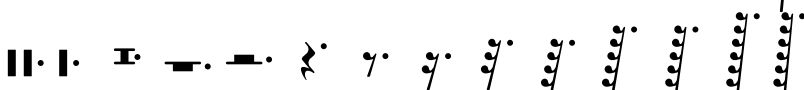
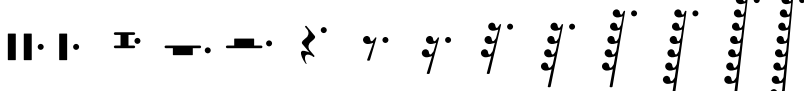
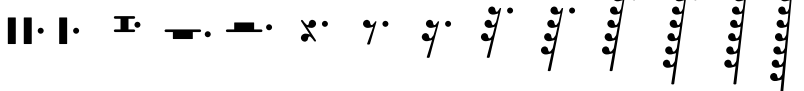

The markup function `\rest` supports all rest styles.
`markup-rest-styles.ly`

default															
mensural															
neomensural															
classical															
baroque															
altdefault															
petrucci															
blackpetrucci															
semipetrucci															
kievan															
z															

The rest markup function works for a variety of style, dot and duration settings. Printing symbols for `MultiMeasureRest` is supported.

markup-rest.ly

Simple Rests by rest-markup


default	
mensural	
neomensural	
classical	
baroque	
altdefault	
petrucci	
blackpetrucci	
semipetrucci	
kievan	
z	

MultiMeasureRests by rest-markup: church-rests and line-style

church-rests

		2	3	4	5	6	7	8	9	10
default	-	·	·	·	·	·	·	·	·	·
mensural	'	'	"		'	'	'			
neomensural	'	'	"		'	'	'			
classical	-	·	·	·	·	·	·	·	·	·
baroque	-	·	·	·	·	·	·	·	·	·
altdefault	-	·	·	·	·	·	·	·	·	·
petrucci	'	'	"		'	'	'			
blackpetrucci	-	·	·	·	·	·	·	·	·	·
semipetrucci	-	·	·	·	·	·	·	·	·	·
kievan	-	·	·	·	·	·	·	·	·	·


line-style

default			
---------	---	---	---

The output of `\markup \rhythm` scales with font size automatically.
`markup-rhythm-font-size.ly`

A syncopation: 

A syncopation: 

A syncopation: 

`\markup \rhythm` is not affected by switching off ragged-right globally.
`markup-rhythm-ragged.ly`



Settings can be applied to `\markup \rhythm`, either using music commands in the music argument, or using a `\layout` block.

`markup-rhythm-tweaking.ly`



`\markup \rhythm` draws a standalone rhythmic pattern. All beaming is explicit.

`markup-rhythm.ly`



There is a Scheme macro `markup` to produce markup texts using a similar syntax as `\markup`.

`markup-scheme.ly`

2

`\markup \score` displays all systems. Spacing between systems is set using `baseline-skip`.

`markup-score-multi-system.ly`



Use `\score` block as markup command.

`markup-score.ly`

Solo Cello Suites

Suite IV

Originalstimmung:



A list of special character ASCII aliases can be easily included. This works for markups and lyrics.

markup-special-characters.ly

Markup example:

Input:

№2 – &OE;dipe…

Output:

Nº2 – Œdipe...

Lyric example:

Ceffez Infidèles, un cœur innocent ne craint rien;

It works to splice an empty list inside markup.

markup-splice-empty-list.ly

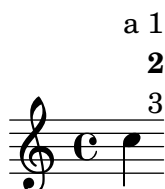
a b

a

b

Markup scripts may be stacked.

markup-stack.ly



The markup list command `\string-lines` splits a given string at line break characters and drops surrounding whitespace from the resulting strings. Other splitting points may be achieved by overriding the `split-char` property.

markup-string-lines.ly

All three instances should look equal!

Verse	Verse	Verse
Everywhere that Mary went	Everywhere that Mary went	Everywhere that Mary went
The lamb was sure to go.	The lamb was sure to go.	The lamb was sure to go.

Both lines should look equal!

aa bb cc dd ee
aa bb cc dd ee

Demo of markup texts, using LilyPond syntax.

markup-syntax.ly

foo \bar baz } \downarrow \mathbb{X} \flat
 bazr
 bla
 string 1 \circ \bullet Norsk ² white-out
 string 2 \textcircled{p} Green *sfzp* \AA \AA \AA alike
 fi

Triangles should scale appropriately with font size.

markup-triangle-scaling.ly

$\cdot_6 \triangle -4 \triangle -2 \triangle 0 \triangle +2 \triangle +4 \triangle +6 \triangle$

Users may define non-standard markup commands using the `define-markup-command` scheme macro.

markup-user.ly

HELLO WORLD IN UPPER CASE

`\verbatim-file` works on Unicode data. It decodes the file as UTF-8.

markup-verbatim-file-utf8.ly

Sømê UTF-8 €éx€

The markup commands `\with-true-dimension` and `\with-true-dimensions` give a markup the extents given by the stencil's outline.

markup-with-true-dimensions.ly



The markup commands `\wordwrap` and `\justify` produce simple paragraph text.

markup-word-wrap.ly

this is normal text This is a test of the wordwrapping function. 1 This is a test continuing of the wordwrapping function. 2 This is a test of the wordwrapping function. 3 This is a test of the wordwrapping function. 4 1a111 11111 **22222** 2222

this is normal text This is a test of the wordwrapping continuing function, but with justification. 1 This is a test of the wordwrapping function, but with justification. 2 This is a test of $\frac{a}{b}$ the wordwrapping function, but with justification. 3 This is a test of the wordwrapping function, but with justification. bla bla

Om mani padme hum Om mani padme Om mani padme hum Om mani padme
 hum Om mani padme hum Om mani hum Om mani padme hum Om mani
 padme hum Om mani padme hum Om padme hum Om mani padme hum Om
 mani padme hum Om mani padme mani padme hum Om mani padme hum
 hum Om mani padme hum. Om mani padme hum.

Gate Gate paragate Gate Gate Gate Gate paragate Gate Gate paragate
 paragate Gate Gate paragate Gate Gate paragate Gate Gate paragate
 Gate paragate Gate Gate paragate Gate Gate paragate Gate Gate
 Gate Gate paragate. paragate.

Om mani padme hum Om mani padme Om mani padme hum Om mani padme
 hum Om mani padme hum Om mani hum Om mani padme hum Om mani
 padme hum Om mani padme hum Om padme hum Om mani padme hum Om
 mani padme hum Om mani padme hum mani padme hum Om mani padme hum
 Om mani padme hum. Om mani padme hum.

Gate Gate paragate Gate Gate paragate Gate Gate paragate Gate Gate paragate
 Gate Gate paragate Gate Gate paragate Gate Gate paragate Gate Gate paragate
 Gate Gate paragate Gate Gate Gate Gate paragate Gate Gate
 paragate. paragate.

Measure counters follow alternative numbering when active. This also works with compressed multi-measure rests.

measure-counter-alternative-numbering.ly

The image shows two musical staves in common time (C). The first staff contains the following measure counts: 1-3, 4, 4-5, 6a, 7a, 6b, 6c-7c, 8, and 11. The second staff contains: 1-3, 4, 4-5, 6a, 7a, 6b, 6c-7c, 8, and 11. Both staves feature multi-measure rests and alternative numbering for measures split across line breaks.

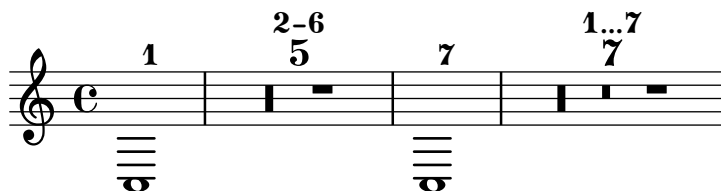
Measures split across line breaks may be numbered in a measure count. Each segment receives a number. The first number has its ordinary appearance, but numbers after the break are enclosed in parentheses.

measure-counter-broken.ly

The image shows two musical staves in common time (C). The first staff contains measures 1 and 2. The second staff contains measures (2) and 3, illustrating how a measure split across a line break is numbered.

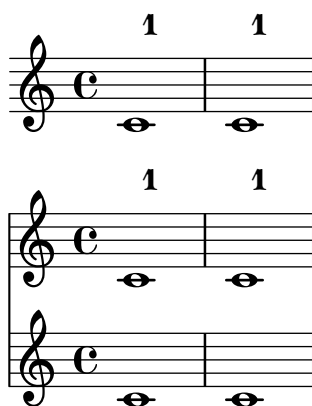
When a measure counter extends over a compressed multi-measure rest, it displays the full measure range. By default, the two measure numbers in the range are dash-separated; this is configurable.

`measure-counter-compressed-mmrest.ly`



`\startMeasureCount` and `\stopMeasureCount` coming in the same time step in this order do not cause a warning.

`measure-counter-event-order.ly`



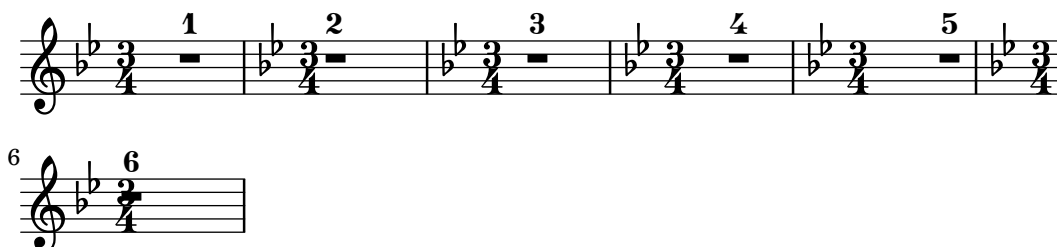
Measure counts are not confused by grace notes.

`measure-counter-grace.ly`



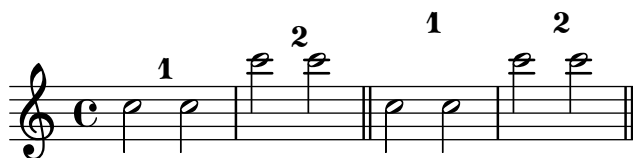
The `spacing-pair` property may be used to adjust the horizontal positioning of `MeasureCounter` objects relative to prefatory material. In the following example, the count should be aligned with the full-measure rests.

`measure-counter-spacing-pair.ly`



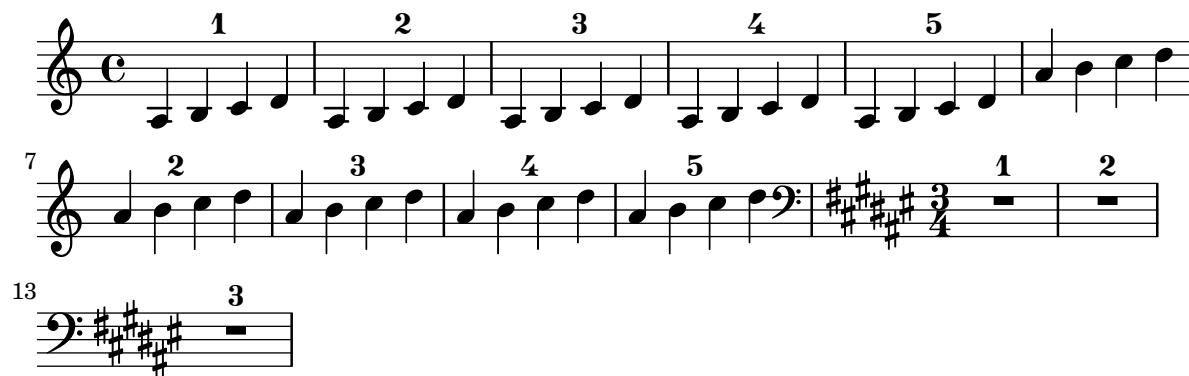
The `staff-padding` property may be used to adjust the distance of `MeasureCounter` objects from the staff. The following example uses `staff-padding` to align the count vertically.

`measure-counter-staff-padding.ly`



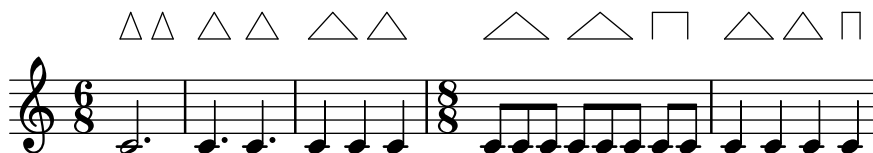
Measures can be numbered sequentially by enclosing them with `\startMeasureCount` and `\stopMeasureCount`.

`measure-counter.ly`



The `Measure_grouping_engraver` also starts triangles and brackets at moments where no new note or rest starts.

`measure-grouping-all-moments.ly`



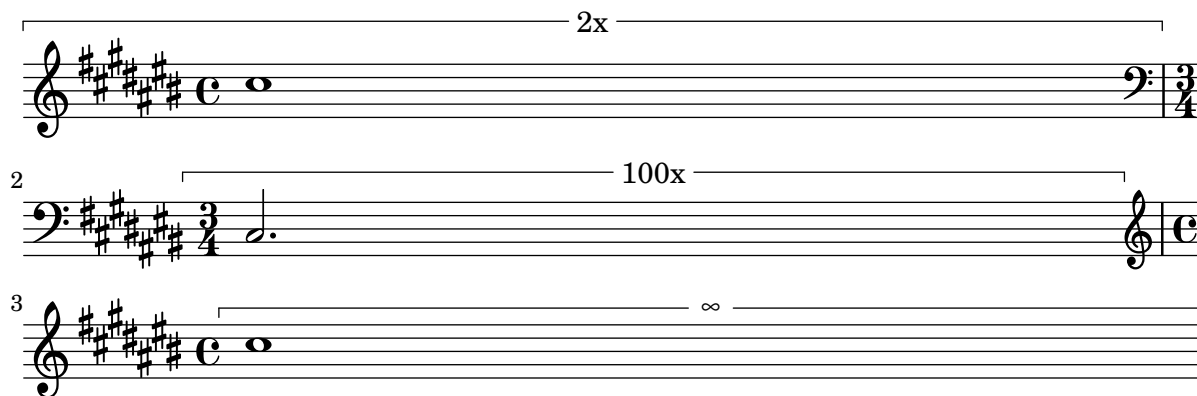
The `Measure_grouping_engraver` adds triangles and brackets above beats when the beats of a time signature are grouped.

`measure-grouping.ly`



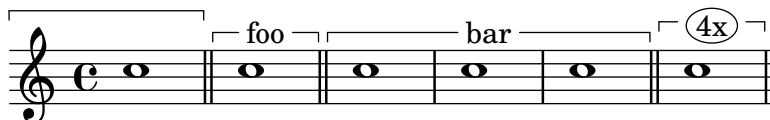
The ends of measure spanners may be aligned in various ways.

`measure-spanner-spacing-pair.ly`



Measure spanners can span single and multiple measures. They may be texted or untexted and hold markups.

measure-spanner.ly



Mensural ligatures show different shapes, depending on the rhythmical pattern and direction of the melody line.

mensural-ligatures.ly

ligaturae binariae

BL BL LL LL BB BB LB LB SS SS SL SL SM_x SM_x BS BS



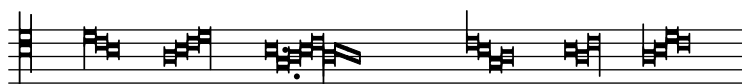
ligaturae ternariae, quaternariae, etc.

BBL BBBB SSBBLB LBM_xBL BBBLL SSBLB



dtv-Atlas

BBL BBBL L.B.BBLBBB SSBB LBL SSBL



Ockeghem: Missa De plus en plus

M_xM_x LBBBB M_xL BBB LBBBBB. BBBBL SSB LLLL LBB BBBBBL BM_x



Ockeghem: Requiem

SSBBBBBBL BBBBL



Fayrfax: Missa O bone Jesu

SSSS BB SSL BBL



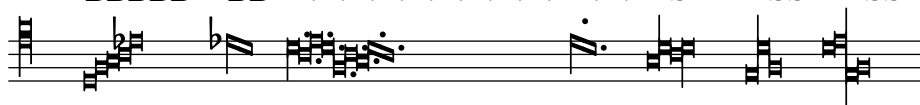
ignored tweaks

BSS BSS LB BL M_xM_x



crazy ligatures

BBBBB BB B.B.B.B.B.B.B.B. B.B. BSLB BSS BLSS



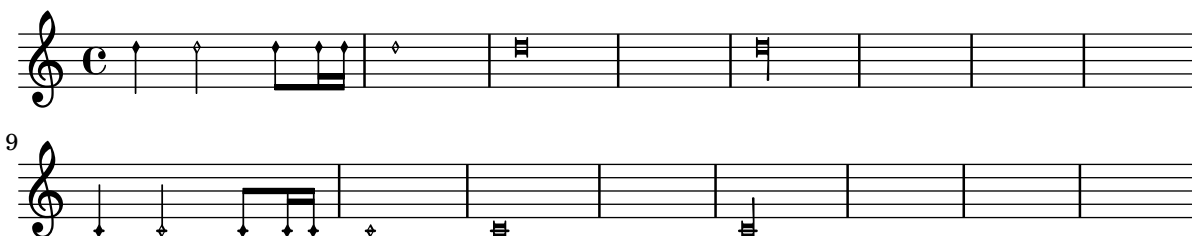
invalid ligatures

BBB



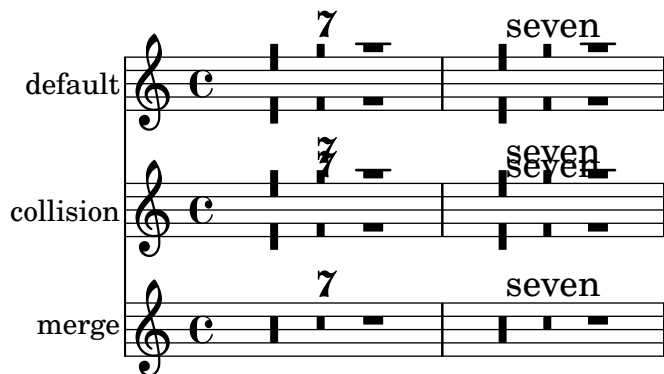
There is limited support for mensural notation: note head shapes are available. Mensural stems are centered on the note heads, both for up and down stems.

mensural.ly



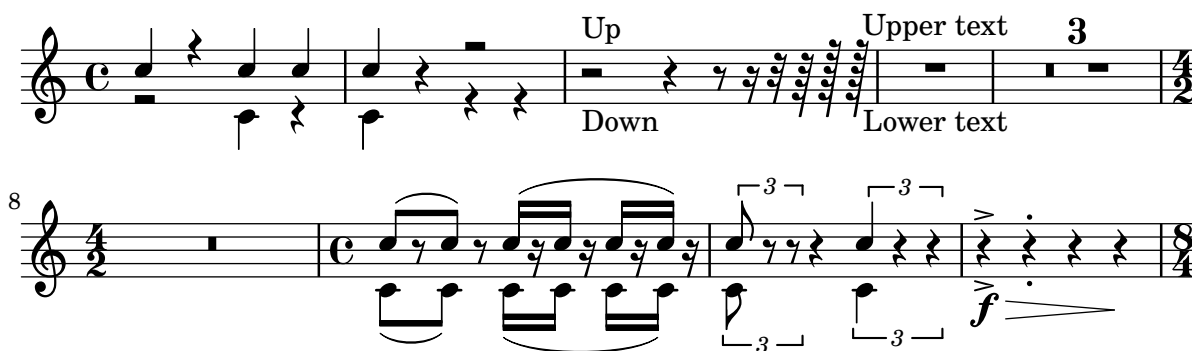
Test for merging rest numbers using the Merge_mmrest_numbers_engraver. The upper staff is the new default with the engraver enabled while the second one is the old default resulting in collisions. The final staff demonstrates the additional use of Merge_rests_engraver.

merge-mmrest-numbers-engraver.ly



Test for merging rests in different voices.

merge-rests-engraver.ly

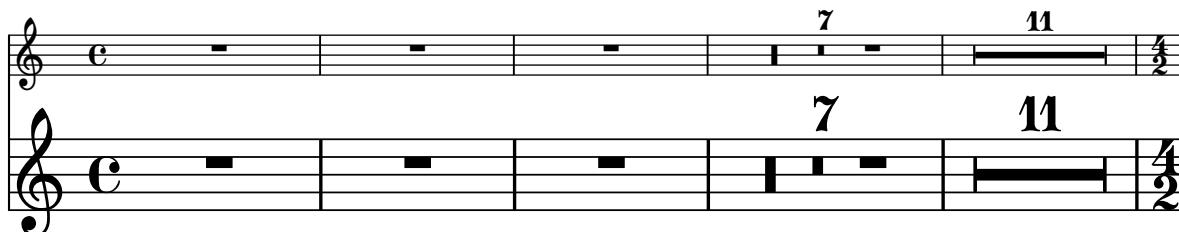


12

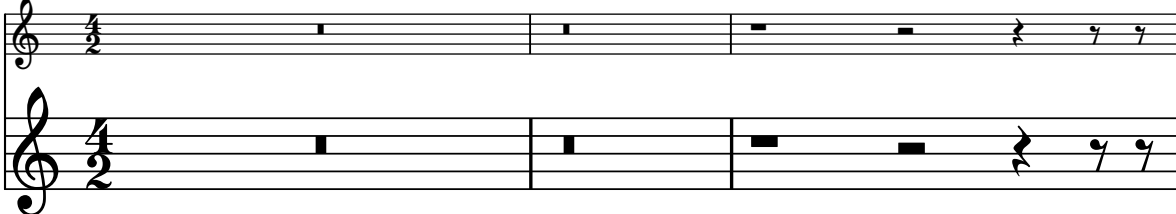


Test for vertical positions of merged rests in magnified staves.

merge-rests-magnify-staff.ly

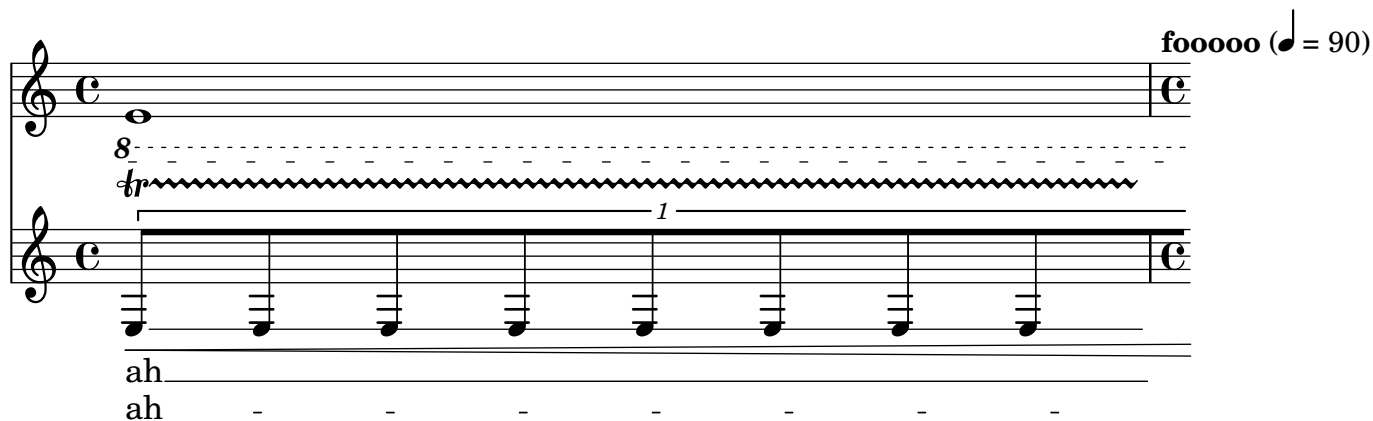


22

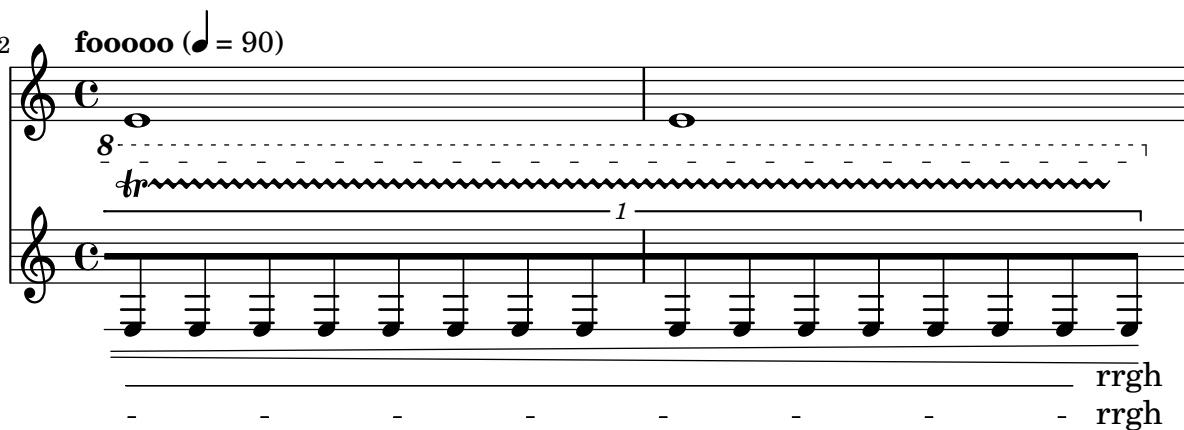


A MetronomeMark, RehearsalMark and BarNumber should not effect the starting point of spanners.

metronome-mark-broken-bound.ly



2



metronomeMarkFormatter supports all note head styles and flags styles. Setting font-name for MetronomeMark does not disturb the glyphs for note-head and flag.

metronome-mark-formatter.ly

Metronome marks aligned on notes do not interfere with the positioning of loose columns in other staves. Here the loose column supporting the clef is correctly placed immediately before the second note in the lower staff.

metronome-mark-loose-column.ly

Metronome marks respect symbol order in break-align-symbols.

In this example, the default is changed to '(time-signature key-signature)': since key-signature is second in the list, the mark should only be aligned with the key signature if there is no time signature present, as in the second measure.

metronome-marking-align-order.ly

`\tempo` marks are aligned with the time signature or the position of the first note.

By overriding `break-align-symbols` the default alignment can be changed. If no symbol in `break-align-symbols` is present, the property `non-break-align-symbols` determines the alignment. If the alignment object is a multi-measure rest, the tempo mark is aligned with the preceding bar line.

`metronome-marking-break-align.ly`

Metronome marks are placed correctly if `Metronome_mark_engraver` is moved to `StaffGroup` context. Metronome marks should appear above the middle staff (the upper staff of the group) only.

`metronome-marking-staff-group-context.ly`

Here `\tempo` directives are printed as metronome markings.

The marking is left aligned with the time signature, if there is one.

`metronome-marking.ly`

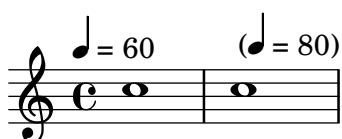
A metronome marking can be added to a multimeasure rest whose engraver was moved to the Staff, without segfaulting.

`metronome-multimeasure-rest-no-segfault.ly`



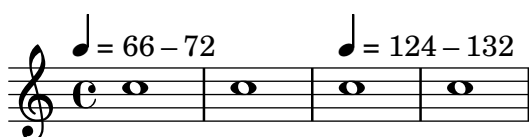
Using an empty text in the metronome marks, one can generate parenthesized tempo marks.

`metronome-parenthesized.ly`



Tempo ranges are supported. By default, numbers are printed with an en-dash character, separated by thin-spaces.

`metronome-range.ly`

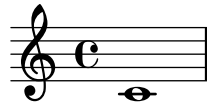


The tempo command supports text markup and/or 'duration=count'. Using `Score.tempoHideNote`, one can hide the 'duration=count' in the tempo mark.

`metronome-text.ly`

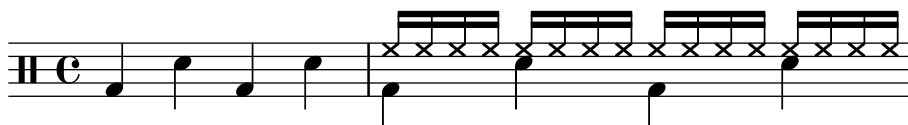
If `after-writing` is set in the `\midi` block, it is called after every MIDI file that is written. The visual and MIDI output are not important in this test.

`midi-after-writing.ly`



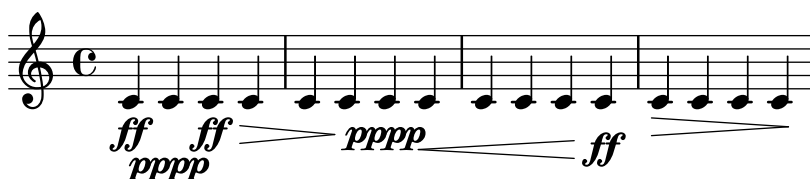
Midi can create drums.

`midi-drums.ly`



Midi also handles crescendo and decrescendo, either starting and ending from specified or unspecified sound level.

`midi-dynamics.ly`



Grace notes shorten previous notes only if they'd overlap them. The A should be a full quarter note, but the C should be shortened to $1/4 - 9/40 * 1/8 = 71/320$ (rounded down to 340/384 in MIDI).

`midi-grace-after-rest.ly`

Tied notes sound as one note in MIDI. Grace notes following a tied note shorten the resulting single note in MIDI.

`midi-grace-after-tie.ly`

Grace notes don't introduce syncing problems: the last note off will appear at tick 768 ($2 * 384$).

`midi-grace.ly`

MIDI key signatures are output, using an approximate key signature if MIDI format cannot represent the true key signature

`midi-key-signature.ly`



Lyrics in MIDI are aligned to ties and beams: this examples causes no bar checks in MIDI.

`midi-lyric-barcheck.ly`



Microtonal shifts should be corrected before the start of the next (possibly grace) note.

`midi-microtone-off.ly`

The pitch wheel is used for microtones.

`midi-microtone.ly`

A MIDI note-off event precedes a simultaneous note-on event for the same pitch in the same MIDI channel, so that all notes are heard. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

`midi-notes.ly`



MIDI and partial measures work together.

`midi-partial.ly`

Pedals. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

`midi-pedal.ly`



Converting LilyPond input to MIDI and then again back with `midi2ly.py` is a reversible procedure in some simple cases, which mean that the original `.ly`-file and the one converted back from the generated `.midi`-file do not differ. Here are produced some scales.

`midi-scales.ly`


39



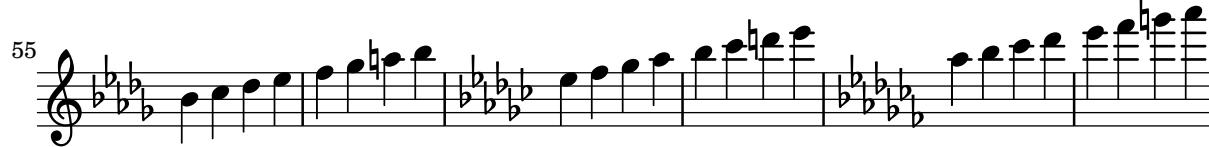
44



49



55




should deliver f' in MIDI
midi-transposition.ly



Midi2ly tuplet test.

```
python scripts/midi2ly.py --duration-quant=32 \
  --allow-tuplet=4*2/3 \
  --allow-tuplet=8*2/3 \
  --allow-tuplet=4*3/5 \
  --allow-tuplet=8*3/5 \
  tu.midi
```

midi-tuplets.ly



In overlapping unisons, within a single MIDI channel, either the first note is truncated, or the notes are merged if `midiMergeUnisons` is `#t`. Run `timidity -idvvv file.midi |grep Midi` to see midi events.

midi-unisons.ly



The full orchestra plays a note, where groups stop one after another. Use this to tune equalizer settings.

`midi-volume-equaliser.ly`

The property `minimum-length-after-break` can be used to stretch broken spanners starting after a line break. The following example shows usage for a variety of spanners.

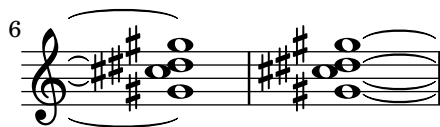
`minimum-length-after-break.ly`

The image displays six musical staves, each illustrating a different spanner type and its interaction with a line break. The staves are numbered 1 through 10 on the left side. Staff 1 shows a single note with a slur. Staff 2 shows a slur spanning across a line break. Staff 3 shows a slur starting before a line break and ending after it. Staff 4 shows a slur starting after a line break. Staff 5 shows a slur starting before a line break and ending after it, with a double bar line at the end. Staff 6 shows a slur starting after a line break, with a double bar line at the end.

The following shows the interaction between the properties `minimum-length` and `minimum-length-after-break`. When `minimum-length` is used alone, both segments of the tie are affected. The properties `minimum-length-after-break` only affects the sibling starting a line. Both properties may be used together to create independent changes of both siblings. This example shows that both properties have an identical effect on the sibling after the break.

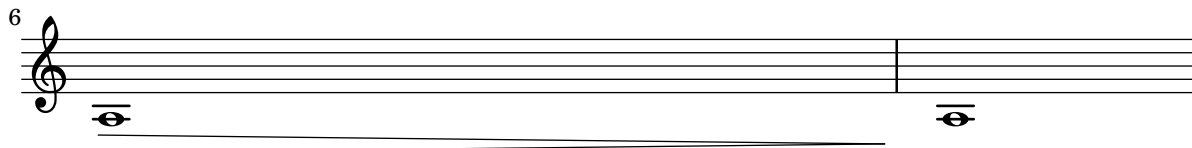
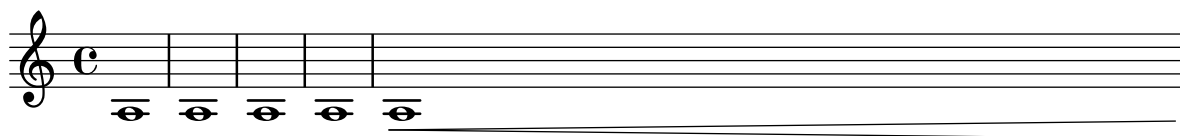
`minimum-length-broken-ties.ly`

The image displays three musical staves, each illustrating a broken tie in a complex chordal setting. The staves are numbered 1 through 4 on the left side. Staff 1 shows a broken tie in a chord. Staff 2 shows a broken tie in a chord, with a line break in the middle. Staff 3 shows a broken tie in a chord, with a line break in the middle.



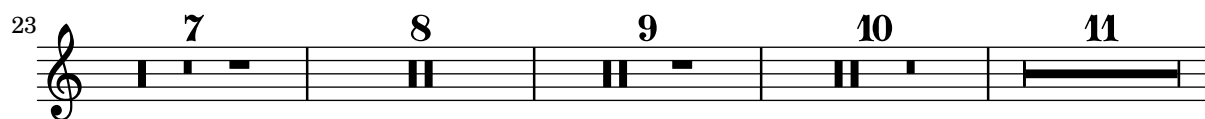
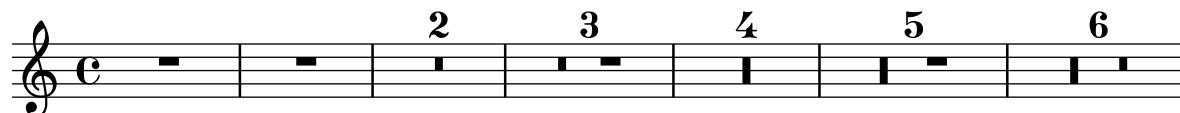
Long spanners at the end of the lines stretch measures correctly.

minimum-length-end-line.ly



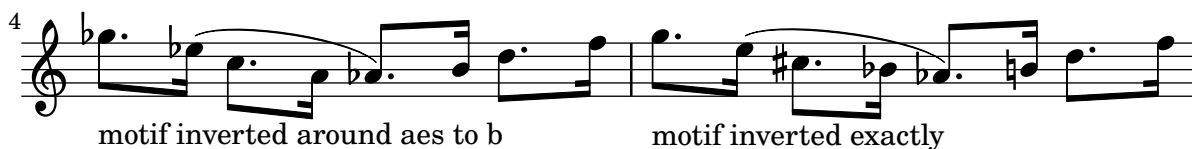
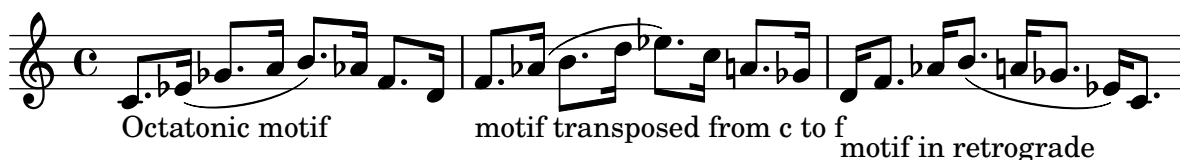
If Score.skipBars is set, the signs for four, two, and one measure rest are combined to produce the graphical representation of rests for up to 10 bars. The number of bars will be written above the sign.

mm-rests2.ly



\modalTranspose, \retrograde, \inversion and \modalInversion work for an octatonic motif.

modal-transforms.ly



The sans serif style tab clef is automatically adjusted to different string spacings.

modern-tab-clef-scaled.ly

Sans serif style tab clefs are supported by `\clef moderntab`. This alternative clef supports four- to seven-stringed instruments and is scaled automatically.

`modern-tab-clef.ly`

Whole notes in a monochord must be properly offset so that the heads just touch each other. On the other hand, a stem should touch both notes.

`monochords.ly`

The source is a rather tightly set Peters in Edition is a heavy font. The Peters edition (4622c) was 'herausgegeben' by Paul Losse, whose name also appears on a 1956 edition of some other music. Strictly speaking, his editorial enhancements will not be in the PD - but I am assuming there are no notable ones in this small piece.

The original compresses the entire music onto a single page, in 4 systems. Lily does so too if you tune down spacing-increment, but chooses line breaks differently.

Further manual tweaks: the slur in measure 12 has been flattened manually. The beam in measure 3, left-hand, technically is wrong, but has been added following the original. The crescendo in measure 4 has been lowered

morgenlied.ly

Sängers Morgenlied

Franz Schubert (1797-1828)

Lieblich, etwas geschwind

1. Sü - ßes Licht! Aus gol - denen Pfor - ten brichst du
2. Ach, der Lie - be sanf - tes We - hen schwellt mi

2. *p*

5
sie - gend durch die Nacht. Schön - er Tag, du bist er - wacht. Mit g
das be - weg - te Herz, sanft, wie ein ge - lieb - ter Schmerz. Dürft ic

cresc. *f*

9
heim - nis - vol - len Wor - ten, in me - lo - di - schen Ak - kor - den, grüß ich
nur auf gold - nen Hö - hen mich im Mor - gen - duft er - ge - hen! Sehn - sucht

f

13
dei - ne Ro - senpracht, grüß ich dei - ne Ro - senpracht.
zieht mich him - mel - wärts, Sehn - sucht zieht mich him - mel wärts.

This is the Mozart 3 for horn. It's from an Edition Breitkopf EB 2563, edited by Henri Kling. Henri Kling (1842-1918) was a horn virtuoso that taught in Geneva.

Konzert № 3 Es dur

für Horn und Orchester

Horn in F

Wolfgang Amadeus Mozart (1

Allegro

p

4 Tutti

28 Solo **A**

34 **3**

42

47 *tr* **B**

55 *con espressione* *cre*

60 *f* *p*

67 *f* *tr* **C** **15** **D** *mf*

87

93 **2**

104

109 **E** **8**

2 Horn in F

122

128 **F** 3

137 3 **G**

145

152 *f* *ff* *sempre f*

157 *tr* **H** 3 3 3 3 3 3

163 3 3 *f* *tr*

171 *tr* **8** *tutti* *f*

Cadenza ad lib.

Romanze

p con molto espressione

6 **A** 8 *mf*

18 2

B 9

Horn in F

Musical score for Horn in F, measures 38-73. The score is written in treble clef with a key signature of two flats (B-flat and E-flat). Measure 38 starts with a 4/4 time signature. Measures 47-56 feature a section labeled 'C' with dynamics *sfp* and *p*. Measures 57-64 feature a section labeled 'D' with a dynamic of *p*. Measures 65-72 feature a section with a dynamic of *p*. Measure 73 ends with a dynamic of *p*.

Rondo

Musical score for Rondo, measures 1-67. The score is written in treble clef with a key signature of two flats (B-flat and E-flat) and a 6/8 time signature. Measure 1 starts with a dynamic of *p*. Measures 7-25 feature a section with a dynamic of *p*. Measures 26-39 feature a section labeled 'A' with a dynamic of *p*. Measures 40-50 feature a section with a dynamic of *p*. Measures 51-59 feature a section labeled 'B' with a dynamic of *p*. Measures 60-66 feature a section with a dynamic of *p*. Measure 67 ends with a dynamic of *f*.

4 Horn in F

81 12 D

99 3

109 3

121 E 9

136

142

150 F f p

157

163 7 G 4 mf H

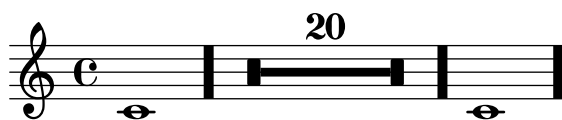
180 cresc. f

187 tr 5 p

198 5 f cresc.

The multi-measure rest is centered exactly between bar lines.

`multi-measure-rest-center.ly`



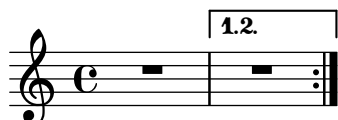
The existence of a text mark does not affect the placement of a multi-measure rest.

`multi-measure-rest-center2.ly`



A multi-measure rest implicitly creates a bottom context. The expected output is a repeated section with one whole-measure rest in the body and one whole-measure rest in one alternative.

`multi-measure-rest-create-context.ly`



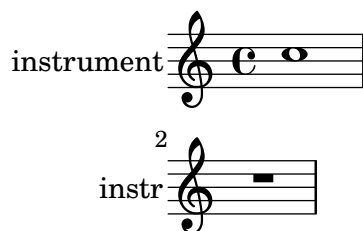
Multi-measure rests are centered also in the case of grace notes.

`multi-measure-rest-grace.ly`



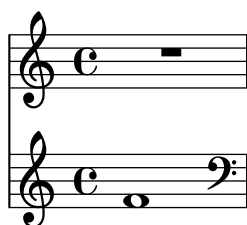
There are both long and short instrument names. Engraving instrument names should not be confused by the multi-measure rests.

`multi-measure-rest-instr-name.ly`



Though the default spacing for multi-measure rests is affected by prefatory matter in other staves, centering can be restored by overriding `spacing-pair`.

`multi-measure-rest-multi-staff-center.ly`



Multi measure rests don't segfault when there is no staff symbol.

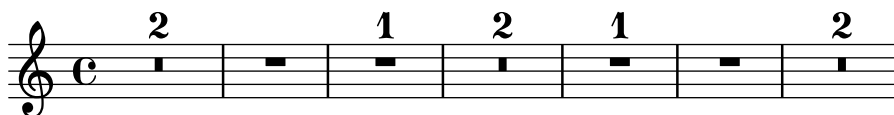
`multi-measure-rest-no-staff.ly`

—

Setting `restNumberThreshold` affects only future multi measure rests. Unsetting it works without crashes.

The rests should be numbered 2, (none), 1, 2, 1, (none), and 2.

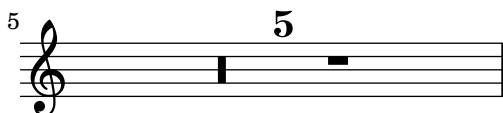
`multi-measure-rest-number-threshold.ly`

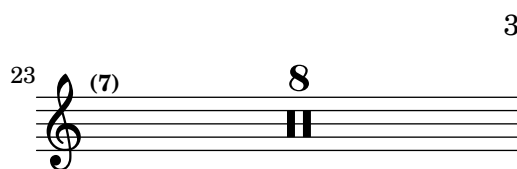
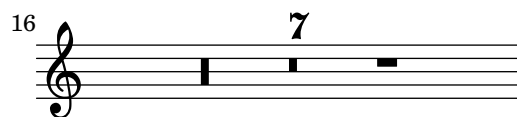
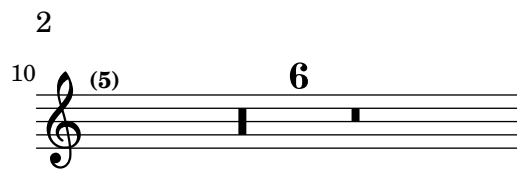


A multi measure rest reminder is a reminder printed at the top of the page, to remember how many measures you were counting.

This is a demo of user-defined engravers, and defining grobs using `ly:make-grob-properties`.

`multi-measure-rest-reminder.ly`

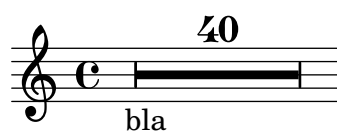




LilyPond v2.25.16

By setting texts starting with a multi-measure rest, an extra spacing column is created. This should not cause problems.

`multi-measure-rest-spacing.ly`



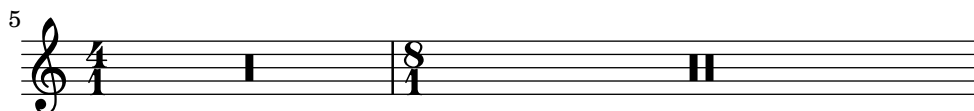
Multi measure rest staff position can be overridden to 0.

`multi-measure-rest-staff-position.ly`



Only whole, breve, longa and maxima rests are used by default for multi-measure rests.

multi-measure-rest-standard.ly



Scripts and texts may be added to the multi-measure rests. This test covers such rests under various spanners. This used to crash (issue #6085).

multi-measure-rest-text-spanned.ly



Scripts and texts may be added to the multi-measure rests.

By setting the appropriate `spacing-procedure`, we can make measures stretch to accommodate wide texts.

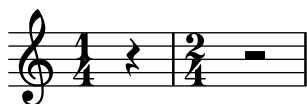
multi-measure-rest-text.ly

The image shows two staves of musical notation. The top staff is in 3/4 time and contains five measures. The first measure has a fermata below it with the text "Ad lib" underneath. The second measure has a lambda symbol above it. The third measure has a "4" above it. The fourth measure has a "3" above it. The fifth measure has "top", "inner", and "10" above it, and "inner" and "bot" below it. The bottom staff starts with the number "17" and contains the text "very very very very very very long text" above it. The staff shows a single note on the second line of the treble clef, followed by a double bar line and a quarter note on the first line.

Multi-measure rests standard values can be tweaked.

`multi-measure-rest-tweaks.ly`

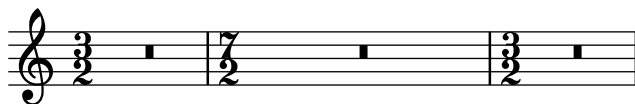
Use non-standard multi-measure rests:



Round up to the longer rest:



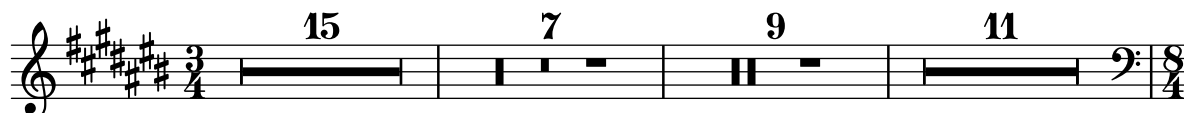
Round up to the longer rest only in specified time signatures:



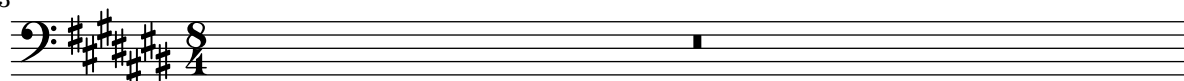
Multi-measure rests do not collide with bar lines and clefs. They are not expanded when you set `Score.skipBars`. Although the multi-measure-rest is a `Spanner`, minimum distances are set to stop it colliding with bar lines.

Rests over measures lasting longer than 2 wholes use breve rests. When more than 10 measures (tunable through `expand-limit`) are used then a different symbol is used.

`multi-measure-rest.ly`



43



Multiple overrides to the default time signature settings can be added. In this example, notes should be beamed as indicated by the markups.

`multiple-time-sig-settings.ly`



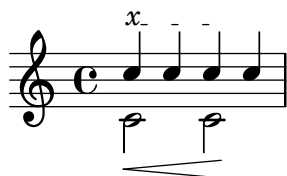
Music functions can be called directly from Scheme.

`music-function-direct-call.ly`



the `endSpanners` music function inserts end span events at the end of a note.

`music-function-end-spanners.ly`



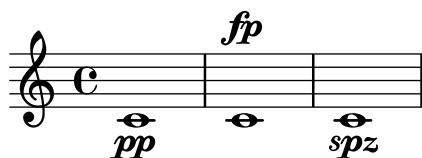
For defining a music function, one can supply one or several music function calls chained together, cutting the last call short using `\etc`. The remaining arguments are supplied when calling the music function defined in this manner.

`music-function-incomplete.ly`



Music functions may be attached to notes; in this case they must be introduced by a direction indicator. If a non-neutral direction is given (i.e. anything else than a dash), then the `'direction` property of the resulting object is set accordingly.

`music-function-post-event.ly`



Music functions accept strings as markup arguments when using the type predicate `markup?`

`music-function-string-markup.ly`



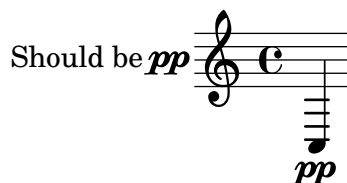
Music functions are generic music transformation functions, which can be used to extend music syntax seamlessly. Here we define and use a `\myBar` function which works like `\bar`.

`music-function.ly`



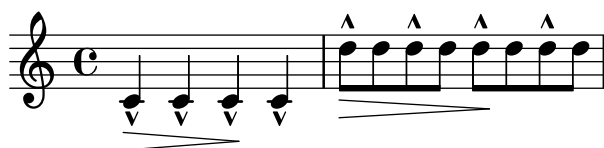
`music-map` also recurses into articulations.

`music-map-articulations.ly`



With `music-map`, you can apply functions operating on a single piece of music to an entire music expression. In this example, the function `notes-to-skip` changes a note to a skip. When applied to an entire music expression in the 1st measure, the scripts and dynamics are left over. These are put onto the 2nd measure.

music-map.ly



Nested fill-lines should work properly. In this example, both occurrences of FOO should be centered.

nested-fill-lines.ly

|FOO|
|FOO|



addlyrics do not need braces around their arguments, in particular if the arguments are variables.

newaddlyrics-music-identifiers.ly



newlyrics, multiple stanzas, multiple lyric voices.

newaddlyrics.ly

**MY FIRST LI - LY SONG,
NOT MUCH CAN GO WRONG!**

no-header.ly

This regtest does not contain any header and paper blocks. Its purpose is to test whether anything breaks if these blocks are absent.

LilyPond does not render zero-duration scores. This test should produce neither MIDI nor visual output.

no-music.ly

The printing of the staff lines may be suppressed by removing the corresponding engraver.

no-staff.ly



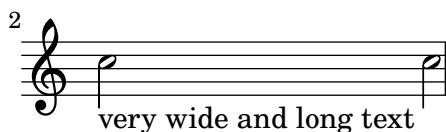
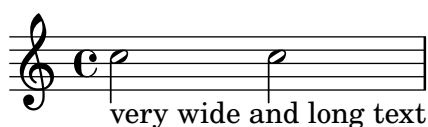
Bar lines are positioned correctly when using custom staves which are not centered around position 0.

non-centered-bar-lines.ly



By default, text is set with empty horizontal dimensions. The property `extra-spacing-width` in TextScript is used to control the horizontal size of text.

non-empty-text.ly



Whether simultaneous notes are identified as vertically colliding or not depends on the value of the `note-collision-threshold` property of the `Stem` grob (for notes in the same voice) and the `NoteCollision` grob (for notes in different voices).

note-collision-threshold.ly

collisions



collisions prevented



Notes can be set in the Aiken (Christian Harmony) style.

note-head-aiken.ly





Note heads are placed on the correct side of the stem; this placement changed is not changed by magic values of layout-set-staff-size. (Fix of issue 5303.)

`note-head-chord-layout-set-staff-size.ly`



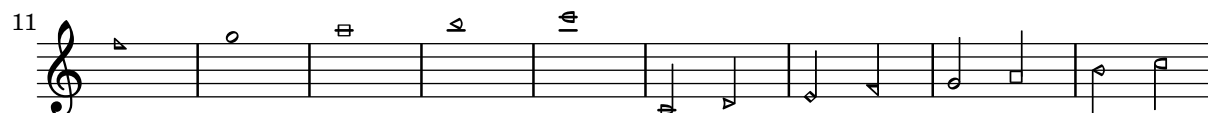
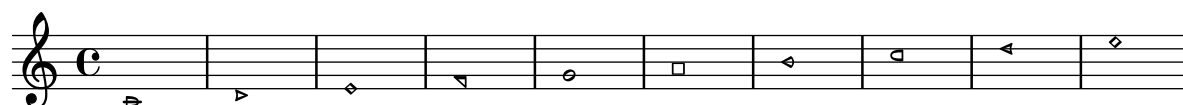
Note heads are flipped on the stem to prevent collisions. It also works for whole heads that have invisible stems.

`note-head-chord.ly`



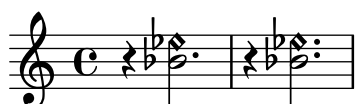
Notes can be set in the Funk (Harmonia Sacra) style.

`note-head-funk.ly`



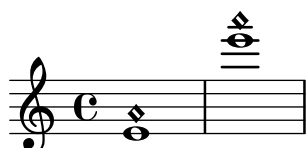
Dots on harmonic note heads can be shown by setting the property `harmonicDots`.

`note-head-harmonic-dotted.ly`



A harmonic note head must be centered if the base note is a whole note.

`note-head-harmonic-whole.ly`



The handling of stems for harmonic notes must be completely identical to normal note heads.

Harmonic heads do not get dots. If `harmonicAccidentals` is unset, they also don't get accidentals.

`note-head-harmonic.ly`



Notes can be set in the Sacred Harp style.

`note-head-sacred-harp.ly`



Shape notes can be set to work properly in minor keys.

`note-head-shape-minor.ly`



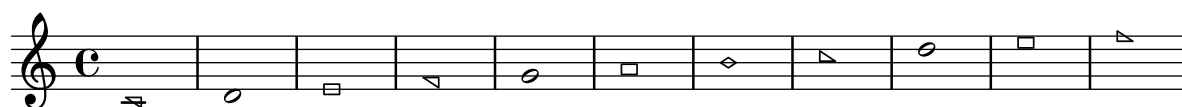
With `shapeNoteStyles`, the style of the note head is adjusted according to the step of the scale, as measured relative to the tonic property.

`note-head-solfa.ly`



Notes can be set in the Southern Harmony style.

`note-head-southern-harmony.ly`





Note head shapes may be set from several choices. The stem endings should be adjusted according to the note head. If you want different note head styles on one stem, you must create a special context.

Harmonic notes have a different shape and different dimensions.

`note-head-style.ly`

	default	altdefault
9	baroque	neomensural
17	mensural	petrucci
25	harmonic	harmonic-black
33	harmonic-mixed	diamond
41	cross	xcircle
49	triangle	slash
57	kievan	

Notes can be set in the Walker (Christian Harmony) style.

`note-head-walker.ly`

Note head lines (e.g. glissando) run between centers of the note heads.

`note-line.ly`

Note names may be printed in various languages, with or without accidentals and octave marks.

`note-name-context-custom.ly`

(ref.) la sib do# reb+fa+labb mid
 la sibb do# reb+fa+labb mid

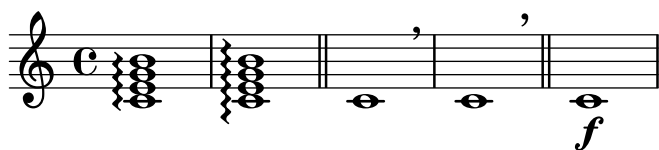
(ref.) do' ré# mi' la₅
 do' ré# mi' la₅

NoteNames context should be close to the related notes, and should not collide with the tempo markings.

`note-names-context.ly`

The `\offset` command may be used to displace various properties from the default settings contained in grob descriptions. Settings which may be offset are limited to those of type **number**, **number-pair**, or **number-pair-list**. Most of the following examples begin with the grob in its default appearance. The command is demonstrated as a tweak and as an override.

offsets.ly



heavily mutilated Edition Peters Morgenlied by Schubert

one-line-auto-height-breaking.ly

Lieblich, etwas geschwind

1. Sü - ßes Licht! Aus gol -
2. いろはに ㄱ ㄱ ta ta ほへと

2.

heavily mutilated Edition Peters Morgenlied by Schubert

Lieblich, etwas geschwind

1. Sü - ßes Licht! Aus gol -
2. いろはに ipp ta ta ほへと

2.

heavily mutilated Edition Peters Morgenlied by Schubert

LilyPond demo

Lieblich, etwas geschwind

2.

2

1. Sü - ßes
2. いろはに ちか

3

Licht! Aus gol - denen Pfor - ten brichst du -
та та ほへどちり ぬるを Жъл дю ля

5

siegend durch - die Nacht. Schöner
いろはに ちか та та ほへ

cresc.

7

Tag, du - bist er - wacht.
ちり ぬる Жъл дю ля

`OneStaff` contexts can be used for letting several contexts use the same vertical position. This example shows chords being placed in a staff and immediately following it.

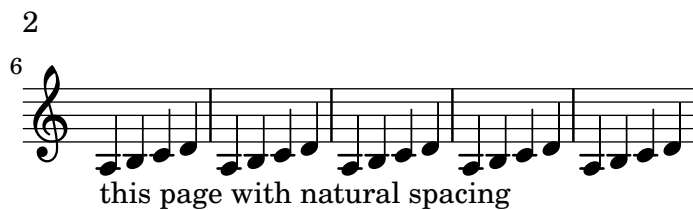
`one-staff.ly`



The optimal page breaker will make trade-offs between horizontal and vertical stretching so that the overall spacing will be more acceptable. The `page-spacing-weight` parameter controls the relative importance of vertical/horizontal spacing. Because `ragged-last-bottom` is on, there is no penalty for odd vertical spacing on the final page. As a result, only the first page should be horizontally stretched.

`optimal-page-breaking-hstretch.ly`





LilyPond v2.25.16

Test functionality of the `-danti-alias-factor` command-line option. Affects PNG output only.

`option-anti-alias-factor.ly`



Test functionality of the `-dpng-width` and `-dpng-height` command-line options. Affects PNG output only.

`option-png-width-height.ly`



Test backup of predicate-based optional music function arguments.

Unit expressions like `3\cm` can't be parsed as optional arguments in one go since they would require lookahead after `3`. The predicate is checked after `3`, and if it is suitable, Lilypond commits to parsing as a unit number, and checks the result again. For the predicate `integer?` and `3\cm`, you would actually get a syntax error (since the combination is no longer an integer) rather than Lilypond trying to see `3\cm` as two separate arguments.

`optional-args-backup.ly`

Test predicate-based optional music function argument skipping.

`optional-args-predicate.ly`

Test optional music function arguments. The output is nonsensical, but if you wrack your brain, you'll figure it out. Remember that optional arguments are matched left to right, and after the first non-match, the rest is skipped.

`optional-args.ly`



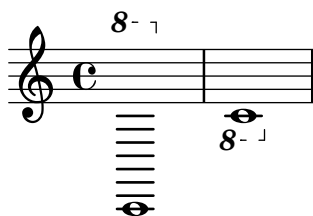
At line breaks, ottava brackets have no vertical line and their horizontal line does not stick out. The dashed line runs until the end of the line (regardless of prefatory matter).

`ottava-broken.ly`



Consecutive ottavas with the same label are not incorrectly merged.

`ottava-consecutive.ly`



Both edge heights of an ottava bracket can be specified.

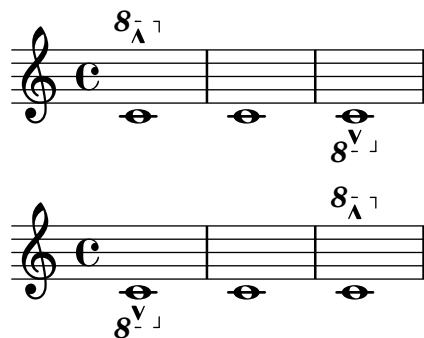
`ottava-edge.ly`



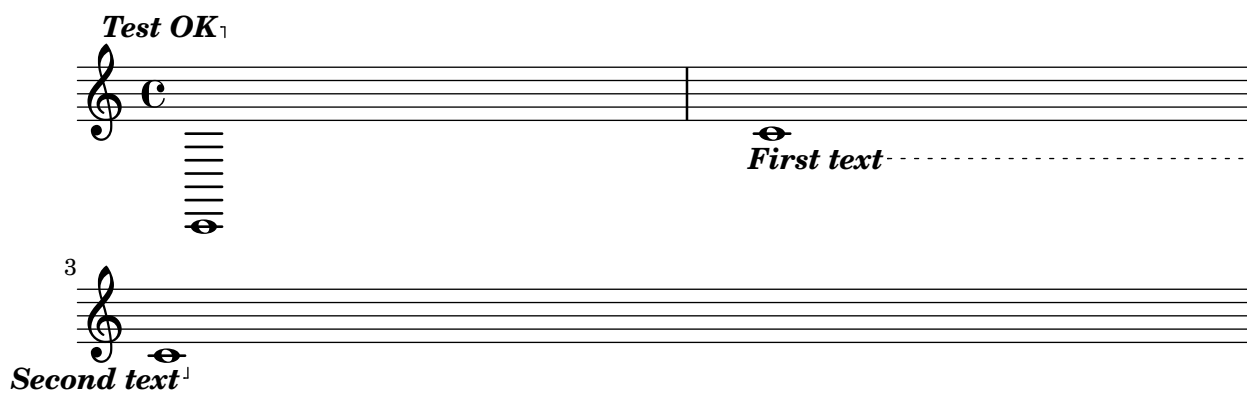
User tweaks to `OttavaBracket.direction` are honored in all cases.

In this test, marcato marks show the expected placement.

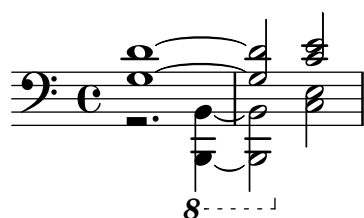
`ottava-explicit-direction.ly`



The text property of an OttavaBracket grob may be overridden.
`ottava-explicit-text.ly`



Ottava brackets can be made to apply to a single voice by moving the `Ottava_spanner_` engraver to `Voice` context.
`ottava-per-voice.ly`



Ottava brackets are supported, through the use of the music function `\ottava`.
 The spanner should go below a staff for `8va bassa`, and the ottavation markup can be tuned with `Staff.ottavation`.
`ottava.ly`



LilyPond should warn about missing ottavation markups only if there is a list of ottavation markups defined. This is not the case for MIDI performers, so do not output a warning.

ottavation-markups-midi.ly

Ottavation markups can be changed by the user. LilyPond warns about missing markups (in this example for +3 and -3 octaves).

ottavation-markups.ly



Shows the output-attributes property of a grob being set. This should have no effect in the Postscript backend. In the SVG backend these settings should produce this group tag: `<g id="123" class="foo" data-whatever="bar"> ... </g>`

output-attributes.ly



The outside-staff-placement-directive adjusts the order in which objects are placed outside the staff.

outside-staff-placement-directive.ly

left-to-right-polite

White E, Green U, voyels: "Voyels"
Black A, Red I, Blue O: Rimbaud,



left-to-right-greedy

Red I, "Voyels"
White E, Blue O: Rimbaud,
Black A, Green U, voyels:



right-to-left-polite

voyels:
White E, Green U, Rimbaud,
Black A, Red I, Blue O: "Voyels"



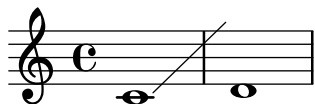
right-to-left-greedy

White E, Green U,
Black A, Red I, Blue O: Rimbaud,
voyels: "Voyels"



A sublist of grob property lists may be overridden within a callback. This test uses a custom stencil callback which changes the Y coordinate of the right bound of the glissando spanner.

override-nest-scheme.ly



Sublist of grob property lists may be also tuned. In the next example, the `beamed-lengths` property of the `Stem` grob is tweaked.

override-nest.ly



Page breaks work when they are placed at the end of a score, or between scores.

page-break-between-scores.ly



3



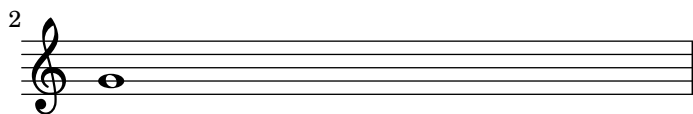
LilyPond v2.25.16

Page breaking and page turning commands (`\pageBreak`, `\noPageBreak`, etc), can be used at top level.

`page-break-turn-toplevel.ly`

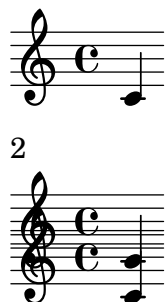
2
`\allowPageTurn`

2
`\pageBreak \noPageTurn`



Page breaks are allowed by default at the end of the score, but the user can override them. There should be one line on the first page and two (colliding) lines on the second page.

page-breaking-end-of-score.ly



LilyPond v2.25.16

The page breaking algorithm can handle clefs combined with lyrics. That is, the Y-extent approximations are a little more accurate than just using bounding boxes. In particular, everything should fit on one page here.

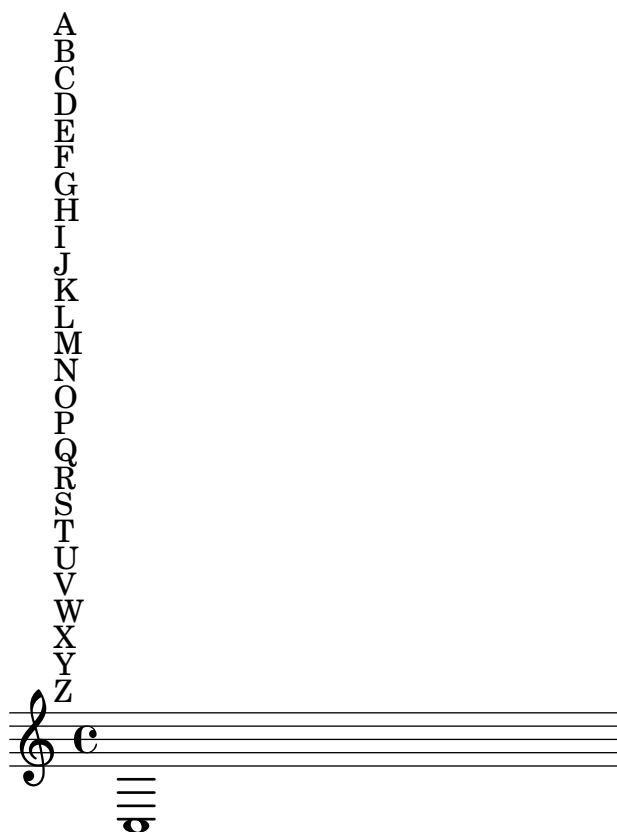
page-breaking-good-estimation.ly



LilyPond v2.25.16

The height of marks is taken into account during page breaking.

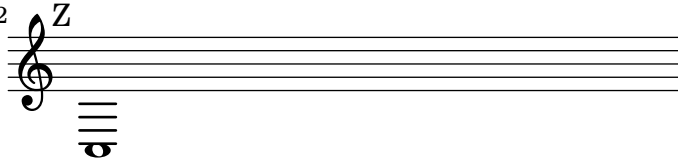
page-breaking-marks.ly



2

A
B
C
D
E
F
G
H
I
J
K
L
L
M
N
O
P
P
Q
R
R
S
S
T
U
V
V
W
X
Y
Z

2



The image shows a musical staff with a treble clef on the left. A long horizontal line extends from the staff to the right. Below the staff, there is a bass clef. The number '2' is positioned above the staff on the left, and another '2' is positioned above the first few letters of the vertical text.

LilyPond v2.25.16

Padding between markups is honored by the page breaker. This should take up two pages.

page-breaking-markup-padding.ly

2

01



LilyPond v2.25.16

Padding between a markup and a system is honored by the page breaker. This should take up two pages.

`page-breaking-markup-padding2.ly`

00

01

2

**LilyPond v2.25.16**

Padding between a score and a markup is honored by the page breaker. This should take up two pages.

page-breaking-markup-padding3.ly

00
01



2

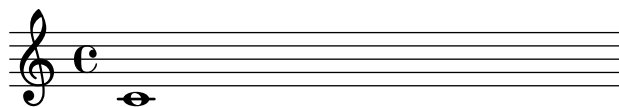
02

LilyPond v2.25.16

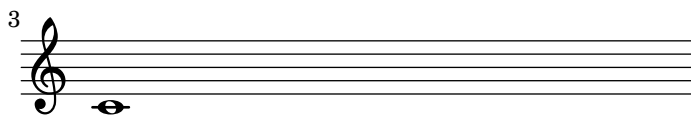
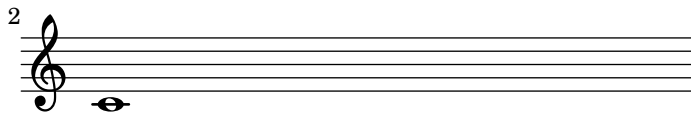
The `max-systems-per-page` variable prevents more than a given number of systems from being on a page. Titles are not counted as systems. `\noPageBreak` can override `max-systems-per-page` in unusual situations.

```
page-breaking-max-systems-per-page.ly
```

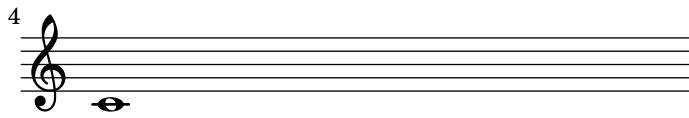
Title



2



3



LilyPond v2.25.16

minimum-distance is correctly accounted for in page breaking.

page-breaking-min-distance.ly

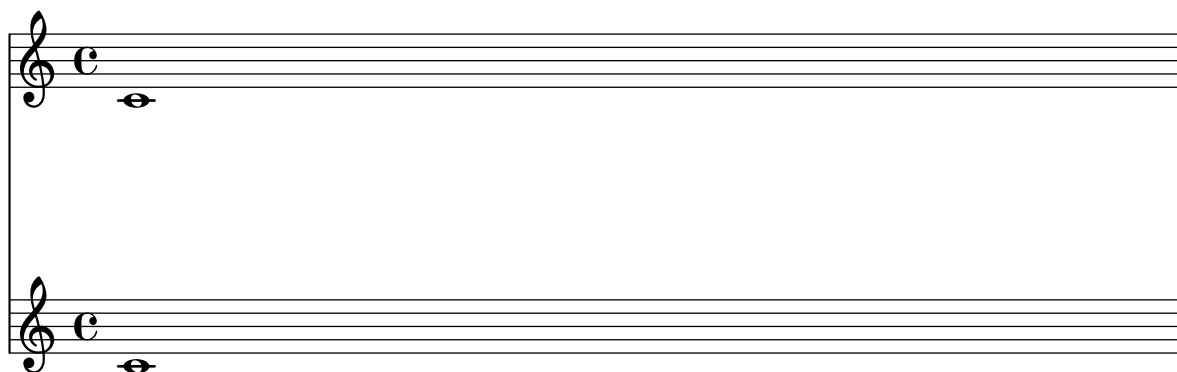




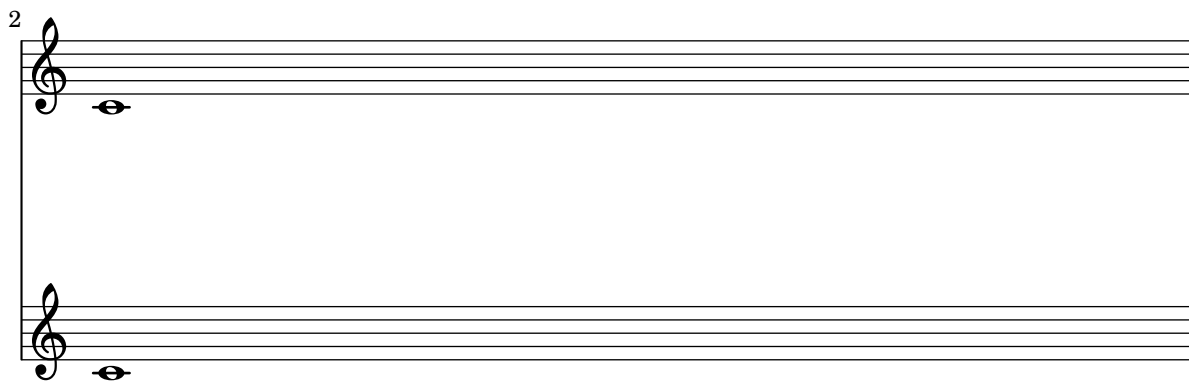
LilyPond v2.25.16

minimum-distance within a system is correctly accounted for in page breaking.

page-breaking-min-distance2.ly



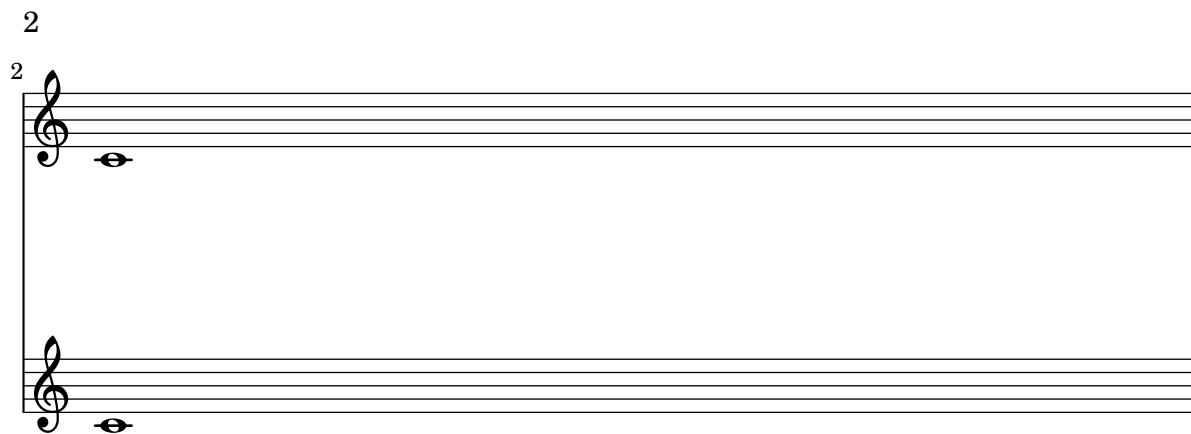
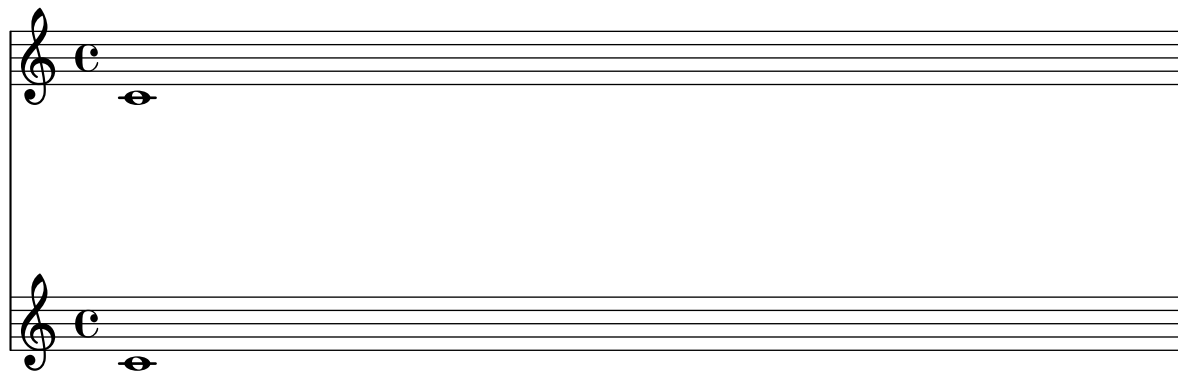
2



LilyPond v2.25.16

minimum-distance within a system is correctly accounted for in page breaking.

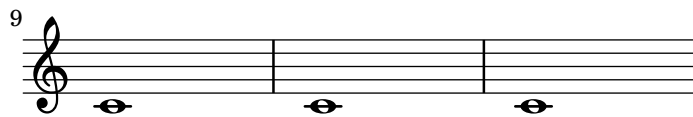
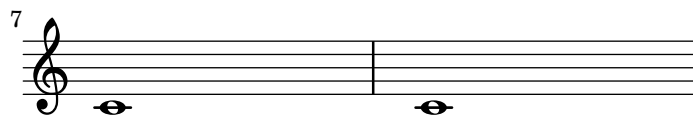
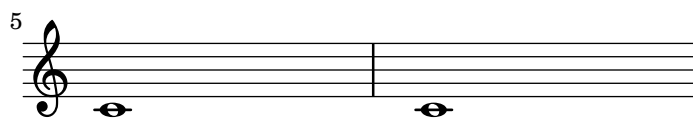
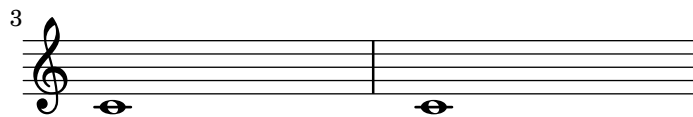
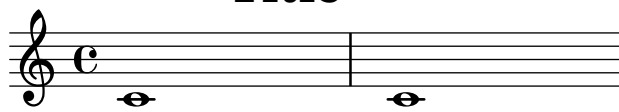
page-breaking-min-distance3.ly

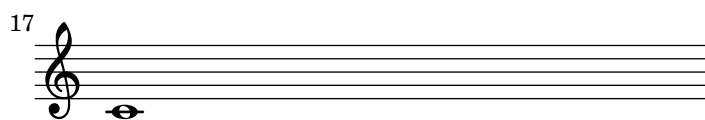
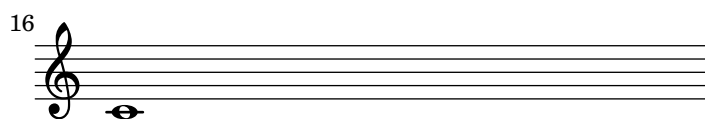
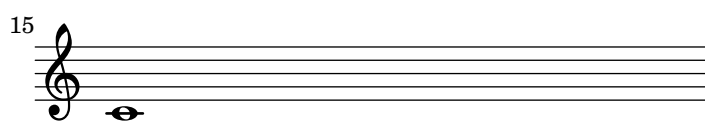
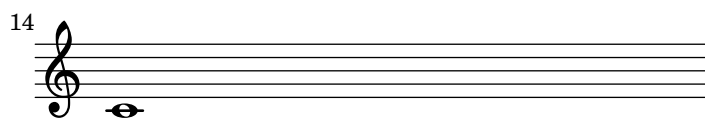


LilyPond v2.25.16

The min-systems-per-page variable forces each page to have a minimum number of systems. Titles do not count as systems here.

Title





LilyPond v2.25.16

The min-systems-per-page variable takes precedence over the desire not to overfill a page. In this case, systems will overlap because they are forced to be on the page.

2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

LilyPond v2.25.16

The height-estimation routine takes into account the fact that the TextScript needs to be moved up to avoid the note. This should be spaced on two pages.

The image displays five musical staves, each with a treble clef and a common time signature (C). Each staff contains a single note on the first line (F4). Above each note, the word "Text" is written, followed by a vertical stack of three horizontal lines. The vertical position of the "Text" and lines is offset from the staff line by a factor of 2, 3, 4, and 5 respectively for the first four staves. The fifth staff has a "2" above the staff and a "5" below the staff, indicating a different offset.

LilyPond v2.25.16

The height-estimation routine doesn't get confused by multiple outside-staff grobs in the same measure.

page-breaking-outside-staff-estimation2.ly

The image shows a musical score with four staves. Each staff begins with a treble clef and a common time signature 'C'. Each staff contains four notes, each with the word 'Text' written above it. The notes are positioned on the first four lines of the staff. The staves are numbered 1, 2, 3, and 4 on the left side.

LilyPond v2.25.16

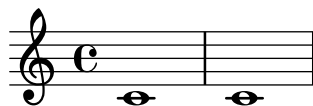
A warning is emitted when `page-count` is negative or zero.

`page-breaking-page-count-positive.ly`



The number of pages in a score can be forced by setting `page-count` in the (book-level) paper block.

`page-breaking-page-count1.ly`

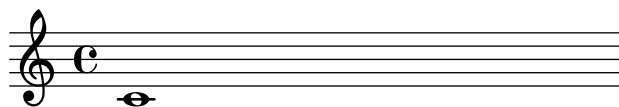


2

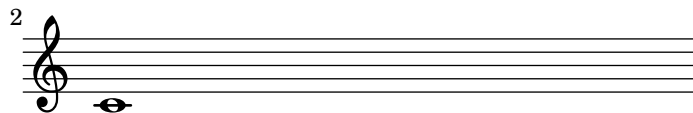
LilyPond v2.25.16

The number of pages in a score can be forced by setting `page-count` in the (book-level) paper block. If there are too few systems for the number of pages, we append blank pages.

`page-breaking-page-count2.ly`



2



3

LilyPond v2.25.16

The number of pages in a score can be forced by setting `page-count` in the (book-level) paper block. Even if there are too many systems for that number of pages, we will squeeze them in.

`page-breaking-page-count3.ly`

The image shows a musical score consisting of ten systems. Each system begins with a treble clef and a common time signature 'C'. A single note is placed on the second line of the staff in each system. The systems are numbered 2 through 10 on the left side. The first system is partially visible at the top of the page.

LilyPond v2.25.16

system-count and \pageBreak are compatible.

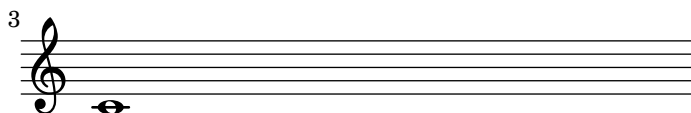
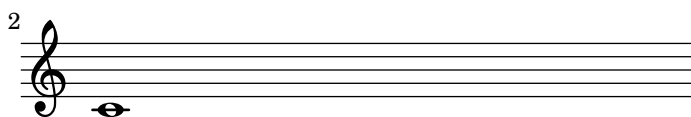
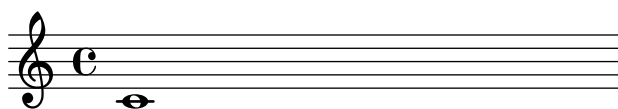
page-breaking-system-count-forced-break.ly

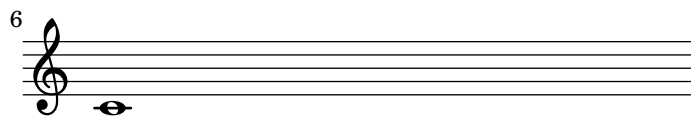
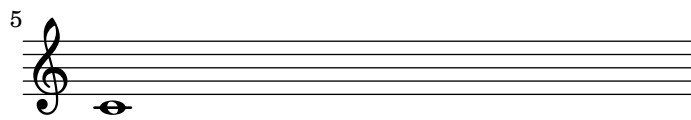
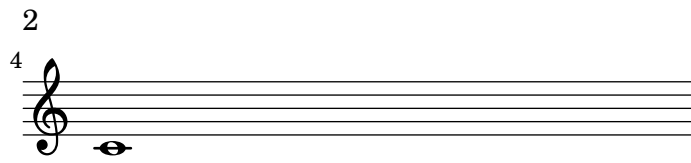


The systems-per-page variable forces a certain number of systems per page. Titles are not counted as systems.

page-breaking-systems-per-page.ly

Title





LilyPond v2.25.16

Stress optimal page breaking. This should look nice and even on 4 a6 pages.

Title
(and (the) subtitle)
Sub sub title

Poet	Instrument	Composer
Meter (huh?)		Arranger
Piece		opus 0

2

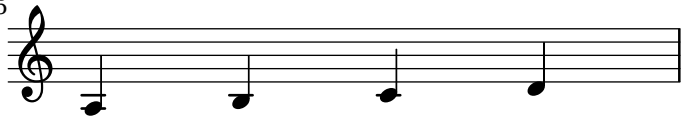
3

4


Copyright by /me

2 Instrument


5



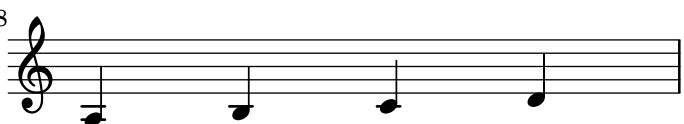
6



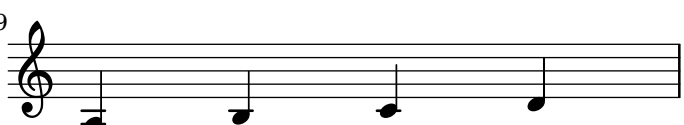
7



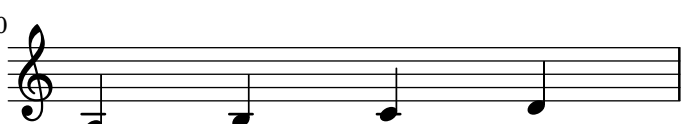
8



9




10




Detailed description: The image shows six musical staves, numbered 5 through 10. Each staff begins with a treble clef and contains four quarter notes. The notes on each staff are G4, F4, E4, and D4, forming a descending scale. The staves are arranged vertically, with staff 5 at the top and staff 10 at the bottom. Above the first staff, there is a double-line horizontal bar with the number '2' on the left and the word 'Instrument' in the center. Below the sixth staff, there is another double-line horizontal bar.

Instrument 3


11




12




13



14



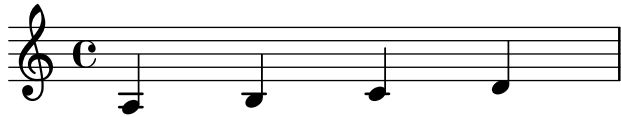
15




Music engraving by LilyPond 2.25.16 4
www.lilypond.org

Page-headers and -footers. All headers and footers should be printed on their specified page.


first-page-header-text




2




3




4



5




6




first-page-footer-text

2
page-2-header-text

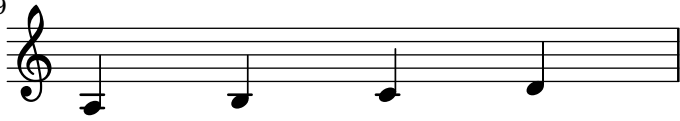
7



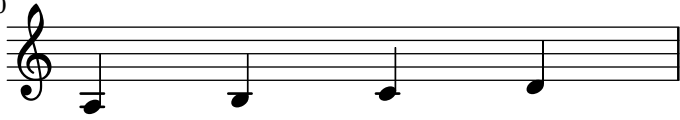
8



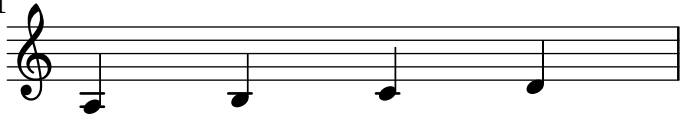
9




10



11



12



page-2-footer-text

3
last-page-header-text

13



14



15



16



17



18



last-page-footer-text

Page labels on loose columns are not ignored: this includes both mid-line unbreakable columns which only contain labels and columns with empty bar lines (and no other break-aligned grobs).

Table of Contents

Mid-line	1
Empty bar line	1



LilyPond v2.25.16

Page labels may be placed inside music or at top-level, and referred to in markups. Labels created with `\tocItem` (and thus bearing an internally-generated unique identifying symbol) remain referable by their user-specified name.

`page-label.ly`

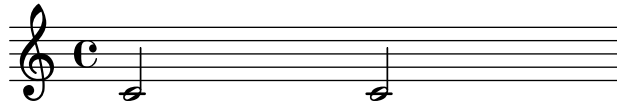
Title Page

2

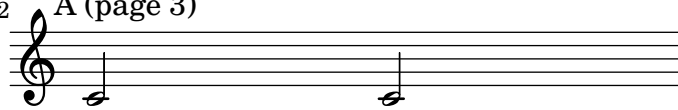
Table of contents	2
First Score	3
Mark A	3
Mark B	4
Mark C	4
Unknown label	?

3

First score



2 A (page 3)

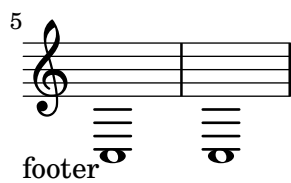
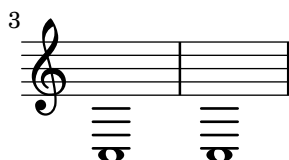
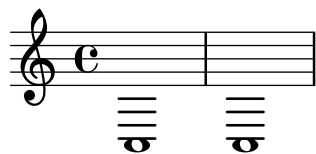




LilyPond v2.25.16

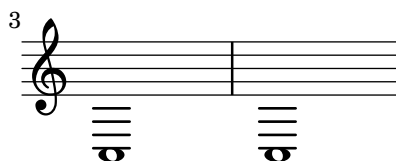
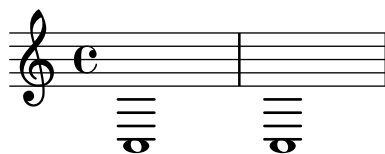
By setting `extra-offset` within the `line-break-system-details` of `NonMusicalPaperColumn`, systems may be moved in relation either to their default position on the printable area of the page or the absolute position specified by `X-offset` or `Y-offset` within `line-break-system-details`.

header



footer

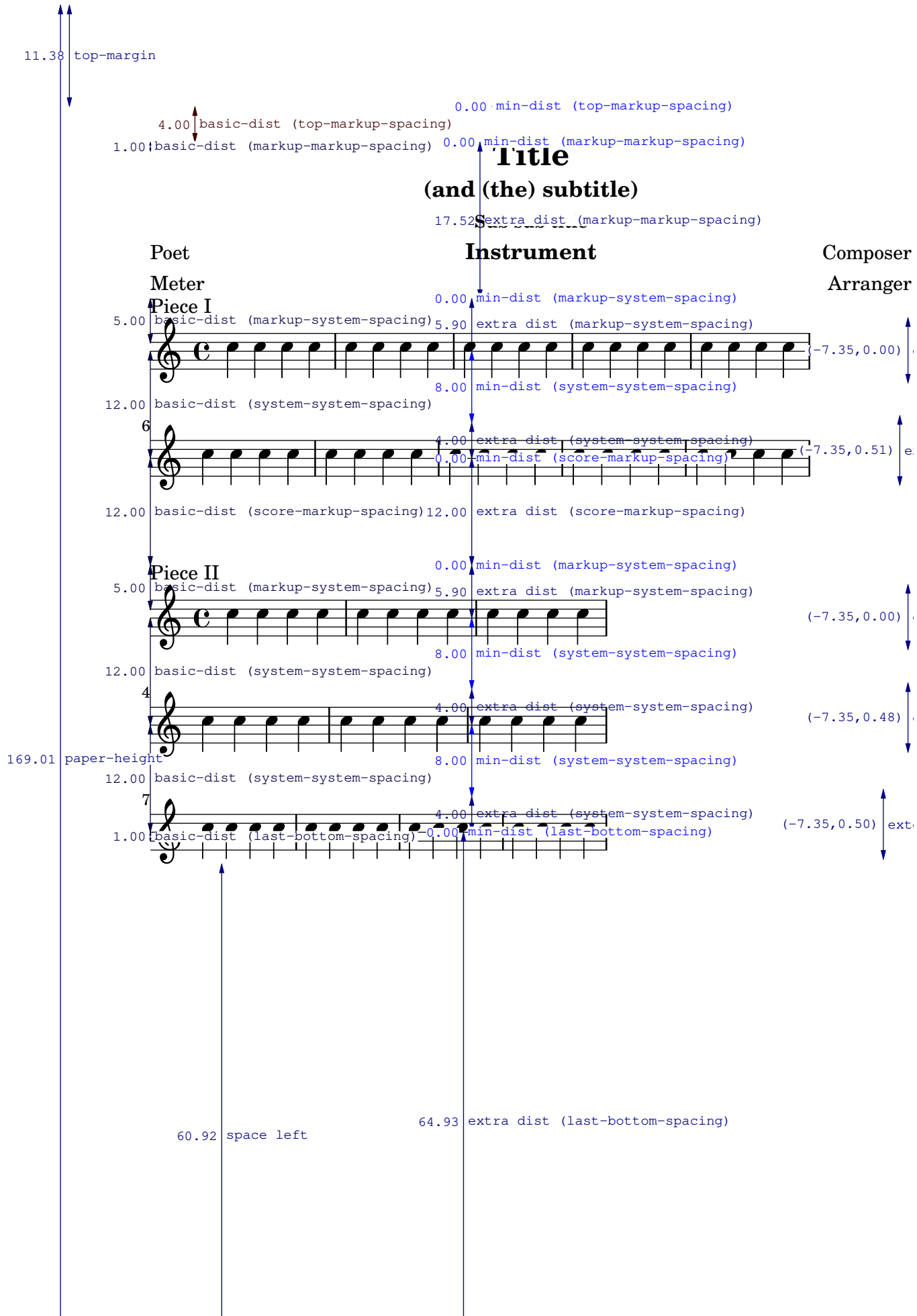
By setting Y-offset and X-offset for the line-break-system-details of NonMusicalPaperColumn, systems may be placed absolutely on the printable area of the page.



this is the tagline

This shows how different settings on `\paper` modify the general page layout. Basically `\paper` will set the values for the whole paper while `\layout` for each `\score` block.

This file is best viewed outside the collated files document.



Links to labels should not break if the label doesn't exist.

Link to non-existing label

Links to labels and explicit page number (PDF backend only).

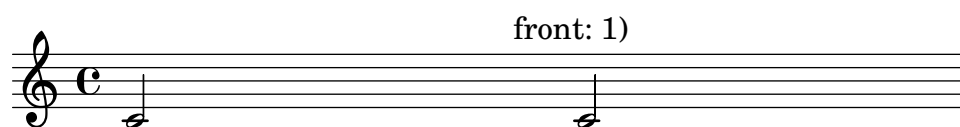
`page-links.ly`

Link to page 2 with label #second.

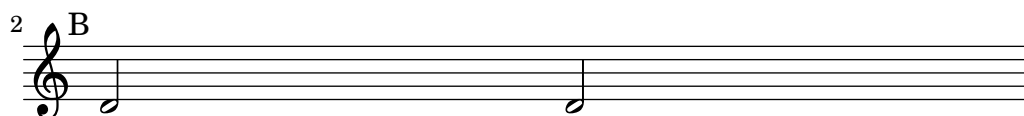
Explicit link to page 3

Link to mark B

2



3



LilyPond v2.25.16

Minimal page breaker: special case when the last system is moved to an other page when there is not enough space because of the tagline.

`page-minimal-page-breaking-last-page.ly`

Text

Text

2

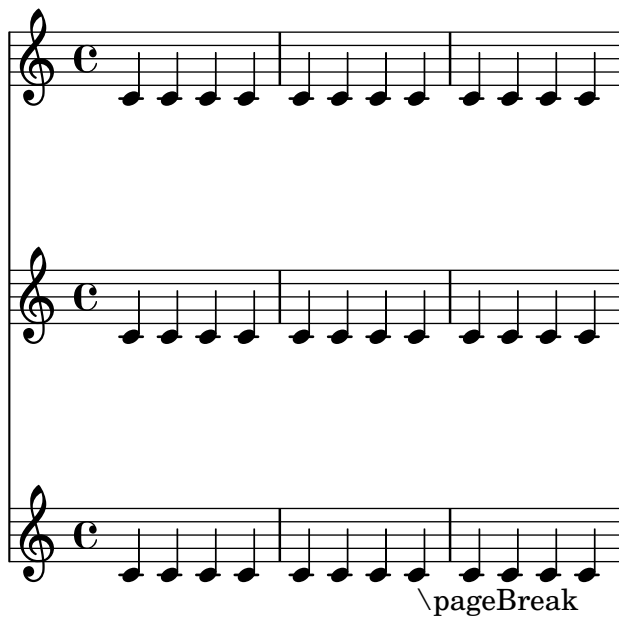
Text

Text

Tagline

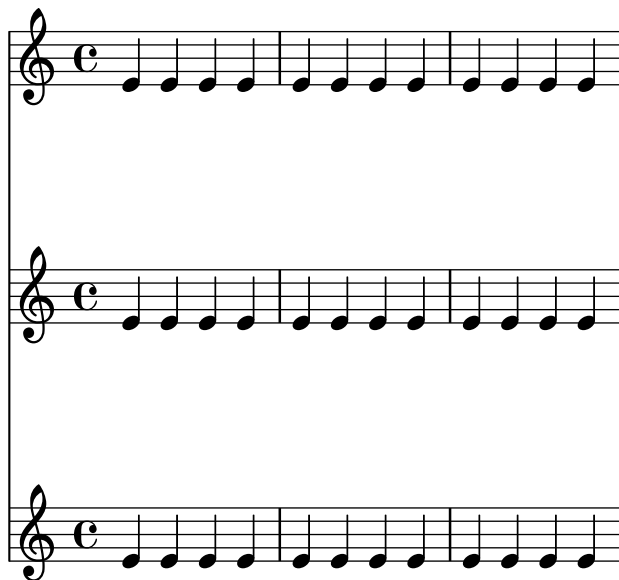
The minimal page breaker stacks as many lines on pages, only accounting for manual page break commands.

page-minimal-page-breaking.ly




A musical score consisting of three staves of music in common time (C). Each staff contains a sequence of quarter notes. The first two staves are fully visible. The third staff is partially cut off at the bottom of the page. The command `\pageBreak` is located at the bottom right of the page, below the third staff.

2



A musical score consisting of three staves of music in common time (C). Each staff contains a sequence of quarter notes. The first two staves are fully visible. The third staff is partially cut off at the bottom of the page.

4 3



\noPageBreak

Detailed description: A musical score consisting of three staves. The first staff begins with a treble clef and a common time signature. The music consists of a sequence of quarter notes. The number '4' is positioned to the left of the first staff, and the number '3' is positioned to the right of the third staff. Below the third staff, the text '\noPageBreak' is written.



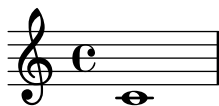
Detailed description: A musical score consisting of three staves. Each staff begins with a treble clef and a common time signature. The music consists of a sequence of quarter notes.

LilyPond v2.25.16

Test the different options for page number formatting.

page-number-type.ly

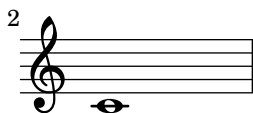
i



Detailed description: A single musical staff with a treble clef and a common time signature. A single quarter note is written on the staff.

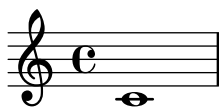
ii

2



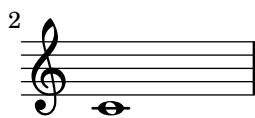
Detailed description: A single musical staff with a treble clef and a common time signature. A single quarter note is written on the staff. The number '2' is positioned to the left of the staff.

I



Detailed description: A single musical staff with a treble clef and a common time signature. A single quarter note is written on the staff.

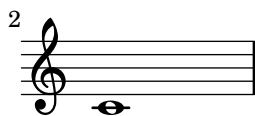
II



1



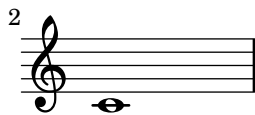
2



j



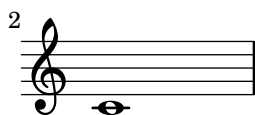
ij



J



IJ



LilyPond v2.25.16

Layouts that overflow a page will be compressed in order to fit on the page, even if it causes collisions. In this example, the tagline should not collide with the bottom staff.

page-overflow-compression.ly

The image shows three staves of music in treble clef with a common time signature 'c'. Each staff begins with a bass figure consisting of a note on the first line (F4) with three lines below it. The first staff has a 'Long Text' label above the second measure. The second staff has a '3' to its left and a 'Long Text' label above the second measure. The third staff has a '5' to its left and a 'Long Text' label above the second measure. A vertical bar line is present at the end of the first measure on each staff.

LilyPond v2.25.16

alignment-distances applies to the toplevel `VerticalAlignment` but not to `BassFigureAlignment`. The 4 in the bass figure line should be directly below the 6.

page-spacing-bass-figures.ly

The image shows two staves of music in treble clef with a common time signature 'c'. Each staff begins with a bass figure consisting of a note on the first line (F4) with three lines below it. The second staff has a '6' above the bass figure and a '4' below it, indicating a 6/4 time signature.

The spring at the bottom of a page is fairly flexible (much more so than the one at the top), so it does not drag the staff to the bottom of the page. However, it is sufficiently stiff to cause stretching.

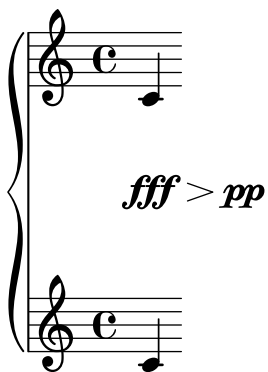
page-spacing-bottom-spring.ly



LilyPond v2.25.16

Dynamic centering still works with alignment-distances.

page-spacing-dynamics.ly



Adjacent lines of markup are placed as closely together as possible.

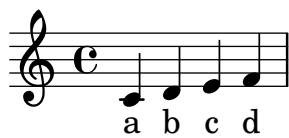
page-spacing-markups.ly

A
B
C
D
E

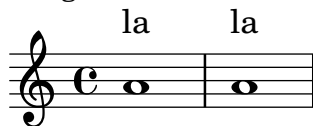
LilyPond v2.25.16

Having markup after a non-staff line doesn't confuse the page layout engine.

page-spacing-nonstaff-lines-and-markup.ly

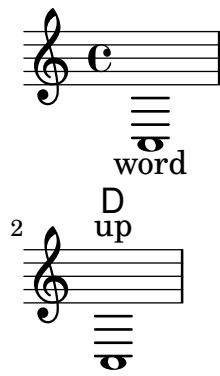


next song



LilyPond v2.25.16

The vertical spacing engine is not confused by a non-staff line below a system followed by a loose line above the next system. Systems are spaced far enough that loose lines are not interleaved, even if gaps would allow interleaving.



Non-staff lines between two systems don't confuse the layout engine. In particular, they don't interfere with `system-system-spacing`, which controls the flexible spacing between the two closest staves of consecutive systems.

`page-spacing-nonstaff-lines-between.ly`

My first Li-ly song,
Not much can go wrong!

The image shows a single musical staff in treble clef with a common time signature (C). The melody consists of five notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note G4 with a flat, and a quarter note F4. The lyrics are placed below the staff.

My first Li-ly song,
Not much can go wrong!

The image shows a musical staff in treble clef with a common time signature (C). The melody is identical to the previous example. A non-staff line, consisting of three small 'f' characters, is placed below the staff. The lyrics are placed below the non-staff line.

A non-staff line (such as Lyrics) at the bottom of a system gets spaced appropriately.

`page-spacing-nonstaff-lines-bottom.ly`

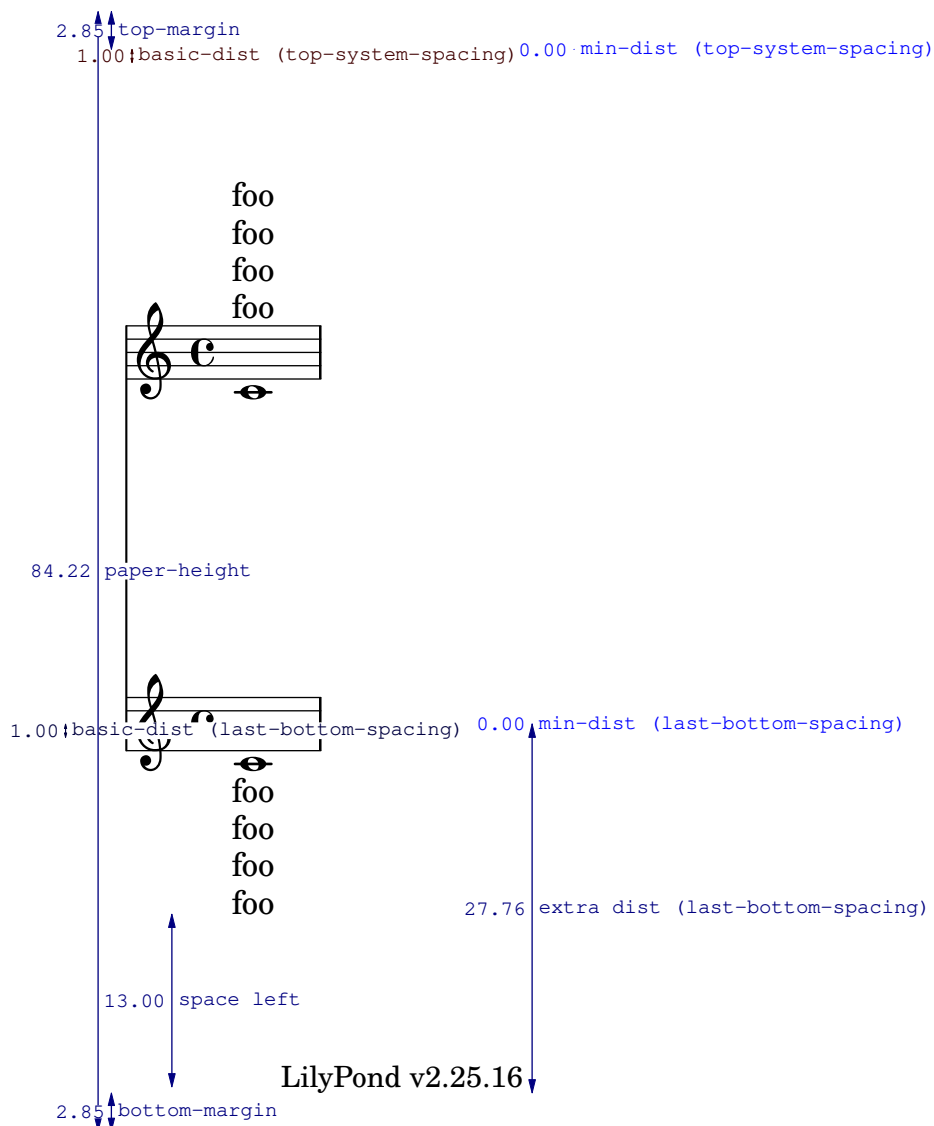
My first Li-ly song,

The image shows a single musical staff in treble clef with a common time signature (C). The melody consists of five notes: a quarter note G4, a quarter note A4, a quarter note B4, a quarter note G4 with a flat, and a quarter note F4. The lyrics are placed below the staff.

Not much can go wrong!

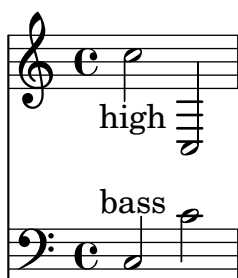
Padding from the header and footer is measured to the first non-staff line, whether or not it is spaceable.

`page-spacing-nonstaff-lines-header-padding.ly`



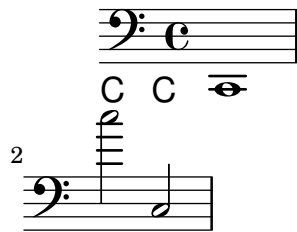
Spacing rules between Staves coexist with rules affecting non-staff lines. Here, the padding separating items on different staves is larger than the padding for associated lyrics.

page-spacing-nonstaff-lines-independent.ly



Relative indentation between systems is taken into account in allowing space for loose lines between systems.

page-spacing-nonstaff-lines-skylines.ly



A non-staff line (such as Lyrics) at the top of a system is spaced appropriately.

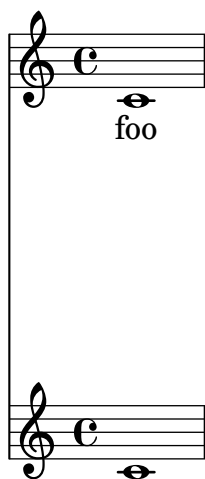
page-spacing-nonstaff-lines-top.ly

My first Li-ly song,



Non-staff lines (such as Lyrics) can specify their `padding` or `minimum-distance` to the staff for which they don't have affinity.

page-spacing-nonstaff-lines-unrelated.ly

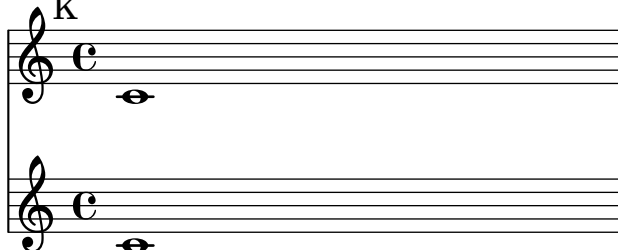


The space taken up by rehearsal marks is correctly accounted for, even though they live in the Score context.

page-spacing-rehearsal-mark.ly

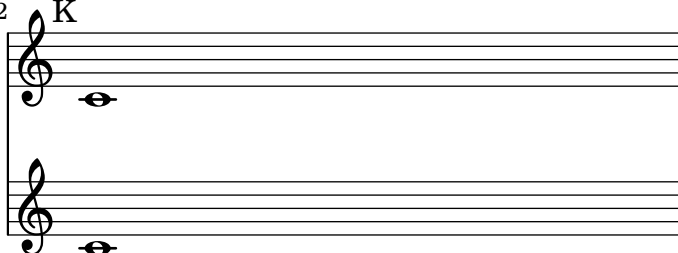
header

T
A
L
L
M
A
R
K



T
A
L
L
M
A
R
K

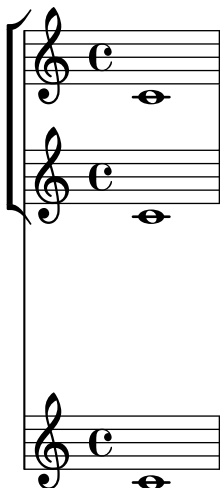
2

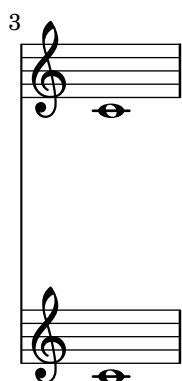
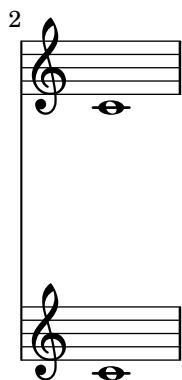


LilyPond v2.25.16

StaffGrouper interacts correctly with `\RemoveEmptyStaves`. In both systems, there should be a large space between the staff groups.

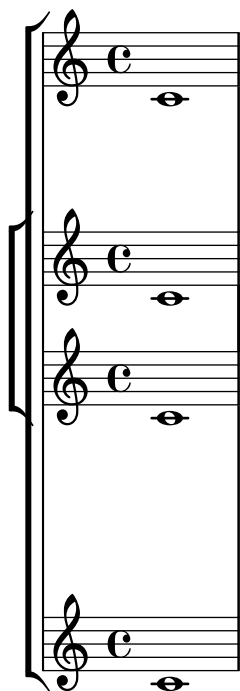
page-spacing-staff-group-hara-kiri.ly





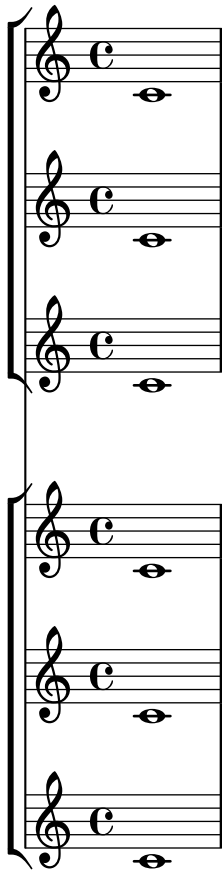
StaffGroups can be nested, in which case the inner StaffGroup wins.

`page-spacing-staff-group-nested.ly`



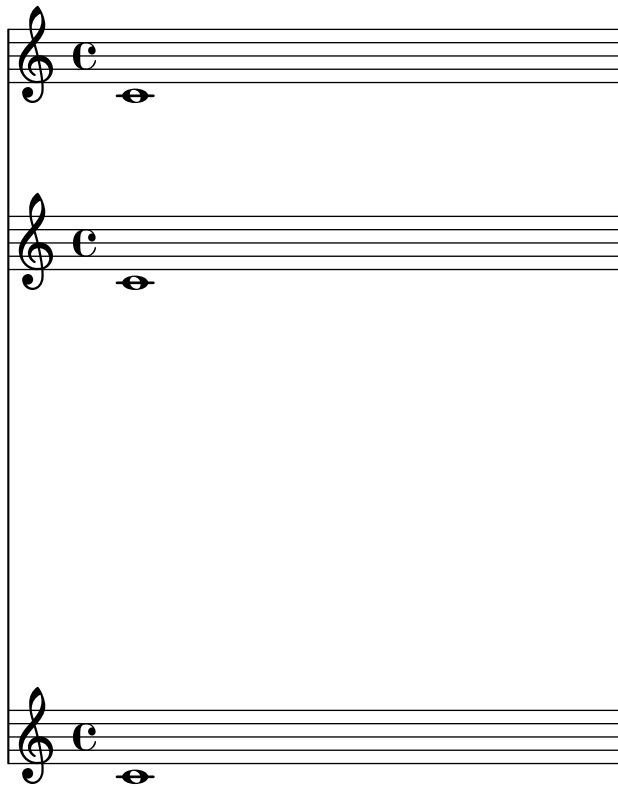
By default, the staves within a StaffGroup are spaced more closely than staves not in a StaffGroup.

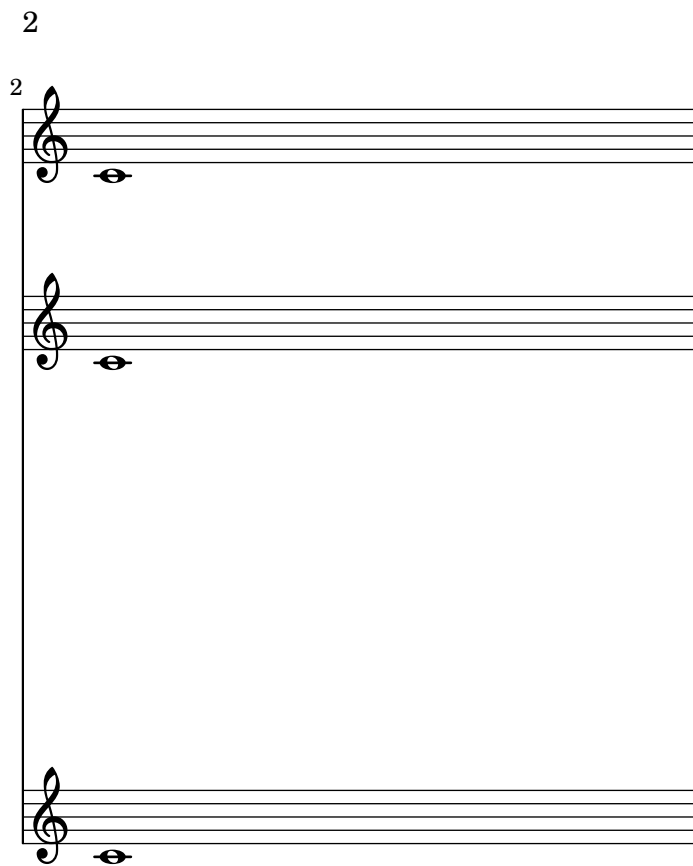
`page-spacing-staff-group.ly`



LilyPond v2.25.16

The stretchability property affects the amount that staves will move under extreme stretching, but it does not affect the default distance between staves.





LilyPond v2.25.16

Page breaking doesn't crash when the line-breaking is invalid.

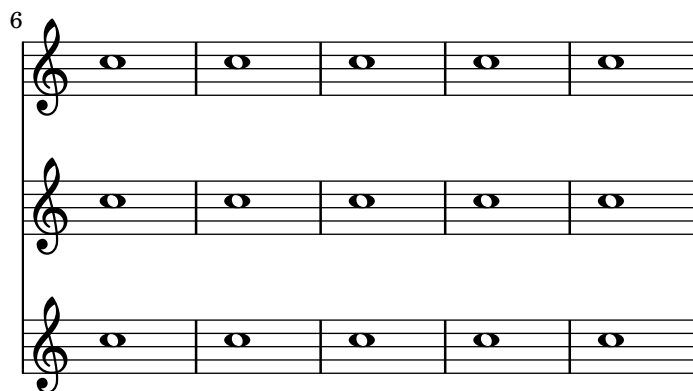
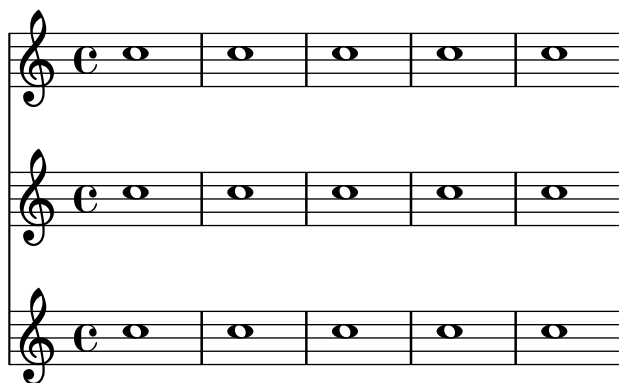
page-spacing-system-count-overfull.ly



LilyPond v2.25.16

Page layout and stretching work with system-count enabled.

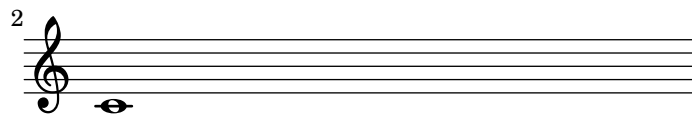
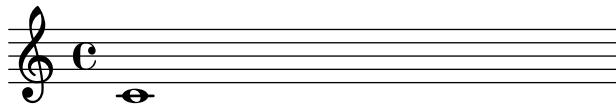
page-spacing-system-count.ly



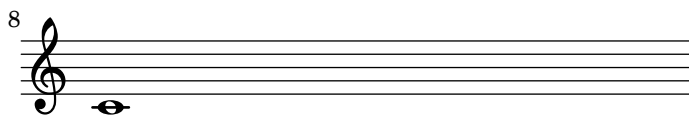
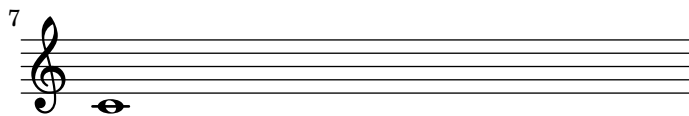
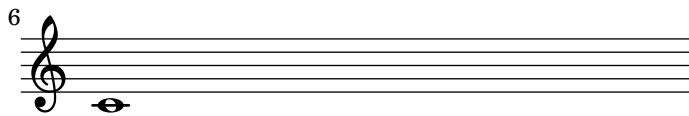
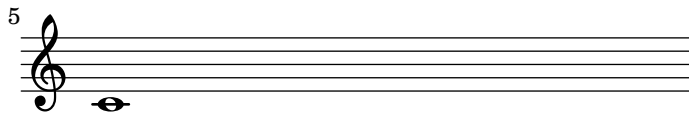
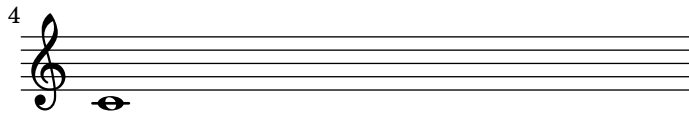
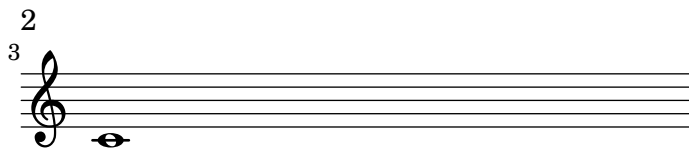
LilyPond v2.25.16

Both the page breaking and the page layout take account of the heights of the header and footer.

t
a
l
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h
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a
d
e
r

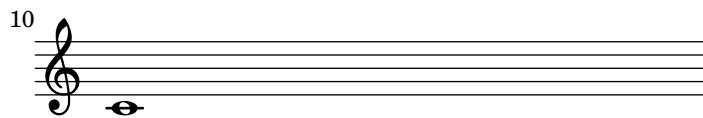
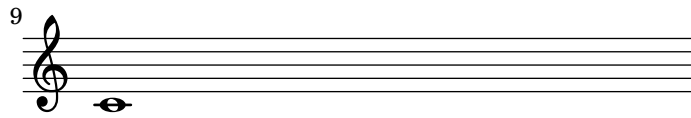


t
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small footer

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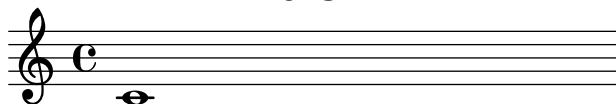


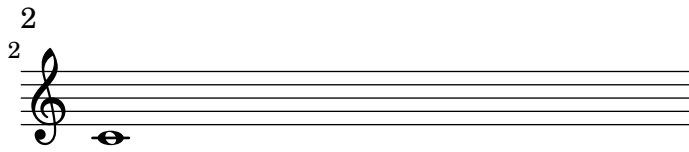
t
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f
o
o
t
e
r

`top-markup-spacing` controls the spacing from the top of the printable area (i.e. the bottom of the top margin) to a title or markup, when it is the first item on a page.

`page-spacing-top-markup-spacing.ly`

Title





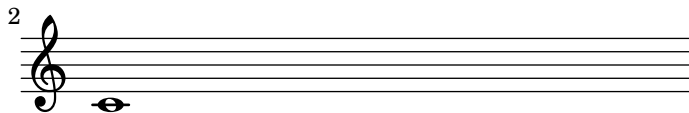
LilyPond v2.25.16

top-system-spacing controls the spacing to the first non-title staff on every page.

page-spacing-top-system-spacing.ly



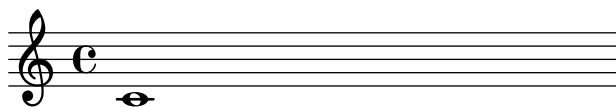
2



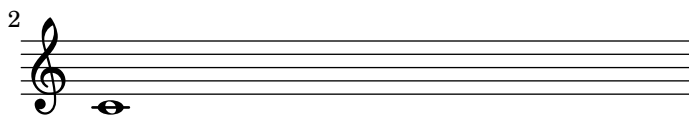
LilyPond v2.25.16

By setting `page-top-space`, the Y position of the first system can be forced to be uniform.

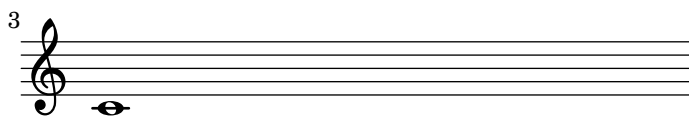
`page-top-space.ly`



2

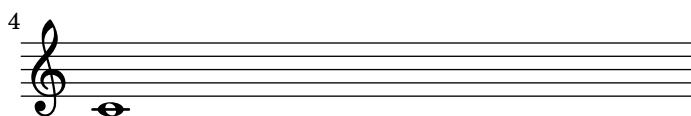


3



4

bla



LilyPond v2.25.16

By default, we start with page 1, which is on the right hand side of a double page. In this example, `auto-first-page-number` is set to `##t` and the music won't fit on a single page, so we should automatically set the first page number to 2 in order to avoid a bad page turn.

`page-turn-page-breaking-auto-first-page.ly`

2



4



8



12



16



20



24



28



The image displays eight musical staves, each representing a regression test case. Each staff begins with a treble clef and a common time signature (C). The notes are arranged in a sequence that appears to be a simple ascending scale or a specific rhythmic pattern. The staves are numbered 2, 4, 8, 12, 16, 20, 24, and 28, indicating the progression of the test cases. The notes are black dots with stems, and the staves are horizontal lines.

3

The image shows a musical score for LilyPond v2.25.16. It consists of eight staves of music, each starting with a treble clef. The measures are numbered on the left side of the staves: 32, 36, 40, 44, 48, 52, 55, and 58. The music is a simple melody of eighth notes. The score is presented as a single page, with the page number '3' in the top right corner.

LilyPond v2.25.16

By default, we start with page 1, which is on the right hand side of a double page. In this example, auto-first-page-number is set to $\#\#t$. Although the first measure could go on a page by itself, this would require stretching the first page badly, so we should automatically set the first page number to 2 in order to avoid a bad page turn.

2

5

9

13

17

21

3

LilyPond v2.25.16

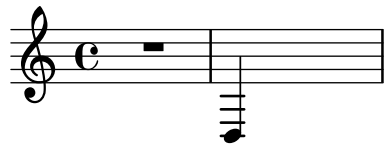
If there are no good places to have a page turn, the optimal-breaker will just have to recover gracefully. This should appear on 3 pages.

`page-turn-page-breaking-badturns.ly`

LilyPond v2.25.16

Allowing the first command column to be breakable caused a crash in `Page_turn_page_breaking`.

page-turn-page-breaking-first-column.ly



The page-turn engraver will not count potential page turns if they occur in the middle of a repeat unless there is a long gap at the beginning or at the end of the repeat.

page-turn-page-breaking-repeats.ly

The image shows a musical score in C major, common time, consisting of eight staves. The notation includes quarter notes, eighth notes, and sixteenth notes. The score is divided into sections by page-turns, indicated by the numbers 6, 20, 25, 27, 31, 44, and 48. Repeats are marked with double bar lines and repeat dots. A measure rest of 10 measures is shown on the second staff, and another 10-measure rest is on the sixth staff. A 3-measure rest is shown on the eighth staff. The score ends with a repeat sign on the eighth staff.

`Page_turn_engraver` places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in Score context.

`page-turn-page-breaking-score.ly`

The image displays a musical score in a score context, consisting of eight staves of music. The staves are numbered 2, 3, 4, 9, 14, 18, 22, and 26. The music is written in a common time signature (C) and uses a treble clef. The score is divided into measures by bar lines. The first staff (2) shows a sequence of notes. The second staff (3) shows a sequence of notes followed by a rest. The third staff (4) shows a sequence of notes. The fourth staff (9) shows a sequence of notes. The fifth staff (14) shows a sequence of notes. The sixth staff (18) shows a sequence of notes. The seventh staff (22) shows a sequence of notes followed by a rest. The eighth staff (26) shows a sequence of notes. The page turn occurs at the end of the first staff (2) and the seventh staff (22).

`Page_turn_engraver` places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in Voice context.

`page-turn-page-breaking-voice.ly`

The image displays a musical score in a voice context, consisting of one staff of music. The staff is numbered 2. The music is written in a common time signature (C) and uses a treble clef. The score is divided into measures by bar lines. The first staff (2) shows a sequence of notes. The page turn occurs at the end of the first staff (2).

A musical score consisting of seven staves. The first staff starts at measure 3 and contains a sequence of quarter notes followed by four measures of whole rests. The second staff starts at measure 4 and contains a continuous sequence of quarter notes. The third staff starts at measure 9 and contains a continuous sequence of quarter notes. The fourth staff starts at measure 14 and contains a continuous sequence of quarter notes. The fifth staff starts at measure 18 and contains a sequence of quarter notes followed by two measures of whole rests. The sixth staff starts at measure 22 and contains a sequence of quarter notes followed by a continuous sequence of eighth notes. The seventh staff starts at measure 26 and contains a continuous sequence of eighth notes.

Page_turn_engraver places a page turn after a rest unless there is a 'special' bar line within the rest, in which case it places the turn at the special bar line. In this case, the engraver operates in Staff context.

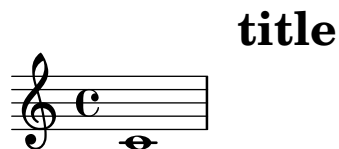
page-turn-page-breaking.ly

A musical score consisting of three staves. The first staff starts at measure 2 and contains a sequence of quarter notes. The second staff starts at measure 3 and contains a sequence of quarter notes followed by four measures of whole rests. The third staff starts at measure 4 and contains a continuous sequence of quarter notes.



it is allowed to start a score with a page break

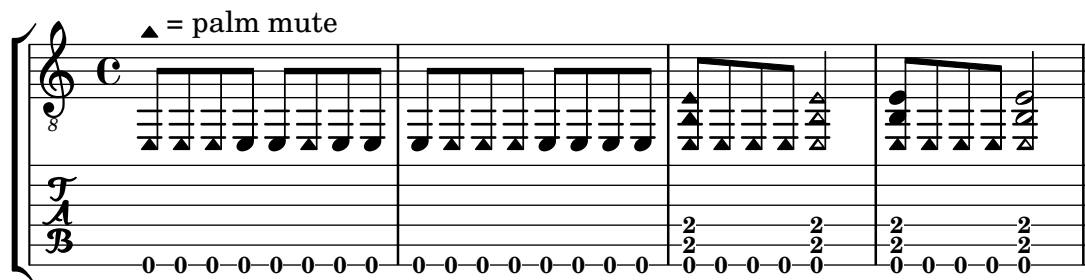
page-turn-start-with-page-break.ly



LilyPond v2.25.16

The palm mute technique for stringed instruments is supported by triangle-shaped note heads.

`palm-mute.ly`



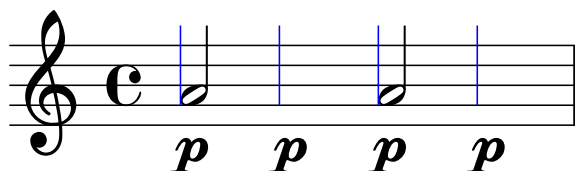
Objects like articulations, lyrics, dynamics, etc., are aligned correctly even when they aren't attached directly to notes.

An object's parent may be a `PaperColumn` (instead of a more usual `NoteHead`); this can happen, for example, when a `DynamicText` grob is attached to a spacer rest, or when a `Lyrics` context doesn't have the `associatedVoice` property set. In that case, LilyPond should find note heads belonging to this `PaperColumn` and align the object on these note heads. If there are no note heads in the `PaperColumn`, the object are aligned using a placeholder extent to ensure consistent spacing between objects attached to `PaperColumns` and `NoteHeads` grobs.

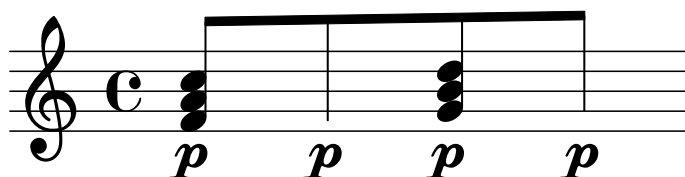
Note that the placeholder extent is not used if there are any note heads in the respective `PaperColumn` grob, even if they have empty stencils.

In the test cases below the PaperColumn grob location has been marked with a blue line.
 paper-column-grob-alignment.ly

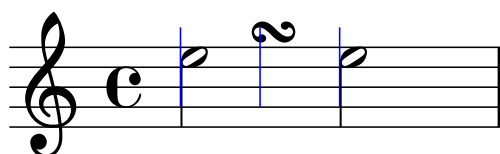
Distances between dynamics should be identical:



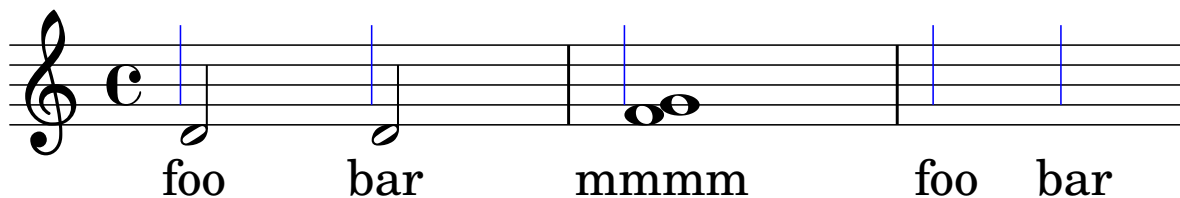
Dynamics should be centered on note columns:



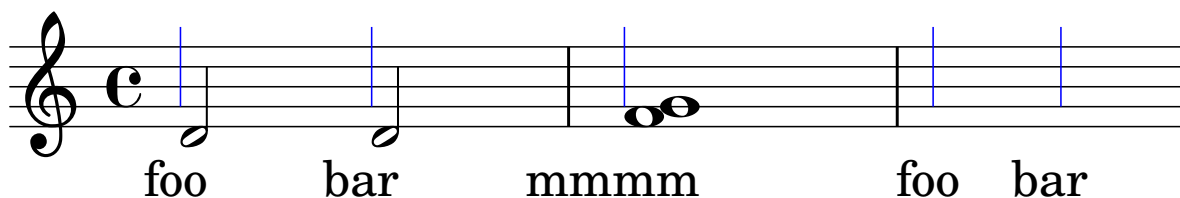
Turn should be centered between noteheads:



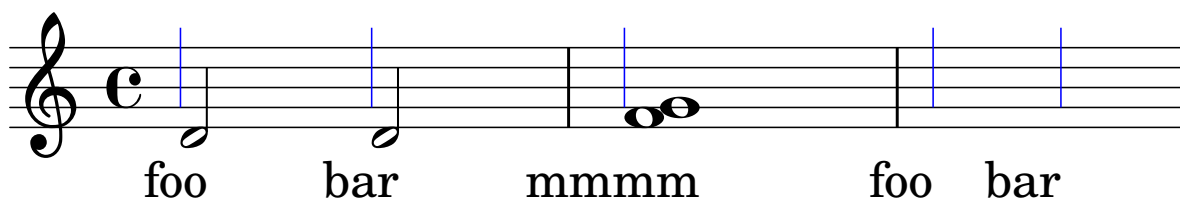
Lyrics default-aligned (centered):



Lyrics right-aligned:



X-alignment-extent = 0, Lyrics right-aligned:



Default values for margins, indents, and offsets are accessible in paper-defaults-init.ly and apply to the default paper size returned by (ly:get-option 'paper-size). For other paper sizes, they are scaled linearly.

paper-default-margins-a6.ly

For other paper sizes, margins are scaled accordingly.

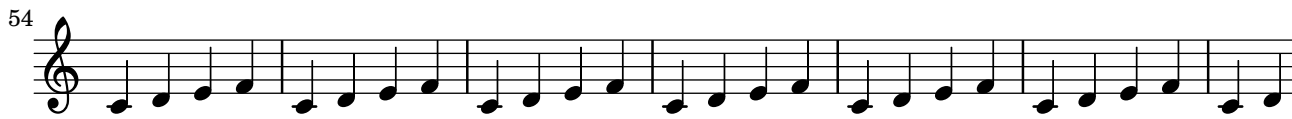
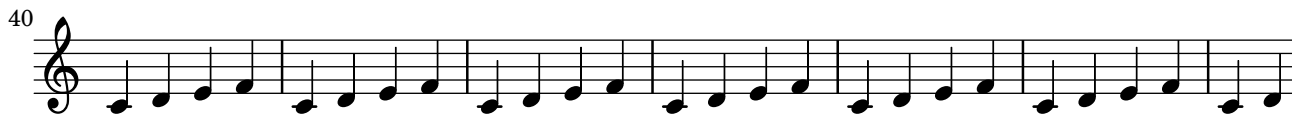
The image displays six musical staves, each containing a sequence of notes. The notes are arranged in a pattern that repeats every four notes: a quarter note on the first line (C4), a quarter note on the second line (D4), a quarter note on the second space (E4), and a quarter note on the third line (F4). The staves are labeled with the number of notes: 4, 8, 12, 15, and 18. The margins between the notes and between the staves are scaled according to the number of notes, demonstrating how the layout adapts to different paper sizes.

LilyPond v2.25.16

Default values for margins, indents, and offsets are accessible in `paper-defaults-init.ly` and apply to the default paper size returned by `(ly:get-option 'paper-size)`. For other paper sizes, they are scaled linearly.

paper-default-margins-def.ly

If the paper size remains default, the margin values from paper-defaults-init.ly remain unchanged



Margin values must fit the line-width, that means: $\text{paper-width} = \text{line-width} + \text{left-margin} + \text{right-margin}$. In case they do not, default margins are set and a warning is printed.

The image displays five staves of musical notation, each representing a regression test case. The notation is written on a five-line staff with a treble clef and a common time signature (C). The music consists of a continuous sequence of eighth notes, starting on a middle C and ascending stepwise through the scale. The first staff begins with a common time signature 'C'. The staves are numbered 9, 17, 25, and 33, indicating the starting measure of each test case. Each staff contains 16 measures of music, with a double bar line at the end of each measure.

Here only left-margin is given, right-margin will remain default.



If only line-width is given, systems are horizontally centered.



All checks can be avoided by setting check-consistency to `##f` in `\paper`.

The image displays five staves of musical notation, each representing a regression test case. The notation is written on a five-line staff with a treble clef and a common time signature (C). The music consists of a sequence of eighth notes, with a bar line appearing after every four notes. The notes are positioned on the second, third, and fourth lines of the staff, creating a rhythmic pattern. The staves are numbered 1, 9, 17, 25, and 33, indicating the starting measure number for each test case. The first staff begins with a common time signature 'C'.

Normally, margin settings must not cause systems to run off the page.



Here only right-margin is given, left-margin will remain default.

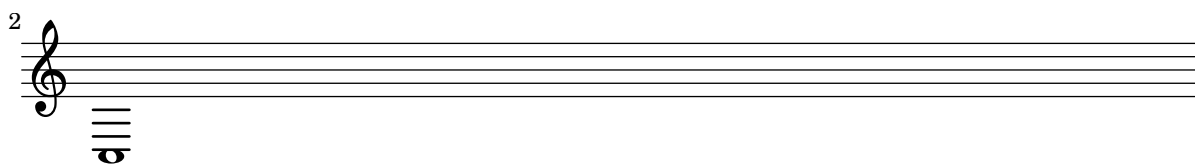
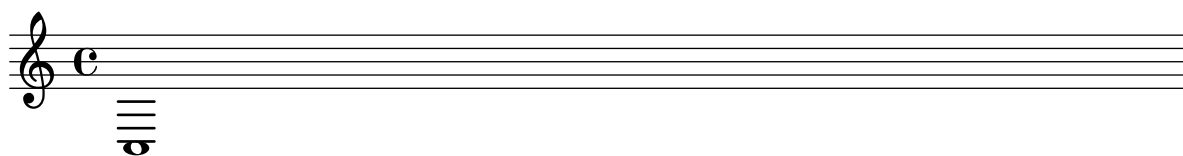


Paper margin settings do not have to be complete. Missing values are added automatically. If no paper settings are specified, default values are used.



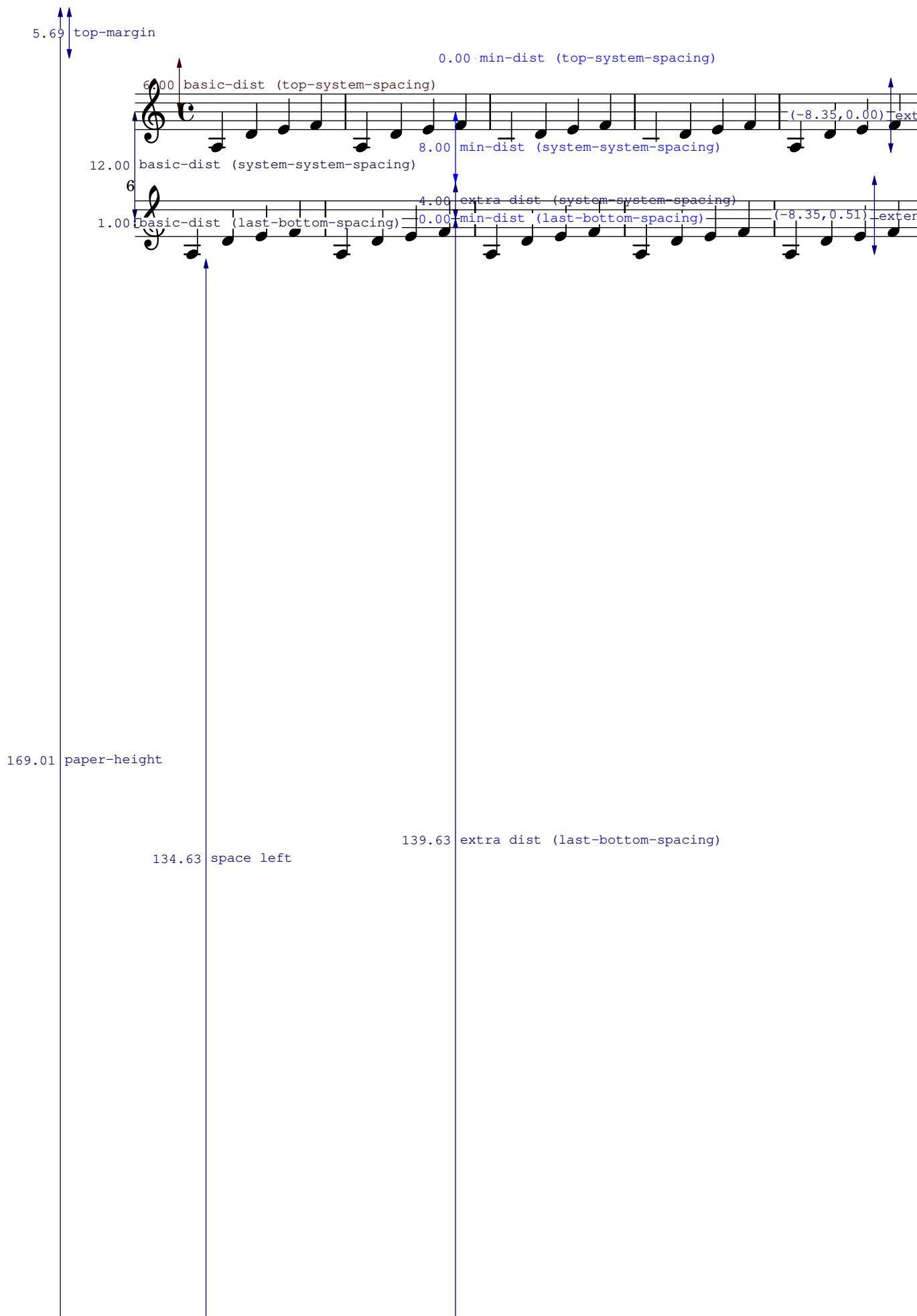
Nested properties can be set in the paper block.

paper-nested-override.ly



Setting individual nested paper properties does not remove existing settings or break spacing annotation.

paper-nested-override2.ly



Setting a custom default paper size.

`paper-size-custom-default.ly`



LilyPond v2.25.16

Setting a custom paper size (landscape).

`paper-size-custom-landscape.ly`



LilyPond v2.25.16

Setting a custom paper size.

`paper-size-custom.ly`



LilyPond v2.25.16

In two-sided mode, a binding offset can be specified, which is added to the inner margin automatically.

`paper-twosided-bcorr.ly`

The image displays a musical score for regression test cases, consisting of 13 staves of music. Each staff begins with a treble clef and a common time signature (C). The music is a continuous sequence of eighth notes, with a consistent interval of a half step between adjacent notes. The notes start on a G4 (one ledger line below the staff) and ascend stepwise through the staff, crossing the staff lines and ending on a G5 (one ledger line above the staff). The staves are numbered on the left side of the page: 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, and 78. The first staff (unnumbered) starts at measure 1. The numbering indicates that each staff contains 7 measures, with the number representing the first measure of that staff.

2
92

99

106

113

120

127

134

141

148

155

162

169



Two-sided mode allows you to use different margins for odd and even pages.

The image displays a musical score consisting of 13 staves of music. Each staff begins with a measure number: 0, 8, 15, 22, 29, 36, 43, 50, 57, 64, 71, and 78. The first staff includes a common time signature 'C'. The music is written in a single melodic line on a treble clef staff. The notes are organized into measures by vertical bar lines, with a consistent rhythmic pattern of quarter notes. The overall structure is a continuous sequence of notes across the staves.

2
92

99

106

113

120

127

134

141

148

155

162

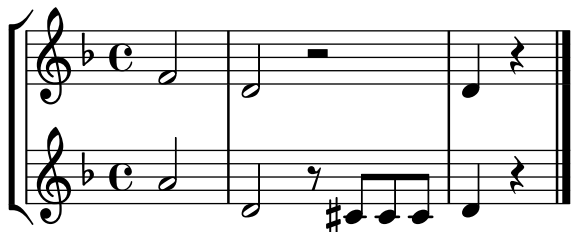
169

Detailed description: The image displays eleven musical staves, each representing a regression test case. Each staff begins with a treble clef and contains a sequence of quarter notes. The notes are arranged in a regular, ascending pattern across the staves. The first staff is labeled with '2' above the staff and '92' below the staff. The subsequent staves are labeled with their starting measure numbers: 99, 106, 113, 120, 127, 134, 141, 148, 155, 162, and 169. Each staff contains 7 measures of music, with the final measure of each staff ending at the measure number indicated by the label below it.



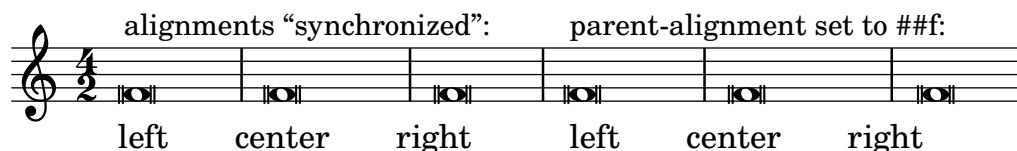
`\parallelMusic` does not complain about incomplete bars at its end.

`parallelmusic-partial.ly`



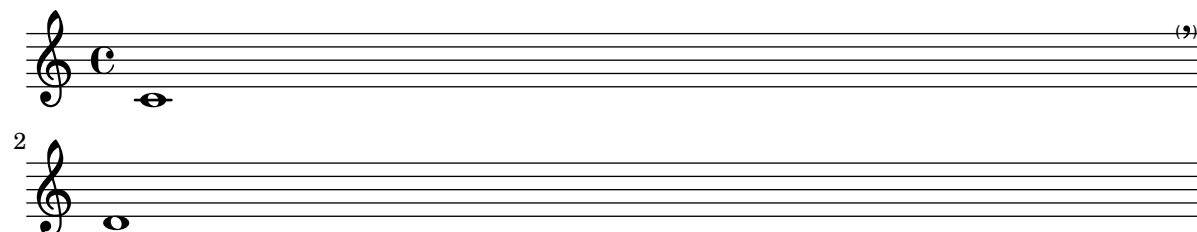
When `parent-alignment-X` property is unset, the value of `self-alignment-X` will be used as the factor for parent alignment. This happens e.g. for `LyricTexts`.

`parent-alignment-synchronized-with-self-alignment.ly`



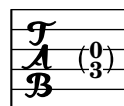
Parenthesizing breakable items such as breathing signs also work at line ends.

`parenthesize-breakable.ly`



When `\parenthesize` applies to a chord, the parentheses enclose all notes in the chord.

`parenthesize-chords.ly`



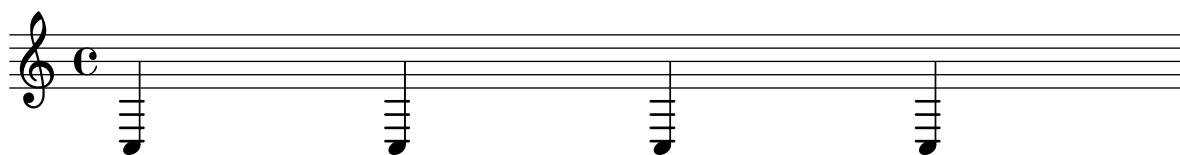
Parentheses are correctly placed when placed on a note head that is on the right of its stem and has an accidental.

`parenthesize-horizontal-placement.ly`

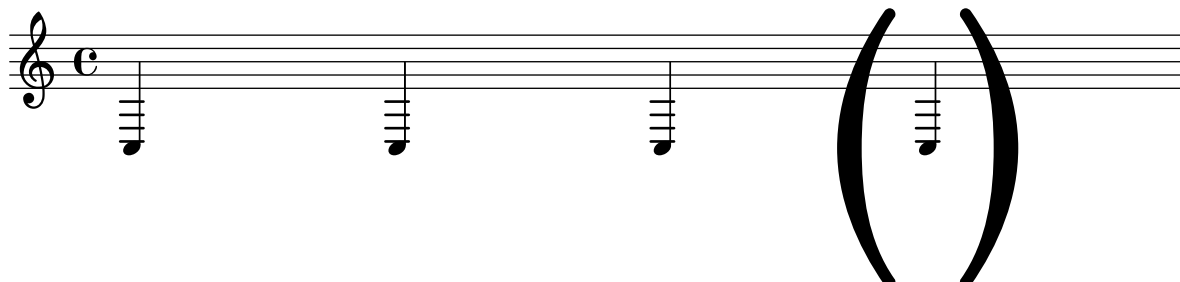


Parentheses only cause minimum distances to be set. They should not cause more space to be allowed for a note when they do not cause a collision with the previous or the following note.

parenthesize-horizontal-spacing-cosy.ly



Notes above and below should be aligned.



Space is reserved so that parentheses do not cause collisions between columns.

parenthesize-horizontal-spacing-tight.ly



\laissezVibrer can be parenthesized without programming errors.

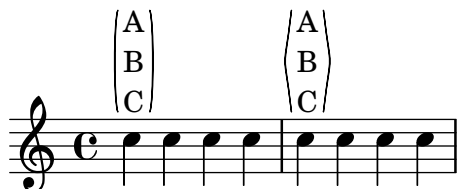
parenthesize-laissezvibrer.ly



The parenthesize markup will place parentheses around any stencil.

The angularity of the parentheses can be adjusted.

parenthesize-markup.ly



Parentheses around notes also include accidentals and dots; they are centered on the vertical center of the combined enclosed items.

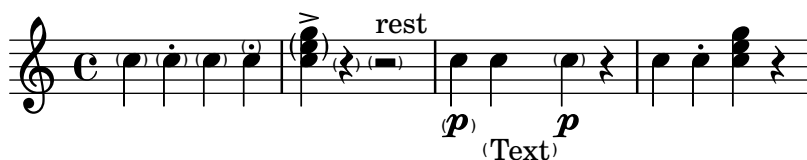
parenthesize-notes-accidentals.ly



The `\parenthesize` function should also work on single notes (not inside chords), rests, and on whole chords. Also, parenthesizing articulations, dynamics and text markup is possible. On all other music expressions, `\parenthesize` does not have an effect.

Measure 1: Three parenthesized notes (staccato not parenthesized), one note with staccato in parentheses; Measure 2: Chord and two rests in parentheses (accent and markup not); Measure 3: note (no parentheses) with $\backslash p$ in parentheses, with text in parentheses, and note in parentheses with $\backslash p$ not in parentheses, rest (no parentheses); Measure 4: shows that $\backslash parenthesize$ does not apply to other expressions like `SequentialMusic`.

`parenthesize-singlenotes-chords-rests.ly`



Parenthesizing spanners is supported.

`parenthesize-spanners.ly`

Two staves of musical notation in treble clef, common time (C). The first staff shows a half note followed by a half rest, both enclosed in parentheses. Below the staff, a series of ten eighth notes are shown, with a large brace underneath them, also enclosed in parentheses. The second staff, starting at measure 12, shows a series of ten eighth notes, each enclosed in parentheses, with a large brace underneath them, also enclosed in parentheses.

$\backslash parenthesize$ can take the name of the grob to be parenthesized. It then acts like a $\backslash once \backslash override$.

`parenthesize-time-based.ly`



The `parenthesize` function is a special tweak that encloses objects in parentheses. The associated grob is `Score.Parentheses`.

`parenthesize.ly`



It is possible to use the part combiner for three voices with $\backslash partCombineUp$ and $\backslash partCombineDown$.

`part-combine-3voices.ly`

Two staves of musical notation in treble clef, common time (C). The first staff shows three voices: a treble voice with a half note, a middle voice with a half note, and a bass voice with a half note. The second staff shows three voices: a treble voice with a half note, a middle voice with a half note, and a bass voice with a half note. The notes are grouped together, indicating they are part of a single musical phrase.

The a2 string is printed only on notes (i.e. not on rests), and only after chords, solo or polyphony.

part-combine-a2.ly

A musical staff in C major, 4/4 time. The notes are: quarter rest, quarter note G4, quarter note A4, quarter note B4, quarter note C5. Above the staff, 'a2' is written above the G4 note, 'no a2' is written above the A4 note, and 'a2' is written above the B4 note. Below the staff, 'a2' is written below the G4 note, 'no a2' is written below the A4 note, and 'a2' is written below the B4 note.

The part combiner has an option to set the range of differences in steps between parts that may be combined into chords.

part-combine-chord-range.ly

A musical staff in C major, 4/4 time. The notes are: quarter note G4, quarter note A4, quarter note B4, quarter note C5, quarter note B4, quarter note A4, quarter note G4. Above the staff, 'apart' is written below the first two notes, 'chords' is written below the next two notes, and 'apart' is written below the last two notes. There are also some 'x' marks above the notes.

The part combiner stays apart for crossing voices.

part-combine-cross.ly

A musical staff in C major, 4/4 time. The notes are: quarter note G4, quarter note A4, quarter note B4, quarter note C5, quarter note B4, quarter note A4, quarter note G4. Above the staff, 'a2' is written above the G4 note.

If the part-combiner shows two separate voices, multi-measure rests are supposed to use the same settings as `\voiceOnce` and `\voiceTwo`.

part-combine-force-mmrest-position.ly

A musical staff in C major, 4/4 time. The notes are: quarter note G4, quarter note A4, quarter note B4, quarter note C5, quarter note B4, quarter note A4, quarter note G4. There are multi-measure rests in the second and third measures.

Overrides for the part-combiner, affecting only one moment. The `partCombine...Once` override applies only to one moment, after which the old override – if any – is in effect again.

part-combine-force-once.ly

A musical staff in C major, 4/4 time. The notes are: quarter note G4, quarter note A4, quarter note B4, quarter note C5, quarter note B4, quarter note A4, quarter note G4. Above the staff, 'a2' is written above the first three notes, 'Solo' is written above the fourth note, 'Solo II' is written above the fifth note, and '1 chord' is written above the last two notes.

Overrides for the part-combiner. All functions like `\partCombineApart` and `\once \partCombineApart` are internally implemented using a dedicated `partCombineForced` context property.

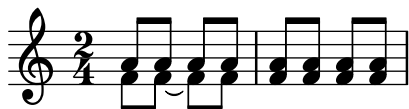
part-combine-force.ly

A musical staff in C major, 4/4 time. The notes are: quarter note G4, quarter note A4, quarter note B4, quarter note C5, quarter note B4, quarter note A4, quarter note G4. Above the staff, 'a2' is written above the first two notes, 'apart' is written above the next two notes, 'a2' is written above the last two notes, 'chord' is written above the fourth note, 'unisono' is written above the fifth note, and 'V1 longer Solo' is written above the last two notes.

The analysis of the part combiner is non-local: in the following example, the decision for using separate voices in the 1st measure is made on the 2nd note, but influences the 1st note.

In the 2nd measure, the pattern without the tie, leads to combined voices.

part-combine-global.ly



The notes of the first chord share a stem but the notes of the second chord do not.

part-combine-inside-grace.ly



Music functions that scale durations also scale `\partCombine` decisions.

part-combine-inside-scale-durations.ly

expected

scale

times

tuplet

Four musical staves in common time, each showing a single measure. The first staff is labeled 'expected' and shows a quarter note G4, a quarter note A4, and a quarter note B4. The second staff is labeled 'scale' and shows a quarter note G4, a quarter note A4, and a quarter note B4. The third staff is labeled 'times' and shows a quarter note G4, a quarter note A4, and a quarter note B4. The fourth staff is labeled 'tuplet' and shows a quarter note G4, a quarter note A4, and a quarter note B4.

`\keepWithTag` works with `\partCombine`.

part-combine-keep-with-tag.ly



Part combine texts accept markup.

part-combine-markup.ly



Normal rests are preferred over multi-measure rests. A multi-measure rest beginning in one part in the middle of a multi-measure rest in the other part appears as expected.

part-combine-mmrest-after-apart-silence.ly



Multimeasure rests are printed after solos, both for solo1 and for solo2.

`part-combine-mmrest-after-solo.ly`



The positioning of multimeasure rests in `\partCombineApart` passages corresponds with `\voiceOne` and `\voiceTwo` even when using non-standard staves.

`part-combine-mmrest-apart.ly`

`\partCombine`

<< ... \\ ... >>

Multi-measure rests do not have to begin and end simultaneously to be combined.

`part-combine-mmrest-shared.ly`

`\partCombine` needs to be given pitches in their final octaves, so if `\relative` is used it must be applied inside `\partCombine`. The pitches in `\partCombine` are unaffected by an outer `\relative`, so that the printed output shows the pitches that `\partCombine` used.

The expected output of this test is three identical measures.

`part-combine-relative.ly`

Different kinds of silence are not merged into the shared voice even if they begin and end simultaneously; however, when rests and skips are present in the same part, the skips are ignored.

`part-combine-silence-mixed.ly`

The image shows two staves of music in common time (C). The top staff has a whole rest in the first measure, followed by a whole rest in the second measure with a small 's' above it, and a whole rest in the third measure with a small 'r' above it. The bottom staff has a whole rest in the first measure, followed by a whole rest in the second measure with a small 'R' above it, and a whole rest in the third measure with a small 's' above it. Below the staves, there are labels: 'r' under the first measure, 'R' under the second measure, and 's' under the third measure. The labels 's' and 'r' are also placed above the rests in the top staff, and 's' and 'r' are placed below the rests in the bottom staff.

Rests must begin and end simultaneously to be merged into the shared voice.

part-combine-silence.ly

The image shows two staves of music in common time (C). The top staff has a quarter rest, followed by a quarter note with a slur, and a quarter note with a slur. The bottom staff has a quarter rest, followed by a quarter note with a slur, and a quarter note with a slur. Above the top staff, there are labels: 'a2' above the first slur, 'Solo II' above the second slur, and 'a2' above the third slur. Above the bottom staff, there are labels: 'Solo' above the first slur and 'Solo II' above the second slur.

\partCombine handles slurs without errors.

part-combine-slur.ly

The image shows a single staff of music in common time (C). It contains a quarter note, a quarter note, a quarter note, and a quarter note, all connected by a slur. Above the first note, there is a label 'a2'.

SOLO is printed even if the solo voice ends before the other one. Unfortunately, the multi-rest of the 1st voice (which is 2 bars longer than the 2nd voice) does not get printed.

part-combine-solo-end.ly

The image shows a single staff of music in common time (C). It contains a quarter note, a quarter note, and a dotted quarter note, all connected by a slur. Above the first note, there is a label 'Solo II'. Below the first note, there is a slur.

In this example, solo1 should not be printed over the 1st note, because of the slur which is present from the one-voice to the two-voice situation.

part-combine-solo-global.ly

The image shows a single staff of music in common time (C). It contains a quarter note, a quarter note, and a quarter note, all connected by a slur. Above the first note, there is a sharp sign (#).

A solo string can only be printed when a note starts. Hence, in this example, there is no Solo-2 although the 2nd voice has a dotted quarter, while the first voice has a rest.

A Solo indication is only printed once; (shared) rests do not require reprinting a solo indication.

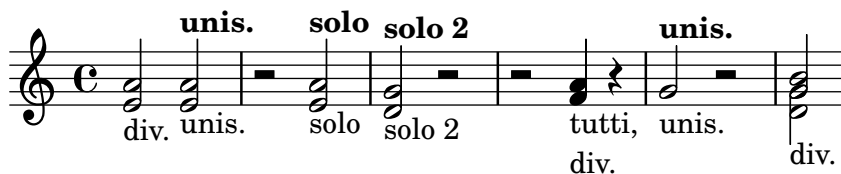
Solo 1/2 can not be used when a spanner is active, so there is no solo over any of the tied notes.

part-combine-solo.ly



Test some transitions that might be found in string parts produced with \partCombine.

part-combine-strings.ly



Wait for the next real note for part-combine texts (i.e. don't print part-combine texts on rests). This is needed because the part-combiner needs an override if one voice has a full-bar rest while the other has some rests and then a solo.

part-combine-text-wait.ly



The part combiner detects a2, solo1 and solo2, and prints texts accordingly.

part-combine-text.ly



End tuplets events are sent to the starting context, so even after a switch, a tuplet ends correctly.

part-combine-tuplet-end.ly



Tuplets in combined parts only print one bracket.

part-combine-tuplet-single.ly



The part combiner can combine parts of unequal lengths.

part-combine-unequal-lengths.ly



Grace notes in parts are combined.

part-combine-with-grace.ly



The new part combiner stays apart from:

- different durations,
- different articulations (taking into account only slur/beam/tie), and
- wide pitch ranges.

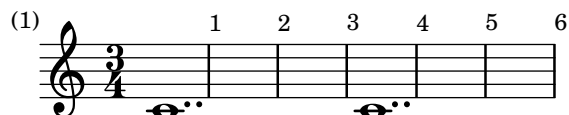
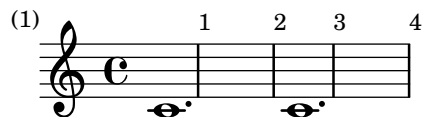
part-combine.ly



In the unexpected case that `\partial` specifies a duration shorter than the following note, a bar line still appears after the specified duration.

The score in common time should have four bar lines. The score in 3/4 time should have six bar lines.

partial-add-moment.ly



`\partial` can be called in mid-piece in multiple contexts.

partial-in-mid-piece.ly



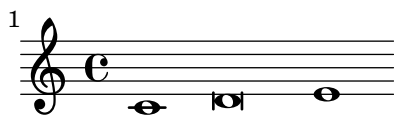
`\partial` produces a warning when used at the start of the piece when `Timing.measureLength` is infinite. In this test, a time signature remains in effect though the measure length is changed. This test should run with expected warnings only.

partial-infinite-measure-length-at-start.ly



`\partial` produces a warning when used in mid piece when `Timing.measureLength` is infinite. In this test, a time signature remains in effect though the measure length is changed. This test should run with expected warnings only.

partial-infinite-measure-length-in-mid-piece.ly



`\partial` can create measures longer than the length dictated by the time signature.
`partial-long.ly`



`\partial` works with polymetric staves.
`partial-polymetric.ly`



Ensure that certain paths are drawn correctly and do not cause division by zero.
`path-edge-case.ly`



Exercise various situations in path stencils.
`path-exercise.ly`



The extents of a path stencil are correctly computed when it contains consecutive `moveto` commands.

`path-extents-consecutive-movetos.ly`



Curve path stencils have correct extents.
`path-extents-curve.ly`



`\pattern` and `\fill-with-pattern` markup commands should interpret their arguments only once. This test calls them with a markup command that counts how often it is evaluated. The first line is supposed to show just '1' multiple times, the second line uses numbers '2' to '4'.

`pattern-markup-evaluation.ly`

1 1 1 1 1 1 1 1 1 1

3 2 4

In some fonts, the same glyph is used to render differing code points. In this file, the Japanese font uses the same glyph for representing U+898B and U+2F92. However, when running the output of this file through `pdftotext`, the original codepoints are returned.

pdf-copy-paste.ly

見見

Header fields can contain `\fromproperty #'header:xxx` markups. They are correctly converted to strings in PDF metadata.

Warning: the current regression testing infrastructure will not notice if this test breaks.

pdf-metadata-fromproperty.ly

This should end in "OK": OK



PDF metadata need either Latin1 encoding (not UTF8) or full UTF-16BE with BOM. The title field uses full UTF-16 (russian characters, euro, etc), while the composer uses normal european diacrits (which need to be encoded as Latin1, not as UTF8). Closing parenthesis need to be escaped by a backslash AFTER encoding!

pdfmark-metadata-unicode.ly

UTF-16BE title:² € ĀĀœŔŪŭfЖюљ)\ ;

UTF-16BE with parentheses:) € ĀĀœŔŪŭfЖюљ composer (with special chars): Jöhãñ Strauß



The PDF backend uses several header fields to store metadata in the resulting PDF file. Header fields with the prefix pdf override those without the prefix for PDF creation (not for visual display on the page).

pdfmark-metadata.ly

Title of the piece

Subtitle of the piece

The Genius Composer

The Arranger (f)



The brackets of a piano pedal should start and end at the left side of the main note-column. If a note is shared between two brackets, these ends are flared.

At a line-break, there are no vertical endings. Pedal changes can be placed at spacer rests.

pedal-bracket.ly

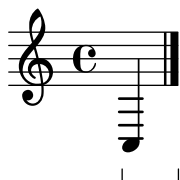


long mark



Unterminated piano pedal brackets run to the end of the piece.

pedal-end.ly



The standard piano pedals style comes with Ped symbols. The pedal string can be also tuned, for example, to a shorter tilde/P variant at the end of the melody.

pedal-ped.ly



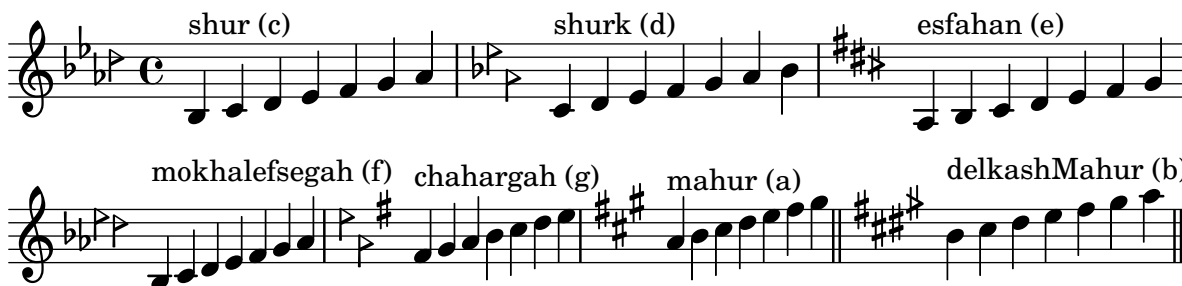
One notation style for Persian music uses the *sori* and *koron* accidental glyphs.

persian-accidental-glyphs.ly



Test Persian key signatures.

persian-key-signatures.ly



The appearance of phrasing slurs may be changed from solid to dotted or dashed.

phrasing-slur-dash.ly



LilyPond does not support multiple concurrent phrasing slurs with the parentheses syntax. In this case, warnings will be given and the nested slur will not be generated. However, one can create a second slur with a different spanner-id.

phrasing-slur-multiple.ly



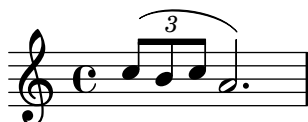
PhrasingSlurs go over normal slurs.

phrasing-slur-slur-avoid.ly



Phrasing slurs do not collide with tuplet numbers.

phrasing-slur-tuplet.ly



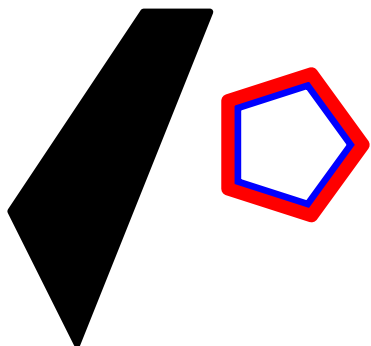
Point-and-click information can be generated only for certain event types.

point-and-click-types.ly



The `\polygon` markup command draws polygons according to the properties `filled`, `thickness` and `extroversion`.

polygon.ly



This tests polymetric staves beginning at different times, with upbeats specified with `\partial`. One staff in 4/4 time and another in 3/4 time should end simultaneously. A third staff in 2/4 time should begin simultaneously with the staff in 3/4 time (apart from its grace note) and end after 2 full measures in 3/4 time. The ossia staves should have bar 1 after the upbeat, as usual.

polymeter-ossia-partial.ly



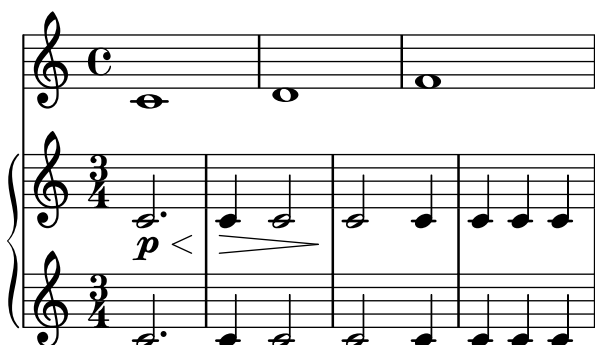
This tests polymetric staves beginning at different times. One staff in 4/4 time and another in 3/4 time should end simultaneously. A third staff in 2/4 time should begin simultaneously with the staff in 3/4 time (apart from its grace note) and end after 2 measures in 3/4 time.

polymeter-ossia.ly



The `\enablePolymeter` command turns on polymetric notation, making time signatures independent between staves.

polymeter.ly



Multiple post events can be attached from Scheme expressions.

post-events-from-scheme.ly



Multiple post events can be grouped into a single post-event-like expression that dissolves into its constituents as soon as it becomes attached to a music expression. When property modifiers (such as tweaks or direction) or other are applied to those, they are transferred to the contained elements rather than being ignored.

post-events-wrapper-direction.ly



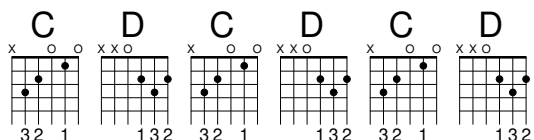
When multiple post events are wrapped, they are ordered the same as if they had not been wrapped. Tweaks applied to the wrapper are applied to every element.

post-events-wrapper-ordering.ly



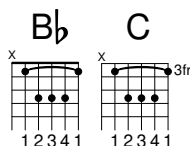
Transposition by less than one octave up or down should not affect predefined fretboards.

predefined-fretboards-transpose.ly



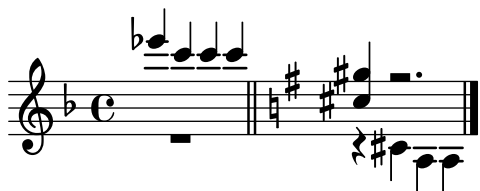
Predefined fretboards and chord shapes can be added.

predefined-fretboards.ly



Prefatory items maintain sufficient separation from musical notation for readability, even in tight spacing. The notes should remain generally on the correct side of the time signature, key signature and bar lines. A key change to G major should be legible.

prefatory-separation.ly



Distances between prefatory items (e.g. clef, bar, etc.) are determined by engraving standards. These distances depend on which items are combined. Mid-line, the order for clefs and bar lines is different from the start of line.

prefatory-spacing-matter.ly



Using the `printInitialRepeatBar` property, repeat bar lines can be printed automatically at the start of the piece.

`print-initial-repeat-bar.ly`



heavily mutilated Edition Peters Morgenlied by Schubert

`profile-property-access.ly`

LilyPond demo

Lieblich, etwas geschwind

1. Sü - ßes
2. いろはに 𐌹𐌺

3
Licht! Aus gol - denen Pfor - ten brichst du sie - gend durch die
ta ta ほへど ちり ぬるを Жъл дю ля 𐌹𐌺 いろはに 𐌹𐌺

6
Nacht. Schöner Tag, du bist er - wacht.
ta ta ほへ ちり ぬる Жъл дю ля

cresc. - - - *f*

Detailed description of the musical score: The score is for a piece titled 'LilyPond demo' in 6/8 time, marked 'Lieblich, etwas geschwind'. It consists of three systems. The first system shows the beginning of the piece with a vocal line and piano accompaniment. The second system starts at measure 3 and includes lyrics in German, Japanese, and Cyrillic. The third system starts at measure 6 and includes lyrics in German and Japanese. The piano accompaniment features a steady eighth-note pattern in the right hand and a more complex bass line in the left hand. Dynamic markings include 'cresc.' and 'f'.

Property overrides and reverts from `\grace` do not interfere with the overrides and reverts from polyphony.

`property-grace-polyphony.ly`



Nested properties may be overridden using Scheme list syntax. This test performs two property overrides: the first measure uses standard `\override` syntax; the second uses a list.

`property-nested-override.ly`



nested properties may also be reverted. This uses Scheme list syntax.

`property-nested-revert.ly`



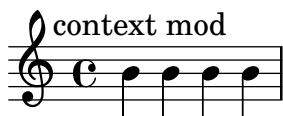
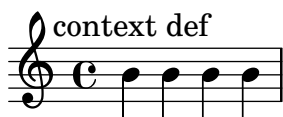
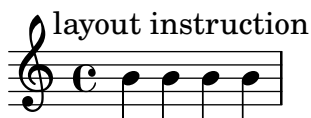
Once properties take effect during a single time step only.

`property-once.ly`



`\unset` should be able to unset the 'DrumStaff'-specific 'clefGlyph' equally well as layout instruction, in a context definition, or as context modification. All systems here should revert to the 'Score'-level violin clef.

`property-unset.ly`



Adding material to a tag in sequential and simultaneous expressions using `\pushToTag` and `\appendToTag`. One should get the equivalent of

`{ c' e' g' <<c' e' g' c''>> <<c'' g' e' c''>> g' e' c' }`

`push-to-tag.ly`



QR codes can be created with all four possible error correction levels.

`qr-code-error-correction-level.ly`



Test QR codes with different versions (i.e., matrix sizes).

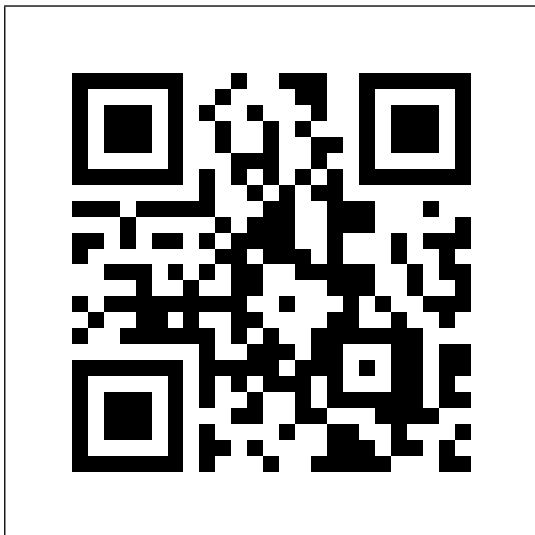
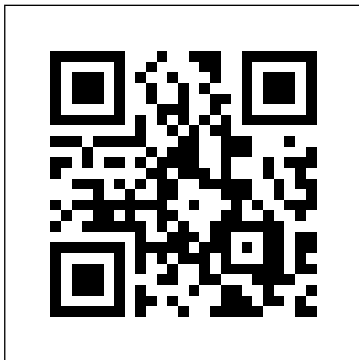
`qr-code-version.ly`





The `\qr-code` markup command inserts a QR code, which can be printed at an arbitrary size. The padding around it scales with the size.

`qr-code.ly`





The `cueDuring` form of quotation will set stem directions on both quoted and main voice, and deliver the quoted voice in the `cue Voice`. The music function `\killCues` can remove all cue notes.

Spanners run to the end of a cue section, and are not started on the last note.

`quote-cue-during.ly`

The `cueDuring` and `quoteDuring` forms of quotation use the variables `quotedCueEventTypes` and `quotedEventTypes` to determine which events are quoted. This allows different events to be quoted for cue notes in comparison to normal quotes.

`quotedEventTypes` is also the fallback for cue notes if `quotedCueEventTypes` is not set.

`quote-cue-event-types.ly`



Two quoted voices may refer to each other. In this example, there are notes with each full-bar rest.

quote-cyclic.ly



`\quoteDuring` and `\cueDuring` shall properly quote voices that create a sub-voice. The sub-voice will not be quoted, though. Exceptions are sections of parallel music `<< {...} \ {...} >>`, which will be quoted.

quote-during-subvoice.ly



With `\cueDuring` and `\quoteDuring`, fragments of previously entered music may be quoted. `quotedEventTypes` will determines what things are quoted. In this example, a 16th rest is not quoted, since `rest-event` is not in `quotedEventTypes`.

quote-during.ly

quoteMe 

orig 

orig+quote 

A warning should be produced for empty quoted music.

quote-empty.ly

This space intentionally left blank.

Quotes may contain grace notes. The grace note leading up to an unquoted note is not quoted.

quote-grace.ly

\killCues shall only remove real cue notes generated by \cueDuring, but not other music quoted using \quoteDuring.

quote-kill-cues.ly

The \quoteDuring command shall also quote correctly all \override, \once \override, \revert, \set, \unset and \tweak events. The first line contains the original music, the second line quotes the whole music and should look identical.

By default, not all events are quoted. By setting the quoted event types to '(StreamEvent)', everything should be quoted.

quote-overrides.ly

Voices from different cues must not be tied together. In this example, the first note has a tie. This note should not be tied to the second visible note (following the rest). Note that this behavior will not hold for cues in direct succession, since only one CueVoice context is created (with context-id 'cue').

quote-tie.ly

Quotations take into account the transposition of both source and target. In this example, all instruments play sounding central C, the target is a instrument in F. The target part may be `\transposed`. The quoted pitches will stay unchanged.

`quote-transposition.ly`

Tuplet bracket ends properly when quoting.

`quote-tuplet-end.ly`

In cue notes, Tuplet stops are handled before new tuplets start.

`quote-tuplet.ly`

With `\quote`, fragments of previously entered music may be quoted. `quotedEventTypes` will determines what things are quoted. In this example, a 16th rest is not quoted, since `rest-event` is not in `quotedEventTypes`.

`quote.ly`

For a one-page score, `ragged-bottom` should have the same effect as `ragged-last-bottom`.

`ragged-bottom-one-page.ly`

When a score takes up only a single line and it is compressed, it is not printed as ragged.

`ragged-right-compressed.ly`



When ragged-right is specifically disabled, a score with only one line will not be printed as ragged.

`ragged-right-disabled.ly`



When a score takes up only a single line and it is stretched, it is printed as ragged by default.

`ragged-right-one-line.ly`



Parts of a string that are the result of an automatic replacement are not processed themselves for replacements.

`recursive-text-replacement.ly`

This is good.

This is shorter.

Marks are put on top a breakable symbol, according to the value of `break-align-symbols` grob property. The same holds for `BarNumber` grobs.

`rehearsal-mark-align.ly`



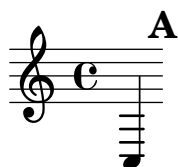
Rehearsal marks with direction DOWN get placed at the bottom of the score.

`rehearsal-mark-direction.ly`

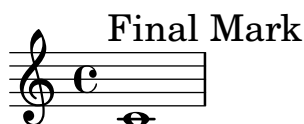


A rehearsal mark at the end of the score does not cause programming errors or strange output.

`rehearsal-mark-end-of-score.ly`



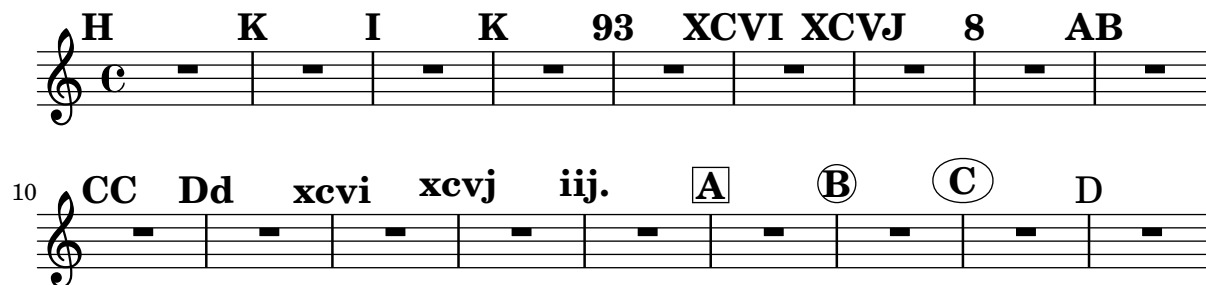
Rehearsal marks at the end of the last measure of a score are automatically made visible.
`rehearsal-mark-final-score.ly`



Comparison of `rehearsalMarkFormatter` functions.

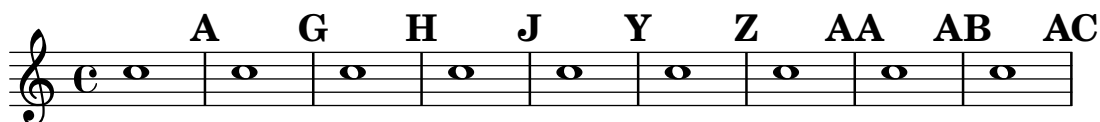
The marks should read H, K, I, K, 93, XCVI, XCVJ, 8, AB, CC, Dd, xcvi, xcvj, iij., boxed A, circled B, ovalled C, medium font D.

`rehearsal-mark-formatters.ly`



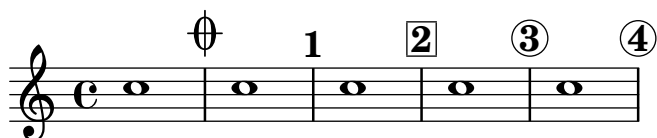
Rehearsal marks in letter style: the I is skipped, and after Z, double letters are used. The mark may be set with `\mark NUMBER`, or with `Score.rehearsalMark`.

`rehearsal-mark-letter.ly`



Marks can be printed as numbers. By setting `rehearsalMarkFormatter` we may choose a different style of mark printing. Also, marks can be specified manually, with a markup argument.

`rehearsal-mark-number.ly`



Using `repeat unfold` within a relative block gives a different result from writing the notes out in full. The first system has all the notes within the staff. In the second, the notes get progressively higher.

`relative-repeat.ly`





Notes are entered using absolute octaves, octaves relative to the previous note, or relative to a fixed octave.

`relative.ly`



`\RemoveEmptyStaves` is defined separately from context definitions so it can be used outside of `\layout` blocks.

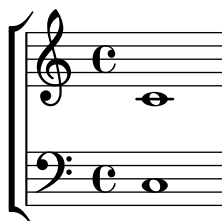
`remove-empty-context-mod.ly`



2

`RemoveEmptyStaves` should keep the pre-existing value of `auto-knee-gap`. In this case, the cross-staff beam should be between the two staves.

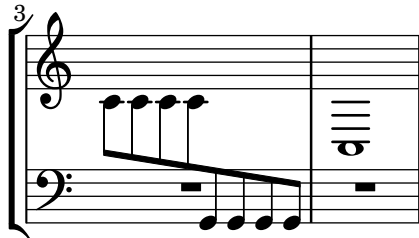
`remove-empty-staves-auto-knee.ly`



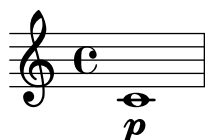
2



3



`remove-empty-staves-dynamics.ly`



Rests should not keep staves alive when `\RemoveEmptyStaves` is active. The following example should have only one staff.

remove-empty-staves-with-rests.ly



The `VerticalAxisGroup.remove-layer` property can be used to keep staves alive with reference to other staves in the `Keep_alive_together_engraver` group.

remove-layer-symbol.ly

Continuous

Alive with A or B

A

Alive with A



5

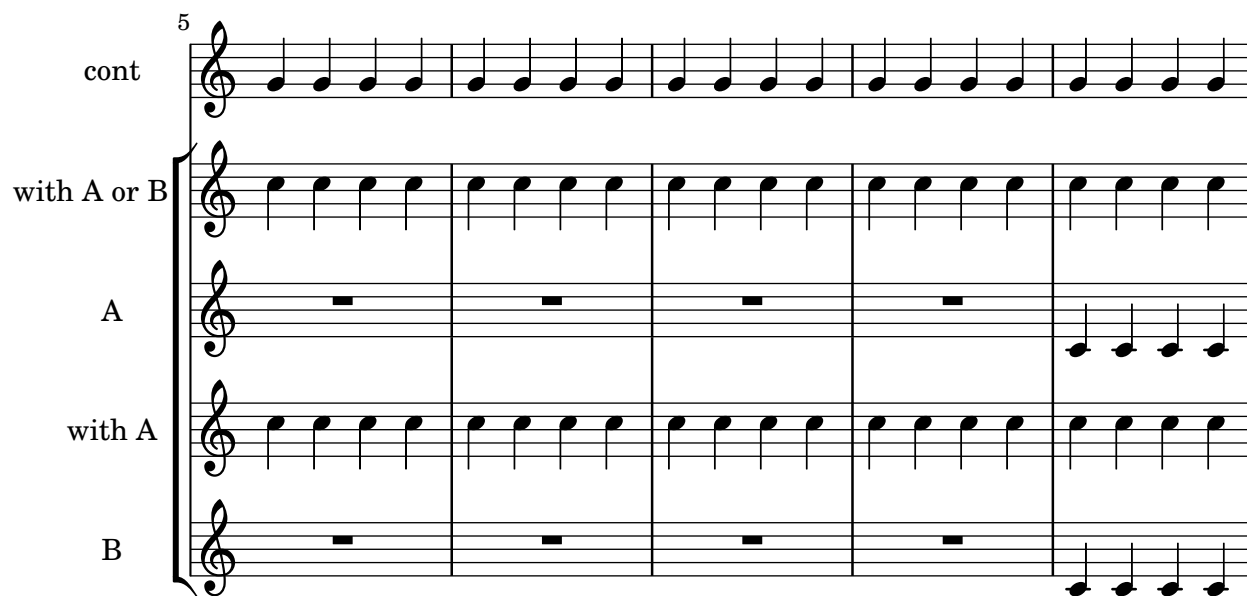
cont

with A or B

A

with A

B



The image displays two systems of musical notation. The first system starts at bar 10 and includes staves labeled 'cont', 'with A or B', 'A', 'with A', and 'B'. The second system starts at bar 15 and includes staves labeled 'cont', 'with A or B', and 'B'. The notation consists of treble clefs with quarter notes and rests, illustrating different ways repeat signs and bar numbers are placed in a score.

Bar numbers on repeat bar lines do not depend on the order in which Bar_number_engraver and Repeat_acknowledge_engraver run. The two systems in this test should be identical.

repeat-bar-number-engraver-order.ly

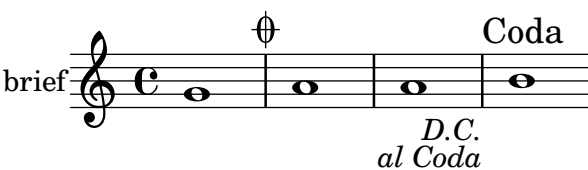
A single staff of music in common time (C) showing a first ending (marked '1.' above bar 2) and a second ending (marked '2.' above bar 2). The first ending leads to bar 3, and the second ending also leads to bar 3. The notation includes repeat signs and first/second ending brackets.


An identical copy of the musical notation above, showing first and second endings in common time.

This tests *D.C. al Coda* form and how it unfolds.

repeat-dc-al-coda.ly


A single staff of music in common time (C) illustrating the *D.C. al Coda* form. It shows a first ending (marked with a circled cross symbol) that leads to a Coda section. The notation includes a repeat sign, a first ending bracket, and a Coda symbol. Below the staff, the text reads: *D.C. al Coda e poi la Coda*.


brief 


unfolded 

This tests *D.C. al Fine* form and how it unfolds.

repeat-dc-al-fine.ly

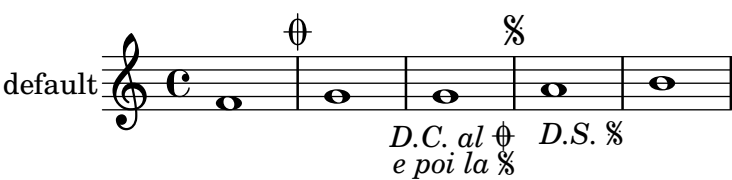
default 

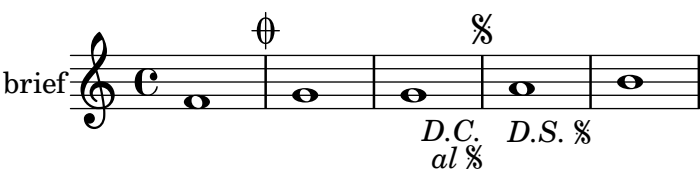
brief 


unfolded 

This tests *D.C. al Coda* form, but with a segno where the Coda label would normally be. The *D.C.* instructions refer to the segno.

repeat-dc-al-segno.ly

default 

brief 

unfolded 

A `\repeat segno` with a single alternative ending that is used for all volte receives a volta bracket rather than a coda sign because there is no material to skip. The bracket hooks down at the *D.C.*.

The bracket communicates the return count, so the return count is omitted from the *D.C.* instruction to avoid redundancy.

repeat-dc-one-alternative.ly

Musical notation showing a Coda section. The first measure contains a whole note G4. The second measure contains a whole note A4. A bracket labeled "1.2." spans the second and third measures. Below the first measure is the instruction "D.C.". The word "Coda" is written above the second measure.

Musical notation showing a Coda section consisting of five measures, each containing a whole note: G4, A4, B4, C5, and B4. The word "Coda" is written above the fifth measure.

This tests simple *D.C.* form with a segno following, and how it unfolds.
 repeat-dc-then-ds.ly

Musical notation showing a *D.C.* section with two measures: G4 and A4. Below the first measure is "D.C." and below the second is "D.S. %". A segno symbol (§) is placed above the second measure.

Musical notation showing a *D.C.* section consisting of four measures, each containing a whole note: G4, A4, B4, and C5.

This tests simple *D.C.* form with a rehearsal mark following.
 repeat-dc-then-rehearsal-mark.ly

Musical notation showing a *D.C.* section with two measures: G4 and A4. Below the first measure is "D.C.". The letter "A" is written above the second measure.

Musical notation showing a *D.C.* section consisting of three measures, each containing a whole note: G4, A4, and B4. The letter "A" is written above the second measure.

This tests simple *D.C.* form with a section label following.
 repeat-dc-then-section-label.ly

Musical notation showing a *D.C.* section with two measures: G4 and A4. Below the first measure is "D.C.". The word "Refrain" is written above the second measure.

Musical notation showing a *D.C.* section consisting of three measures, each containing a whole note: G4, A4, and B4. The word "Refrain" is written above the second measure.

Where a *D.C.* or *D.S.* instruction is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the *D.C.* should have a normal bar line and the *D.S.* should have a dotted bar line.

repeat-dc-unaligned.ly

Musical notation showing a *D.C.* section with two measures: G4 and A4. Below the first measure is "D.C." and below the second is "D.S. %". A segno symbol (§) is placed above the second measure. The *D.S.* instruction is not aligned to a measure boundary.

When jumps to different targets occur simultaneously, LilyPond ignores one and issues a warning. Either a *D.C.* or a *D.S.* instruction, but not both, is expected. Unfolding is not affected: this case unfolds to EGEGGG.

```
repeat-dc-v-ds.ly
```

By default, `\fine` does not create a *Fine* instruction at the written end of the music, but this can be changed with the `finalFineTextVisibility` context property. There is no warning when a simultaneous *D.C.* instruction must appear there.

```
repeat-dc-v-fine-end-visible.ly
```

By default, `\fine` does not create a *Fine* instruction at the written end of the music, so there is no conflict when a simultaneous *D.C.* instruction must appear there.

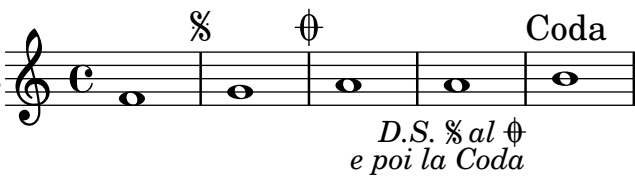
```
repeat-dc-v-fine-end.ly
```

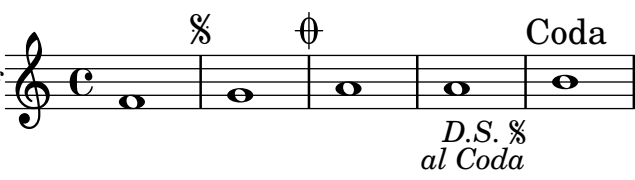
When events creating *Fine* and *D.C.* occur simultaneously, both indications are printed. This use case is not valued, but it is included in the regression test suite for robustness and difference detection.


```
repeat-dc-v-fine.ly
```

This tests *D.S. al Coda* form and how it unfolds.

repeat-ds-al-coda.ly

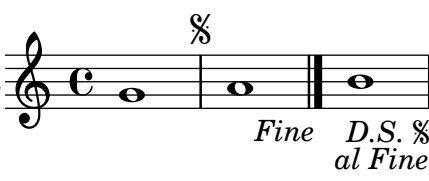
default 

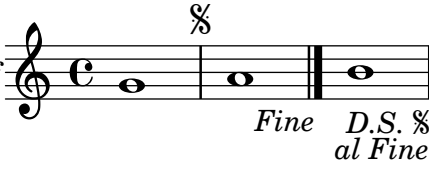
brief 


unfolded 

This tests *D.S. al Fine* form and how it unfolds.

repeat-ds-al-fine.ly


default 

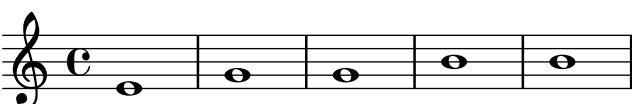
brief 

unfolded 

Setting `segnoStyle` to `bar-line` suppresses the first segno mark and causes a *D.S.* instruction to say simply *D.S.* without the mark. The second segno mark does appear and the corresponding *D.S.* instruction includes it.

repeat-ds-bar-line.ly





If the body of a segno repeat is empty, the result might be ugly, but it does not manifestly contradict the input. The margin labels show the expected note performance sequence.

repeat-ds-body-empty.ly

The format of *D.S.* and related instructions can be customized by overriding the `dalSegnoTextFormatter` context property. The line should end with the instruction *A SIGNO*.
`repeat-ds-formatter.ly`

Segno and coda marks created automatically by `\repeat segno` can be manually overridden with `\segnoMark` and `\codaMark`. A double segno and double coda sign should appear.
`repeat-ds-mark-override.ly`

When a *D.C.* or *D.S.* instruction is to be performed more than once, the default `dalSegnoTextFormatter` includes the count in the instruction. In this case, the *D.C.* instruction should indicate returning thrice and the *D.S.* instruction should indicate returning twice.

`repeat-ds-return-count.ly`

A musical staff in treble clef with common time signature. It contains four notes labeled A, B, C, and D. Above note A is a repeat sign (%). Above note B is a fermata symbol (⊕). Below note A is the instruction *D.C. 3 V.*. Below notes B and C is the instruction *D.S. 2 V.*. Below note D is the instruction *e poi la Coda*.

A musical staff in treble clef with common time signature. It contains ten notes labeled A, A, A, A, B, C, B, C, B, and D. Above the final note D is the word *Coda*.

This tests mark formatting and placement for three sequential `\repeat segno` sections, each with three alternative endings, with some used for multiple volte.

`repeat-ds-torture.ly`

A musical staff in treble clef with common time signature. It contains eleven notes labeled A through K. Above each note are various repeat signs (%), fermata symbols (⊕), and multi-measure rests. Above note A is the word *Commencement*. Above note I is the word *Bridge*. The notes are: A, B, C, D, E, F, G, H, I, J, K.

A musical staff in treble clef with common time signature. It contains two notes labeled L and M. Above note L is the instruction *D.S. 3 V.*. Above note M is the instruction *D.S. 4 V.*. Above notes L and M is the instruction *e poi la Fade-out*. Above note M is the word *Fade-out*. The staff is numbered 12 at the beginning.

A musical staff in treble clef with common time signature. It contains eleven notes labeled A through K. Above each note are various repeat signs (%), fermata symbols (⊕), and multi-measure rests. Above note A is the word *Commencement*. Above note I is the word *Bridge*. The notes are: A, B, C, D, E, F, G, H, I, J, K.

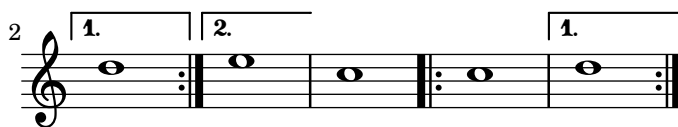
A musical staff in treble clef with common time signature. It contains two notes labeled L and M. Above note L is the instruction *D.S. 3 V.*. Above note M is the instruction *D.S. 4 V.*. Above notes L and M is the instruction *e poi la Fade-out*. Above note M is the word *Fade-out*. The staff is numbered 12 at the beginning.

Repeat constructs without alternatives can be abbreviated using `\etc .`

`repeat-etc.ly`

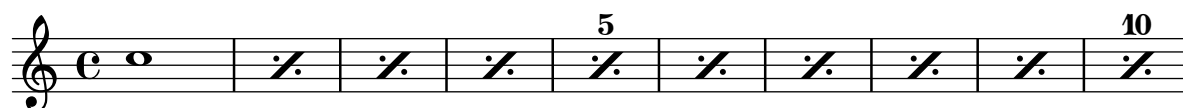


Across linebreaks, the left edge of a first and second alternative bracket should be equal.
 repeat-line-break.ly



Percent repeat counters can be shown at regular intervals by setting repeatCountVisibility.

repeat-percent-count-visibility.ly



Percent repeats get incremental numbers when countPercentRepeats is set, to indicate the repeat counts, but only if there are more than two repeats.

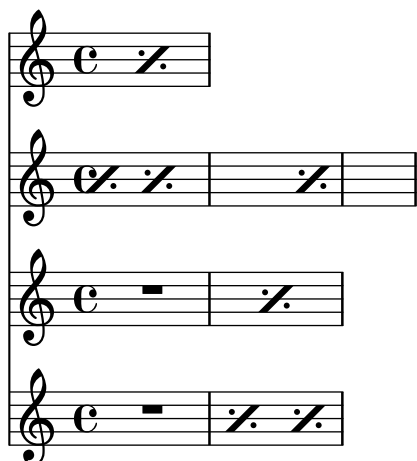
repeat-percent-count.ly



Percent repeats are also centered when there is a grace note in a parallel staff.
 repeat-percent-grace.ly

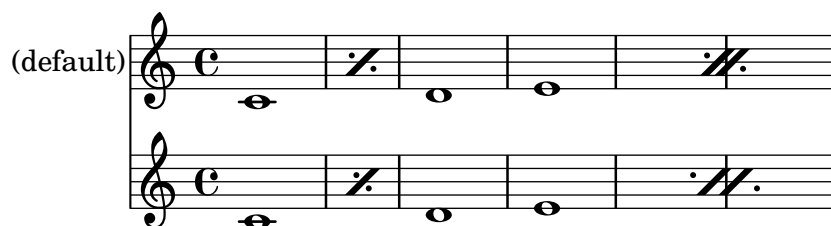


Isolated percent-repeat signs can be printed.
 repeat-percent-isolated.ly



The positioning of dots and slashes in percent repeat glyphs can be altered using dot-negative-kern and slash-negative-kern.

repeat-percent-kerning.ly



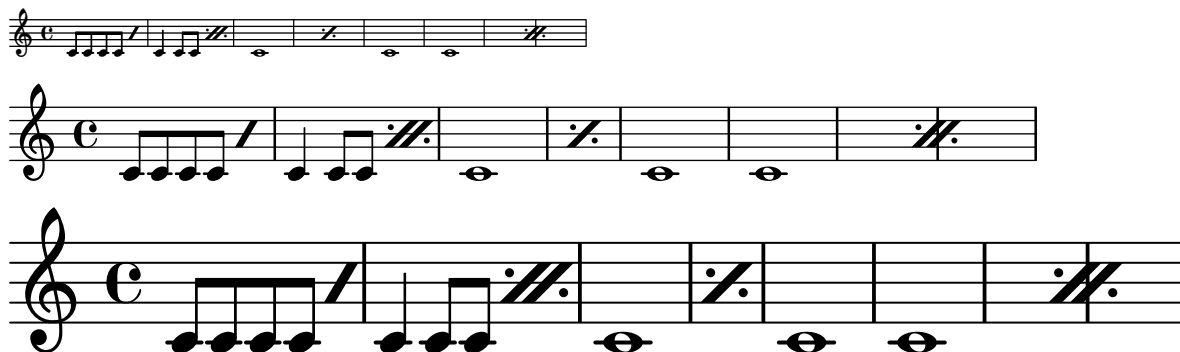
Percent repeats are not skipped, even when skipBars is set.

repeat-percent-skipbars.ly



Slash and percent signs are correctly scaled at different staff sizes.

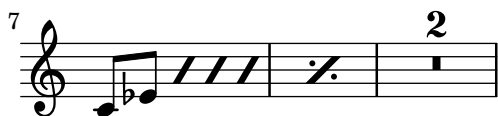
repeat-percent-staff-size.ly



Measure repeats may be nested with beat repeats.

repeat-percent.ly





Alternative endings are not expected in ancient music. Here, the signum repetitionis resembles a modern repeat sign rather than telling the number of times the alternative is performed.

`repeat-petrucchi-alternatives.ly`

This test demonstrates an ancient repeat sign in the Petrucci style, but with measure bar lines enabled. A single bar line should follow each repeat sign.

`repeat-petrucchi-with-measure-bar-lines.ly`

This test demonstrates an ancient repeat sign in the Petrucci style. The sign consists of 1 to 4 short strokes between repeat dots, with the number of strokes indicating the number of times the preceding section is to be performed. The number of strokes is determined by the argument to `\repeat volta`, and a count higher than 4 falls back on a modern-looking sign with two long strokes. Despite appearances, these repeat signs are not bar lines.

A double bar line should follow the first note. A repeat sign should follow each following note: modern, 4 strokes, 3 strokes, 2 strokes, 1 stroke.

`repeat-petrucchi.ly`

This piece consists of three consecutive sections using `\repeat segno 1`. Because of the count, no repeat notation should appear.

`repeat-segno-count-one.ly`

This tests a `\repeat segno` inside and at the end of a `\repeat volta`. The music unfolds to ABCBD ABCBD

repeat-segno-in-volta-end.ly

This tests a `\repeat segno` inside and in the middle of a `\repeat volta`. The music unfolds to ABCBDE ABCBDE.

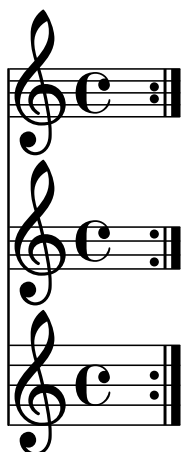
repeat-segno-in-volta-middle.ly

This tests a `\repeat segno` inside and at the start of a `\repeat volta`. The music unfolds to A BCBDE BCBDE.

repeat-segno-in-volta-start.ly

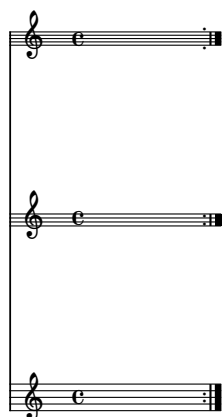
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff size 10 (with layout-set-staff-size).

repeat-sign-global-size10.ly



The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff size 30 (with layout-set-staff-size).

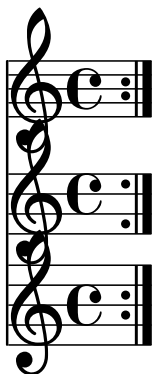
repeat-sign-global-size30.ly



The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test set-global-staff size 10 (with layout-set-staff-size).

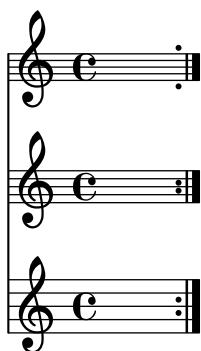
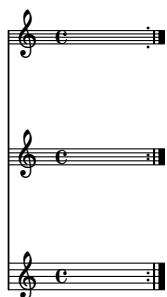
repeat-sign-global-size5.ly





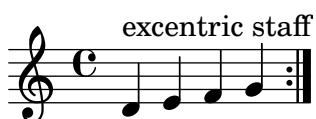
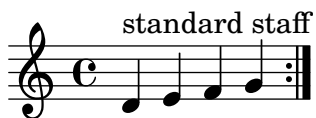
The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves. Test layout-set-staff-size.

repeat-sign-layout-size.ly

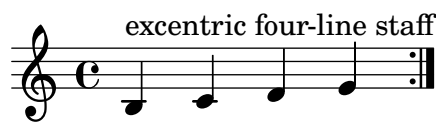


The two dots of a repeat sign should be symmetric to the staff center and avoid staff lines even for exotic staves.

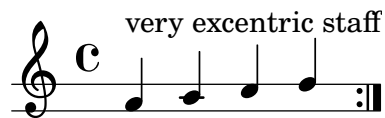
repeat-sign.ly



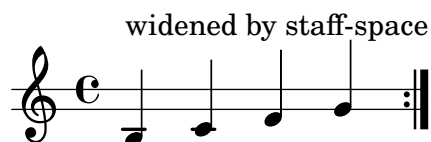
excentric four-line staff



very excentric staff



widened by staff-space



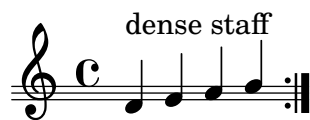
dots outside



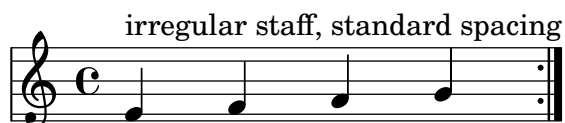
narrow staff



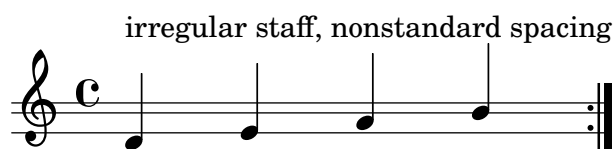
dense staff



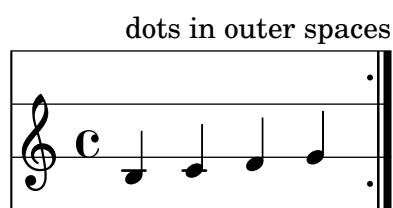
irregular staff, standard spacing



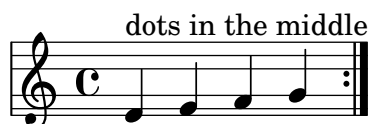
irregular staff, nonstandard spacing



dots in outer spaces



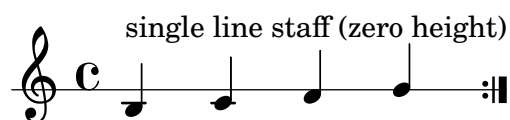
dots in the middle



thick-lined staff



single line staff (zero height)

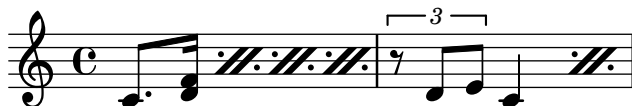


no staff



Beat repeats for patterns containing mixed durations use a double percent symbol.

repeat-slash-mixed.ly



Beat repeats for patterns containing identical durations shorter than an eighth note use multiple slashes.

repeat-slash-multi.ly



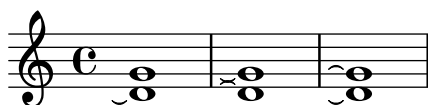
Within a bar, beat repeats denote that a music snippet should be played again.

repeat-slash.ly



\repeatTie ties should also work on individual notes of a chord.

repeat-tie-chords.ly



A \repeatTie may be parenthesized.

repeat-tie-parenthesize.ly



Repeat ties are only connected on the right side to a note head.

repeat-tie.ly



Each of the staves here should have four tremolo beams.

repeat-tremolo-beams.ly



Tremolos work with chord repetitions.

`repeat-tremolo-chord-rep.ly`



Dots are added to tremolo notes if the durations involved require them.

`repeat-tremolo-dots.ly`



A tremolo repeat containing only one note (no sequential music) shall not be scaled. An articulation or dynamic sign on the note should not confuse lilypond.

`repeat-tremolo-one-note-articulation.ly`



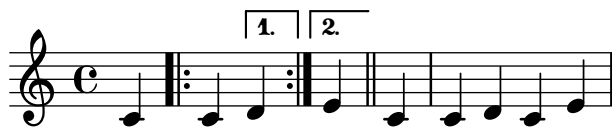
A tremolo can have more than two notes. Also check that linebreaks between tremolos still work and that empty tremolos don't crash.

`repeat-tremolo-three-notes.ly`



Volta repeats may be unfolded through the music function `\unfoldRepeats`.

repeat-unfold-all.ly



\repeat unfold 1 unfolds according to the count. This piece has one measure and \unfoldRepeats does not change that.

repeat-unfold-count-one.ly



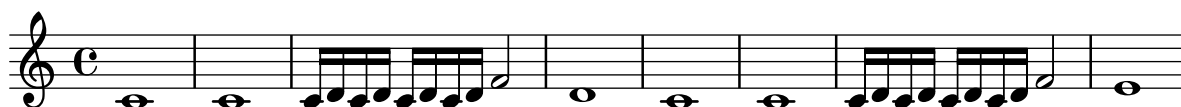
The music function \unfoldRepeats can take an optional argument-list specifying which type(s) of repeated music has to be unfolded.

repeat-unfold-partial.ly

not expanding



expanding all



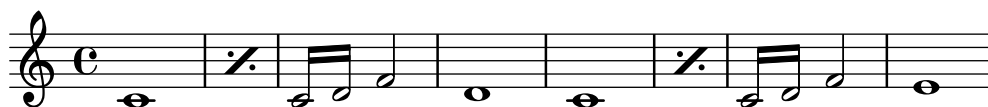
expanding percent-repeated-music



expanding tremolo-repeated-music



expanding volta-repeated-music



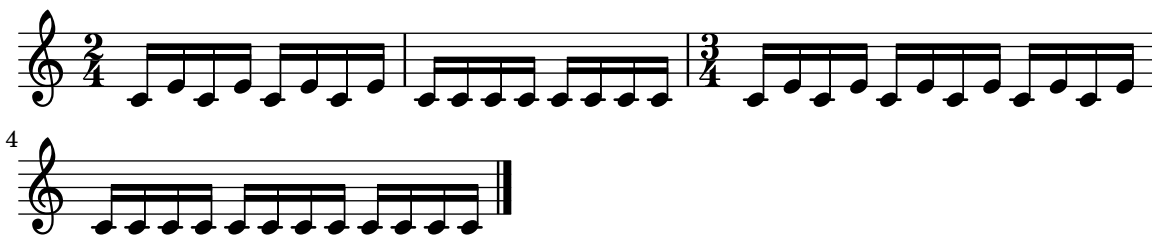
combinations are possible:

expanding percent-repeated-music and tremolo-repeated-music



Unfolding tremolo repeats. All fragments fill one measure with 16th notes exactly.

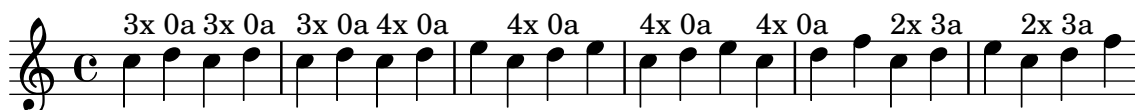
repeat-unfold-tremolo.ly



LilyPond has two modes for repeats: unfolded and semi-unfolded. Unfolded repeats are fully written out. Semi unfolded repeats have the body written and all alternatives sequentially. If the number of alternatives is larger than the repeat count, the excess alternatives are ignored. If the number of alternatives is smaller, the first alternative is multiplied to get to the number of repeats.

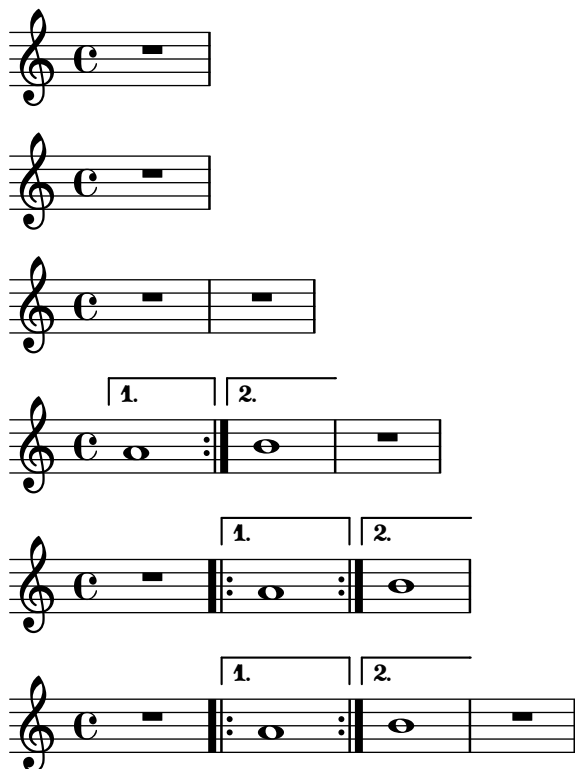
Unfolded behavior:

repeat-unfold.ly



If the body of a volta repeat is empty, the alternatives are still rendered with the expected volta notation.

repeat-volta-body-empty.ly



If the body of a volta repeat is only a grace note, it is still engraved as expected.

repeat-volta-body-grace.ly

This test covers a volta repeat as top-level music with the repeat body being simultaneous music.

repeat-volta-body-simultaneous.ly

This piece consists of three consecutive sections using `\repeat volta 1`. Setting `printTrivialVoltaRepeats` notates bars and a bracket anyway, but the piece still unfolds according to the repeat count.

repeat-volta-count-one-printed.ly

This piece consists of three consecutive sections using `\repeat volta 1`. Because of the count, no repeat notation should appear.

repeat-volta-count-one.ly

This tests a `\repeat volta` inside and at the end of a `\repeat segno`. The music unfolds to ABCBD ABCBD

repeat-volta-in-segno-end.ly

This tests a `\repeat volta` inside and in the middle of a `\repeat segno`. The music unfolds to ABCBDE ABCBDE.

repeat-volta-in-segno-middle.ly

This tests a `\repeat volta` inside and at the start of a `\repeat segno`. The music unfolds to A BCBDE BCBDE.

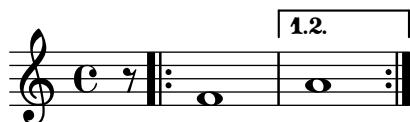
repeat-volta-in-segno-start.ly

A piece beginning with grace notes followed by a volta repeat has an opening repeat bar in the expected position.

repeat-volta-initial-grace.ly

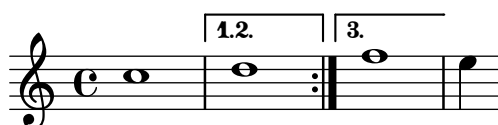
A single `\alternative` is a way to indicate a repeat count when there is no variation.

`repeat-volta-one-alternative.ly`



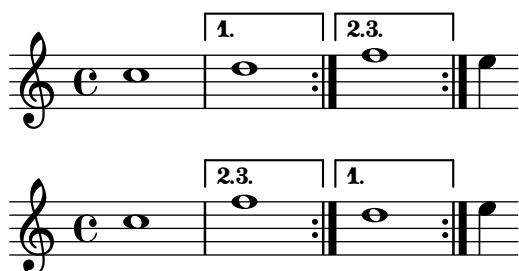
When too few alternatives are present, the first alternative is repeated, by printing a range for the 1st repeat.

`repeat-volta-skip-alternatives.ly`



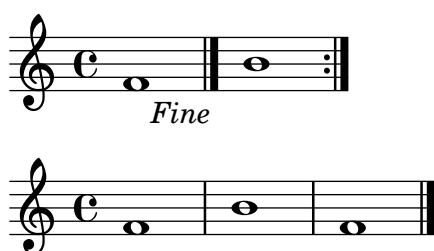
`\volta` assigns bracket labels without reordering alternatives. A final alternative that is not exclusive to the final volta ends with a repeat bar.

`repeat-volta-specified-alternatives.ly`



`\fine` ends the piece when it is found outside folded repeats.

`repeat-volta-with-fine.ly`



Volta (Semi folded) behavior. Voltas can start on non-bar line moments. If they don't bar lines should still be shown.

`repeat-volta.ly`

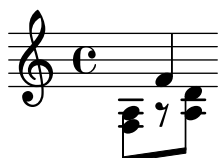


Rests avoid notes. Each rest is moved in the direction of the stems in its voice. Rests may overlap other rests in voices with the same stem direction, in which case a warning is given, but is suppressed if the rest has a pitch.

`rest-avoid-note.ly`



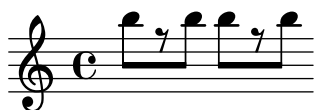
Beam/rest collision resolution and normal rest/note collisions can be combined.
rest-collision-beam-note.ly



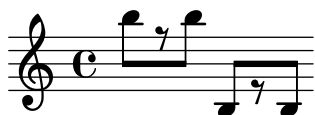
Rests under beams are moved by whole staff spaces.
rest-collision-beam-quantized.ly



Beam/rest collision takes offset due to Rest #'direction into account properly.
rest-collision-beam-restdir.ly



Rests under beams are shifted upon collision.
rest-collision-beam.ly



Vertical rest positions in a multi-voice staff should obey the duration of notes; this is, they shouldn't return to a default position too early.

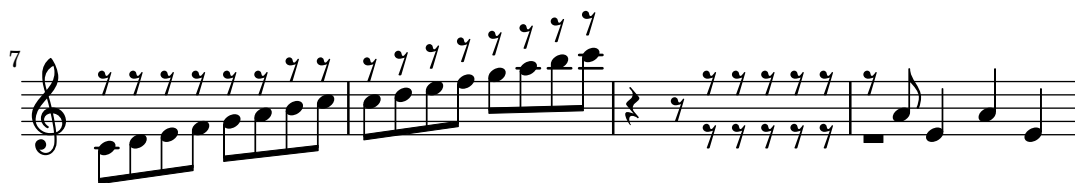
rest-collision-note-duration.ly



Rests should not collide with beams, stems and noteheads. Rests may be under beams. Rests should be move by integral number of spaces inside the staff, and by half spaces outside. Notice that the half and whole rests just outside the staff get ledger lines in different cases.

rest-collision.ly





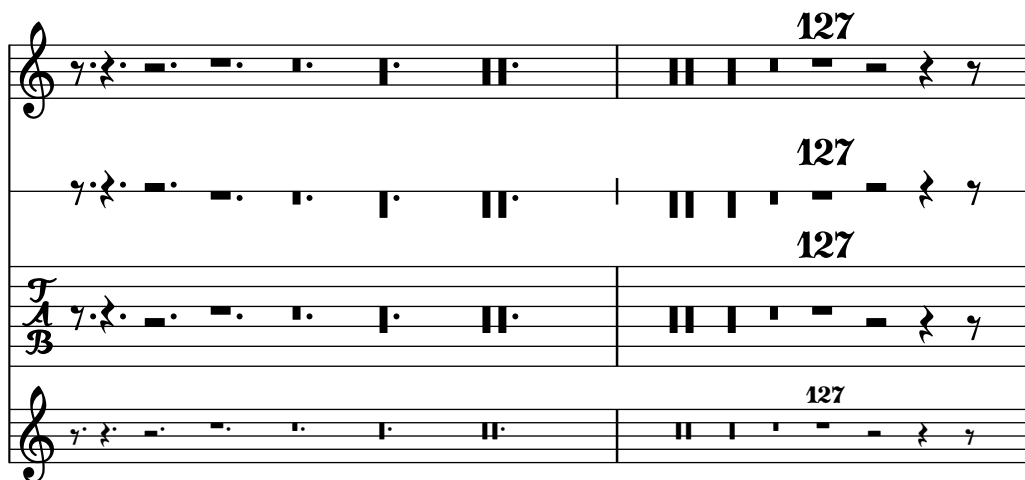
Dots of rests should follow the rest positions.

rest-dot-position.ly



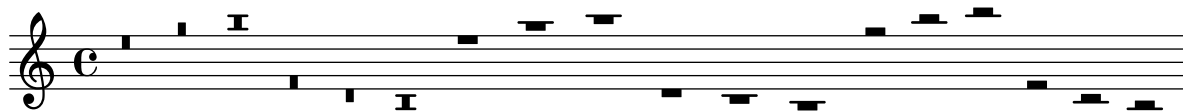
Breve, longa, and maxima rests should hang down from staff lines in one line staves, different staff space and font size.

rest-hanging-breve.ly



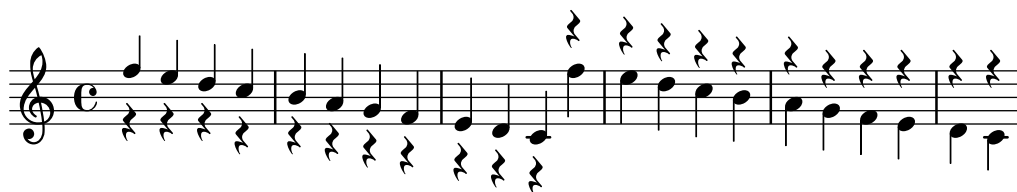
Breve, whole and half rests moving outside the staff should get ledger lines.

rest-ledger.ly



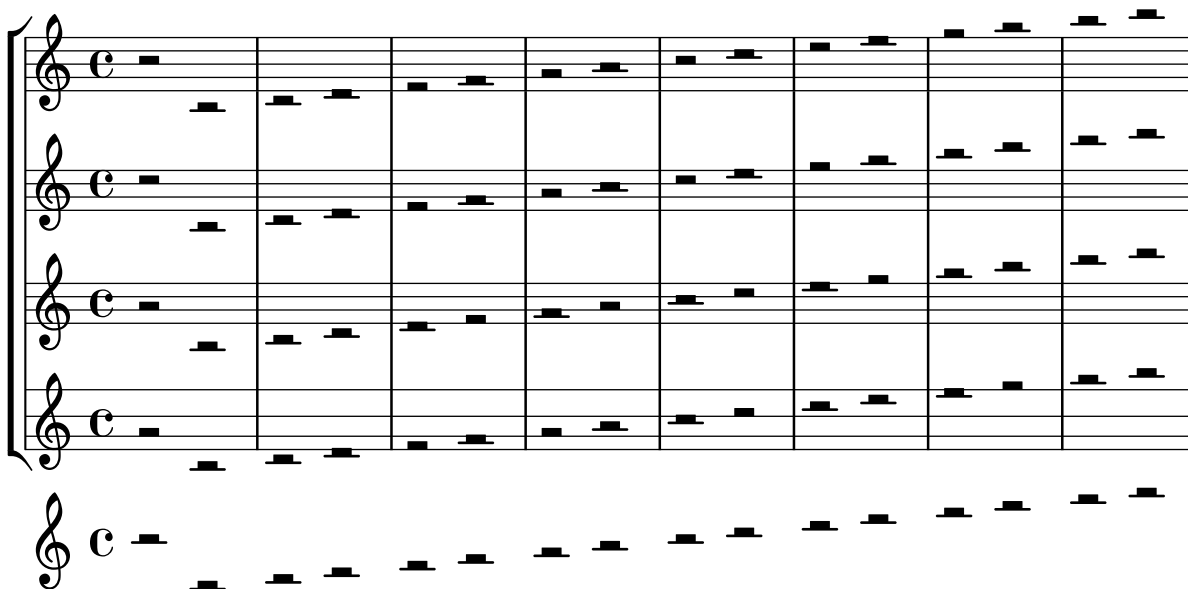
In rest-note collisions, the rest moves in discrete steps, and inside the staff, it moves in whole staff spaces.

rest-note-collision.ly



half rests should lie on a staff line, whole rests should hang from a staff line by default even for non-standard staves, except when the position is set by pitch.

rest-on-nonstandard-staff.ly



9

19

31

43

A musical score for measures 43 to 48. It consists of four staves. Each staff contains a series of notes, with some notes having stems pointing upwards and others downwards. The notes are positioned on various lines and spaces of the staves.

A single staff of music containing six notes. Each note has a stem pointing upwards. The notes are positioned on the first, second, third, fourth, fifth, and sixth lines of the staff.

55

A musical score for measures 55 to 60. It consists of four staves. Each staff contains a series of notes, with some notes having stems pointing upwards and others downwards. The notes are positioned on various lines and spaces of the staves.

A single staff of music containing three notes. Each note has a stem pointing downwards. The notes are positioned on the first, third, and fifth lines of the staff.

69

A musical score for measures 69 to 74. It consists of four staves. Each staff contains a series of notes, with some notes having stems pointing upwards and others downwards. The notes are positioned on various lines and spaces of the staves.

A single staff of music containing three notes. Each note has a stem pointing downwards. The notes are positioned on the first, third, and fifth lines of the staff.

81

A musical score system starting at measure 81. It consists of a grand staff with four treble clefs and a single bass clef below. The grand staff contains four staves with vertical tick marks at measures 1, 5, and 9. The single bass clef staff has vertical tick marks at measures 1, 5, and 9.

A single bass clef staff with vertical tick marks at measures 1, 5, and 9.

93

A musical score system starting at measure 93. It consists of a grand staff with four treble clefs and a single bass clef below. The grand staff contains four staves with vertical tick marks at measures 1, 5, and 9. The single bass clef staff has vertical tick marks at measures 1, 5, and 9.

A single bass clef staff with vertical tick marks at measures 1, 5, and 9.

105

A musical score system starting at measure 105. It consists of a grand staff with four treble clefs and a single bass clef below. The grand staff contains four staves with vertical tick marks at measures 1, 5, and 9. The single bass clef staff has vertical tick marks at measures 1, 5, and 9.

A single bass clef staff with vertical tick marks at measures 1, 5, and 9.

117

Rests can have pitches – these will be affected by transposition and relativization. If a rest has a pitch, rest/rest and beam/rest collision resolving will leave it alone.

rest-pitch.ly

Pitched rests under beams.

rest-pitched-beam.ly

In polyphonic situations, rests are moved according to their direction even if there is no opposite note or rest. The amount in staff-positions is set by `voiced-position`.

rest-polyphonic.ly

This shows the one-voice rest positions for various standard and tab staves.

rest-positioning-one-voice.ly

R1*7 R1 r1 r2

B C | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

B e | 7 - | - | - | ~

T
A
B C | 7 - | - | - | ~

T
A
B e | 7 - | - | - | ~

T
A
B C | 7 - | - | - | ~

This shows the two-voice rest positions for various standard and tab staves.

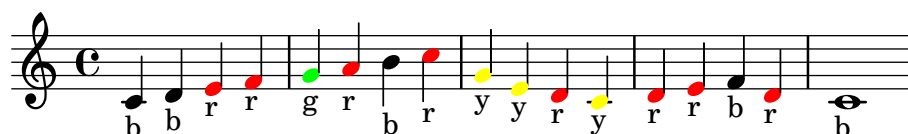
`\retrograde` can deal with crescendo and decrescendo as long as they are properly paired with `\endcr/\!` and `\enddecr`. Direction modifiers on slurs like `^` (need to be repeated as `^`) at the end. Ties and glissandi work mostly (in-chord ties are turned into ordinary per-chord/note ties, however).

`retrograde.ly`



`\once \revert` can be used for reverting a property once rather than permanently.

`revert-once.ly`



When an unpitched duration is parsed as a rhythmic event, it sets the default duration of the following note events. This happens even when it is the argument of a music function. In these examples, notes with an explicit duration are indicated with an accent and the following notes have to have the same duration.

`rhythm-sets-default-duration.ly`



Durations without pitches are placed into note events without pitch information. Those are directly useful in `RhythmicStaff`.

`rhythmic-sequence.ly`



In rhythmic staves stems should go up, and bar lines have the size for a 5 line staff. The whole rest hangs from the rhythmic staff.

`rhythmic-staff.ly`



This should produce an SATB score on two staves with 5 verses and piano accompaniment.

`satb-template-on-two-staves-with-verses.ly`

SOPRANO
ALTO

1. First stanza
2. Se-cond stanza
3. Third stanza
4. Fourth stanza
5. Fifth stanza

TENOR
BASS

PIANO

Soprano and tenor voices may be omitted without error, even when TwoVoicesPerStaff is specified and Alto and Bass lyrics are provided.

satb-template-soprano-and-tenor-may-be-omitted.ly

ALTO

Al-to lyrics

BASS

Bass lyrics

Instrument names and short instrument names can be changed when using the satb built-in template.

satb-template-with-changed-instrument-names.ly

SOPRANI
CONTRALTI

MEN DIV

ORGAN

A musical score for SATB voices and piano accompaniment. The first system consists of four staves: Soprano (SOP), Contralto (CON), Tenor (M UNI), and Bass (UNI). The Soprano and Contralto parts are in treble clef, and the Tenor and Bass parts are in bass clef. A '2' is written above the Soprano staff. The piano accompaniment is shown in a grand staff (treble and bass clefs) below the voices. The notes are: Soprano (G4, A4, B4, C5), Contralto (F4, G4, A4, B4), Tenor (G3, F3, E3, D3), Bass (G2, F2, E2, D2), and Piano (Right hand: G4, A4, B4, C5; Left hand: G2, F2, E2, D2).

This should produce an SATB score with piano accompaniment, with four voices in the first system, unison women voices with descant in the second system and unison women and unison men voices in the third system.

satb-template-with-men-women-and-descant.ly

A musical score for SATB voices with lyrics and piano accompaniment. The first system consists of five staves: Soprano, Alto, Tenor, Bass, and Piano. The Soprano, Alto, Tenor, and Bass parts are in treble clef, and the Piano part is in a grand staff (treble and bass clefs). The lyrics are: Soprano lyrics, Al - to lyrics, Te - nor lyrics, Bass lyrics. The notes are: Soprano (G4, A4, B4, C5), Alto (F4, G4, A4, B4), Tenor (G3, F3, E3, D3), Bass (G2, F2, E2, D2), and Piano (Right hand: G4, A4, B4, C5; Left hand: G2, F2, E2, D2).

2

D Descant lyrics

W Wo-men lyrics

3

W Women lyrics

M Men lyrics

Scores can be generated with scheme, too, and inserted into the current book(part). Generated and explicit scores can be mixed, the header informations from top- and booklevel stack correctly.

`scheme-book-scores.ly`

Main Title

Main subtitle

Score with a c

Piecititle

Title 1

Sub1

Score with a d

Piecititle



Piecetitle



Score with a e

Piecetitle



Main Title
Main subtitle

Piecetitle



Score with a f

Piecetitle



Main Title
Main subtitle

Score with a g

Piecetitle



Scheme engravers may be instantiated, with instance-scoped slots, by defining a 1 argument procedure which shall return the engraver definition as an alist, with the private slots defined in a closure. The argument procedure argument is the context where the engraver is instantiated.

```
scheme-engraver-instance.ly
```



\consists can take a scheme alist as arguments, which should be functions, which will be invoked as engraver functions.

scheme-engraver.ly



The #@ and \$@ operators splice a list, returning multiple values to the parser. This is equivalent to returning the multiple values directly using values.

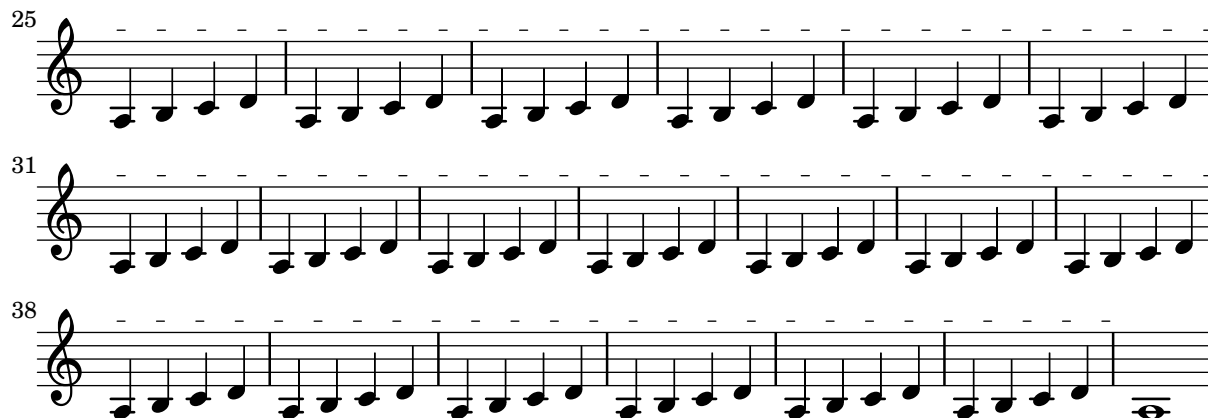
scheme-list-splicing.ly



Use define-event-class, scheme engraver methods, and grob creation methods to create a fully functional text spanner in scheme.

scheme-text-spanner.ly





Console output should indicate that translators created with `make-translator` are available in `\layout` and `\midi`, engravers created with `make-engraver` just in `\layout`, and performers created with `make-performer` just in `\midi`.

`scheme-translators.ly`

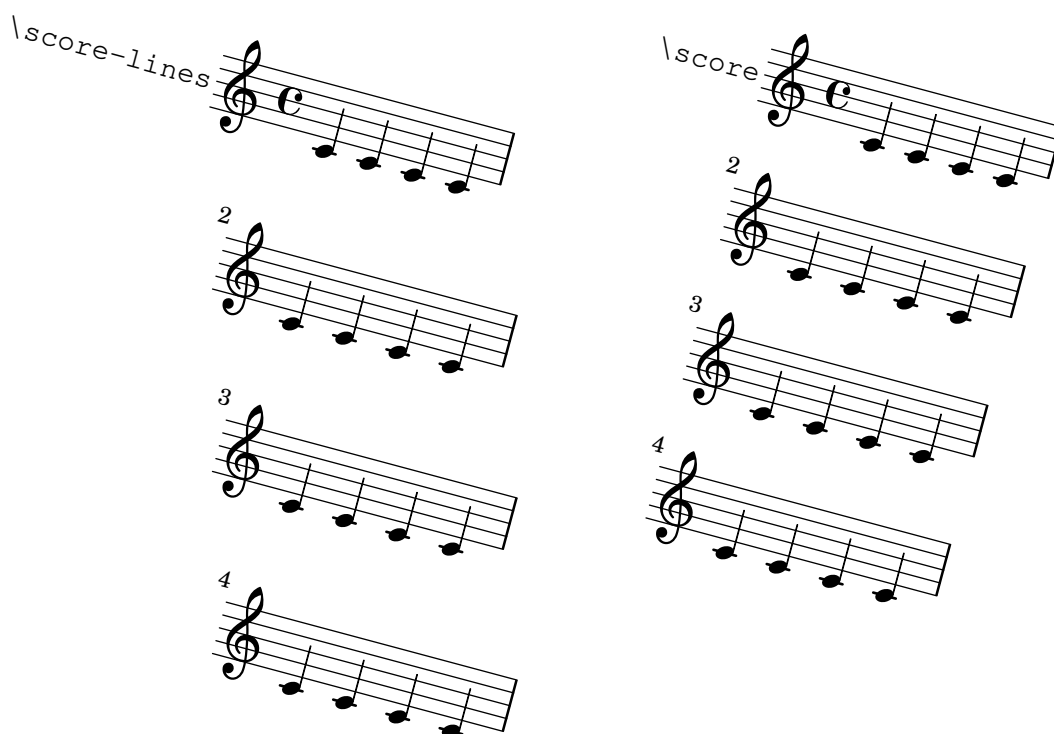


Ensures the zombie check actually works. This should print a log message 'object should be dead'

`scheme-zombies.ly`

The `\score-lines` markup returns individual score lines as stencils rather than a single stencil. Calling a function like `\rotate` on `\score-lines` rotates the lines individually, as contrasted with rotating an entire `\score` markup.

`score-lines.ly`



It works to set titling fields to **##f** on score level while they have been defined to markup values in the global header.

score-suppress-title.ly



Markup texts are rendered above or below a score.

score-text.ly

High up above

The image shows two staves of musical notation in bass clef with a common time signature (C). The first staff contains the lyrics 'My first Li - ly song,' with notes corresponding to the words. The second staff, starting with a '3' above the first note, contains the lyrics 'Not much can go wrong!' with notes corresponding to the words.

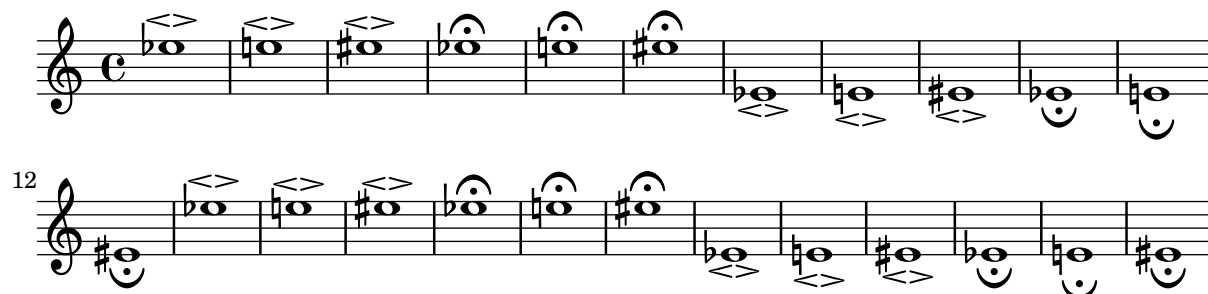
My first Li - ly song,

3
Not much can go wrong!

2. My next Li-ly verse
Now it's getting worse!
3. My last Li-ly text
See what will be next!

Scripts use skylines with accurate boxes to avoid accidentals.

`script-accidental-collision.ly`



Scripts on chords with seconds remain centered on the extremal note head

`script-center-seconds.ly`



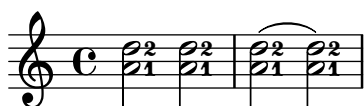
Scripts are put on the utmost head, so they are positioned correctly when there are collisions.

`script-collision.ly`



Horizontal scripts don't have `avoid-slur` set.

`script-horizontal-slur.ly`



Omitted scripts on skips do not cause crashes.

`script-no-stencil.ly`



The horizontal placement of staccato dots above an upstem or below a downstem note differs from the placement of other scripts in that different positioning is used when the dot is alone and when it is part of a compound articulation. The property `toward-stem-shift-in-column` ensures good default positioning of the staccato (see first measure below), and allows precise horizontal control of a column containing a staccato and of the staccato within it (second measure). (0.0 means centered on the note head, 1.0 means centered on the stem.)

`script-shift-staccato.ly`



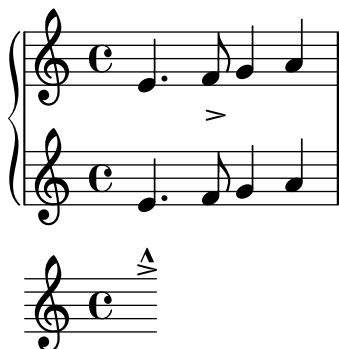
The `toward-stem-shift` property controls the precise horizontal location of scripts that are placed above an upstem or below a downstem note (0.0 means centered on the note head, 1.0 means centered on the stem).

`script-shift.ly`



Scripts on skips are supported.

`script-skip.ly`



horizontal scripts are ordered, so they do not overlap. The order may be set with `script-priority`.

The scripts should not be folded under the time signature.

`script-stack-horizontal.ly`



Scripts can be stacked. The order is determined by a priority field, but when objects have the same priority, the input order determines the order. Objects specified first are closest to the note.

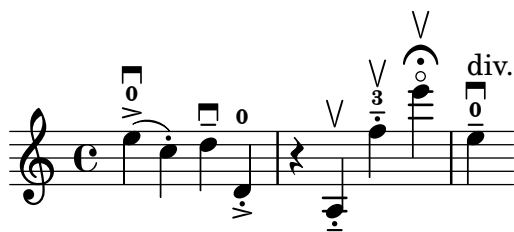
`script-stack-order.ly`



The vertical stacking order of scripts goes from least to most technical, where the least technical scripts are closest to the note: articulation, flageolet, fingering, right-hand fingering, string number, fermata, bowing, text script.

`script-stack-order1.ly`





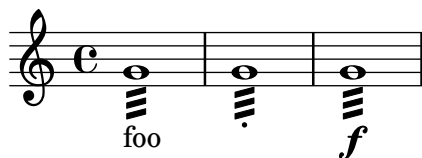
Scripts may be stacked.

script-stacked.ly



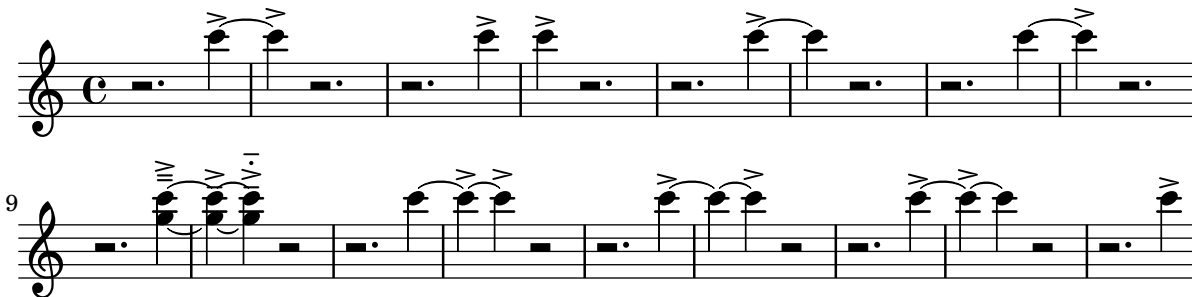
Scripts avoid stem tremolos even if there is no visible stem.

script-stem-tremolo.ly



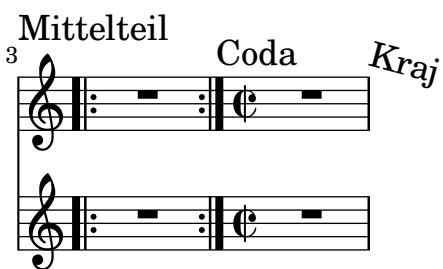
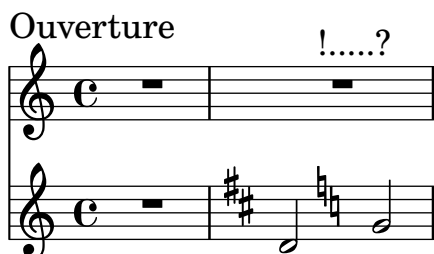
Scripts avoid ties.

script-tie-collision.ly



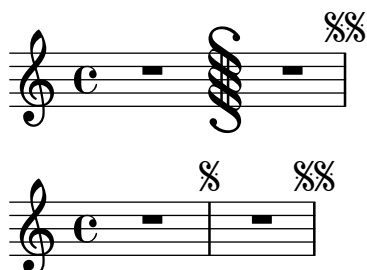
Section labels appear at the top of the system, appear at the beginning of a line at a break, remain visible at the end of the score, and can be styled via the SectionLabel grob.

section-label-style.ly



`\segnoMark \default` at the beginning of the score does not create a mark. A single segno should appear at the beginning of the second measure and a double segno should appear at the end.

`segno-mark-begin-score-default.ly`



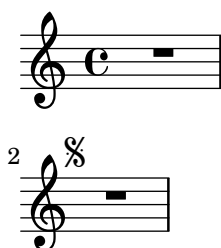
`\segnoMark 1` at the beginning of the score creates a visible mark. A single segno should appear at the beginning of the measure and a double segno should appear at the end.

`segno-mark-begin-score-specific.ly`



A segno at a line break appears at the beginning of the line.

`segno-mark-break.ly`



Where a segno mark is not aligned on a measure boundary, the bar line defined by `underlyingRepeatBarType` appears by default. In this case, the single segno should have a normal bar line and the double segno should have a dotted bar line.

`segno-mark-unaligned.ly`



Segni are printed as marks or bar lines according to the `segnoStyle` context property. The `mark` style, which is the default, yields marks only. When the style is set to `bar-line`, the default `segnoMarkFormatter` skips the mark for segno 1, but allows marks on later segni to eliminate ambiguity. The user can override the segno formatter with a rehearsal-mark formatter. Rehearsal marks and segni are sequenced independently.

`segno-style.ly`


default 

bar-line 


bar-line & formatter 

Grobs using `ly:self-alignment-interface::aligned-on-x-parent` and `ly:self-alignment-interface::aligned-on-y-parent` callbacks support separate alignments for self and parent.

`self-alignment-and-parent-alignment.ly`



left-left left-center left-right



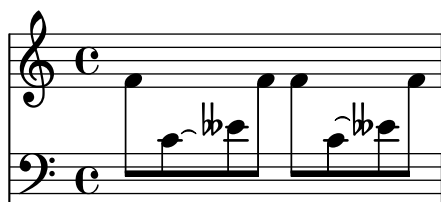
center-left center-center center-right



right-left right-center right-right

Cross-staff `RepeatTie` and `LaissezVibrerTie` do not trigger programming errors for circular dependencies in direction.

`semi-tie-cross-staff.ly`



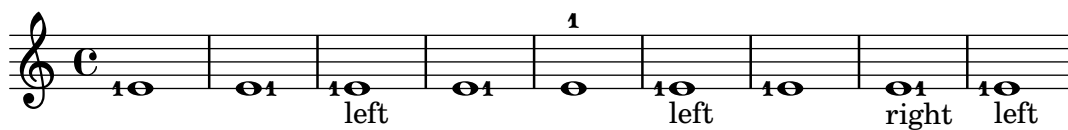
Semi tie directions may be forced from the input.

`semi-tie-manual-direction.ly`



`\once \set` should change a context property value for just one timestep and then return to the previous value.

set-once.ly



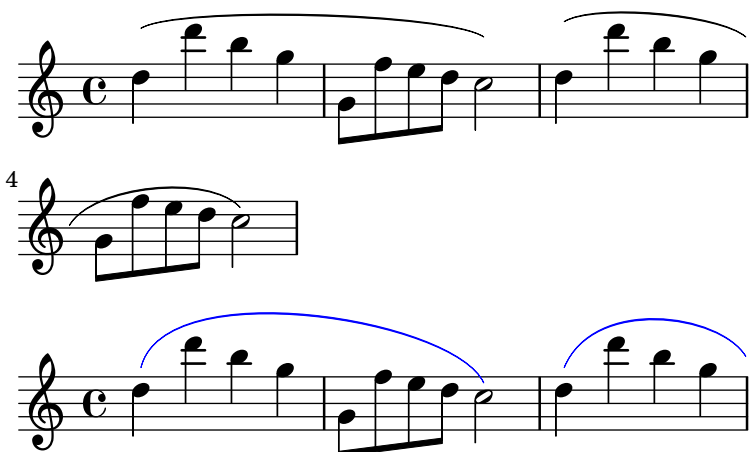
In addition to Slur, the music function `\shape` works with `PhrasingSlur`, `Tie`, `LaissezVibrerTie`, and `RepeatTie`. Each is shown below, first unmodified and then (in blue) after application of the function.

shape-other-curves.ly



The control points of a broken or unbroken slur may be offset by `\shape`. The blue slurs are modified from the default slurs shown first.

shape-slurs.ly





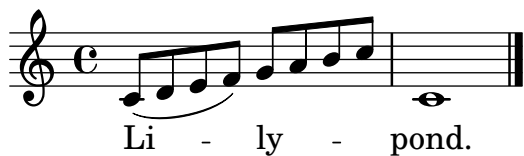
`\shiftDurations` can use negative dot values without causing a crash.

`shift-durations-negative-dots.ly`



A number of shorthands like `(,)`, `|`, `[`, `]`, `~`, `\(`, `\)` and others can be redefined like normal commands. `ly/declarations-init.ly` serves as a regtest for a number of them. This test just demonstrates replacing `(` and `)` with melismata commands which are *not* articulations.

`shorthands.ly`



The `show-horizontal-skylines` and `show-horizontal-skylines` properties display skylines to assist debugging.

`show-skylines.ly`

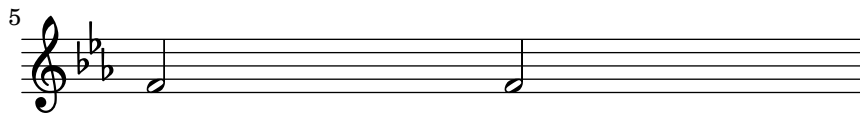
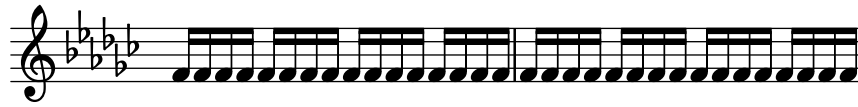


The space types `shrink-space` and `semi-shrink-space` only shrink.

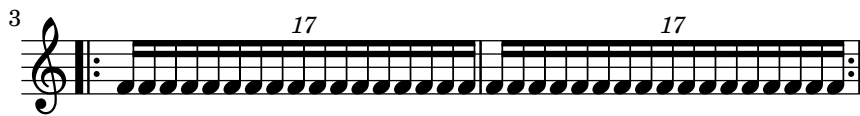
`shrink-space.ly`

1

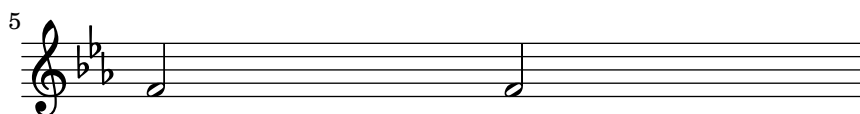
fixed-space



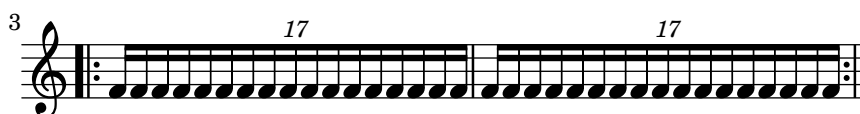
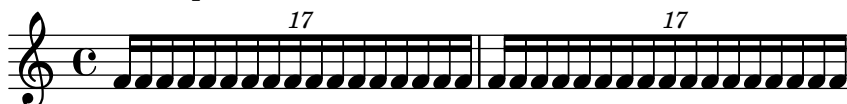
fixed-space



2
shrink-space

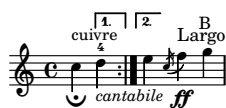


semi-shrink-space



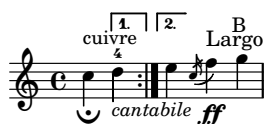
Different text styles are used for various purposes.

size11.ly



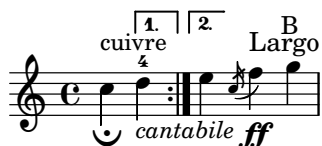
Different text styles are used for various purposes.

size13.ly



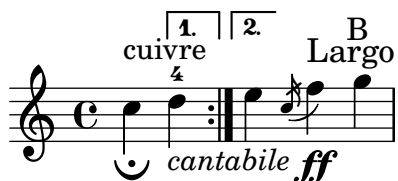
Different text styles are used for various purposes.

size16.ly



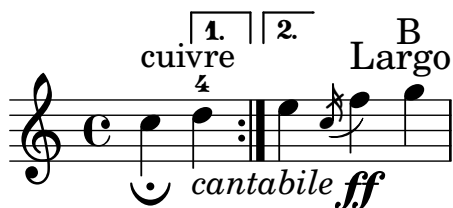
Different text styles are used for various purposes.

size20.ly



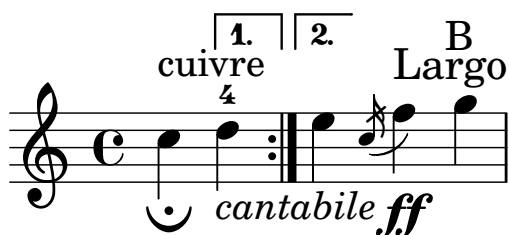
Different text styles are used for various purposes.

size23.ly



Different text styles are used for various purposes.

size26.ly



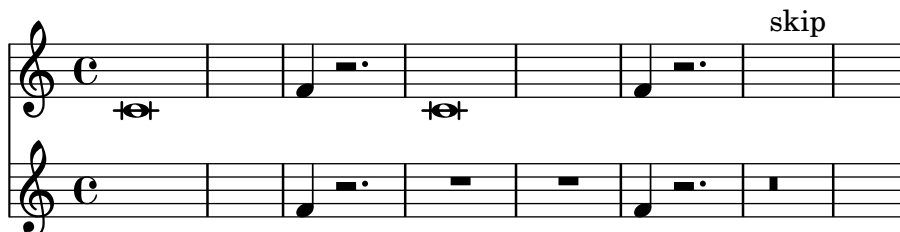
`\skip` can skip over music. The expected output is two A notes separated by two empty measures.

skip-music.ly



`skip-of-length` and `mmrest-of-length` create skips and rests that last as long as their arguments.

skip-of-length.ly



A score with `skipTypesetting` set for the whole score will not segfault.

skiptypesetting-all-true.ly

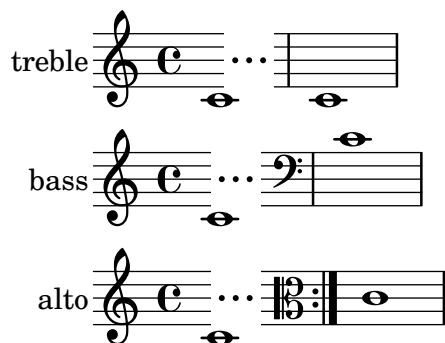
`skipTypesetting` doesn't affect bar checks.

skiptypesetting-bar-check.ly



After a cut made with `skipTypesetting`, a change clef may appear even if one would not normally appear there. The requirement is loose: it must simply be clear which clef the following music requires. The expected clef of the final measure appears in the margin.

`skiptypesetting-clef.ly`



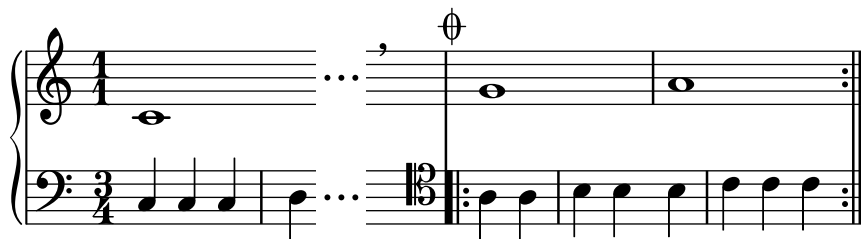
When `skipTypesetting` is set during a `skipBars`-induced `MultiMeasureRest` spanner, no `segfault` occurs.

`skiptypesetting-multimeasurerest.ly`



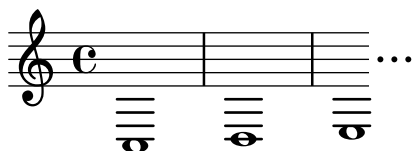
`showFirstLength` and `showLastLength` may be set at the same time; both the beginning and the end of the score will be printed.

`skiptypesetting-show-first-and-last.ly`



`showFirstLength` will only show the first bit of a score

`skiptypesetting-show-first.ly`



`showLastLength` will only show the last bit of a score

`skiptypesetting-show-last.ly`

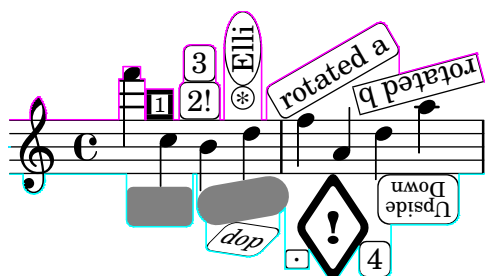


Tuplet brackets are also skipped with `skipTypesetting`.
`skiptypesetting-tuplet.ly`



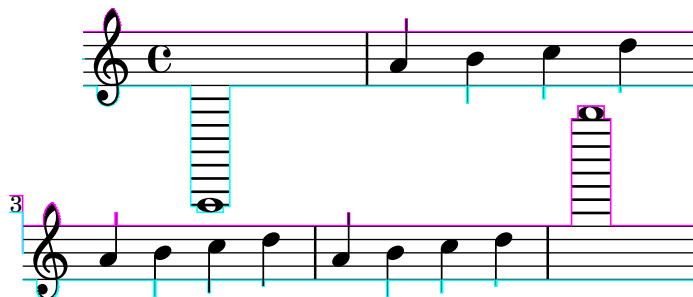
Skylines of boxes with and without rounded corners reflect the actual box outline even if rotated. Skylines of ellipses are stable when rotated.

`skyline-boxes-ellipses.ly`



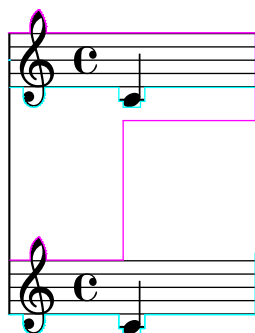
`-ddebug-skyline` draws the outline of the skyline used.

`skyline-debug.ly`



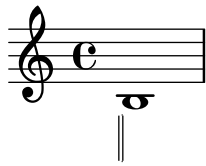
If no outline is available (eg. for embedded PS), the bounding box is used as a fallback.

`skyline-embedded-ps.ly`



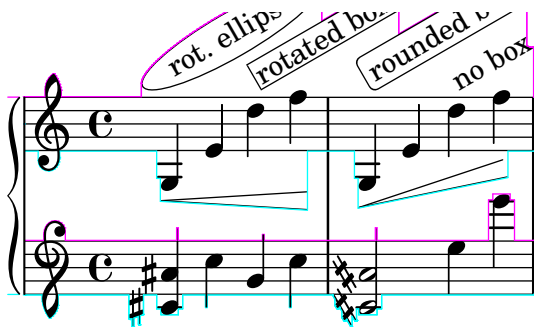
Do not crash on handling round-filled-box with infinite extents.

`skyline-empty-box.ly`



Skylines reflect grob rotation.

skyline-grob-rotation.ly



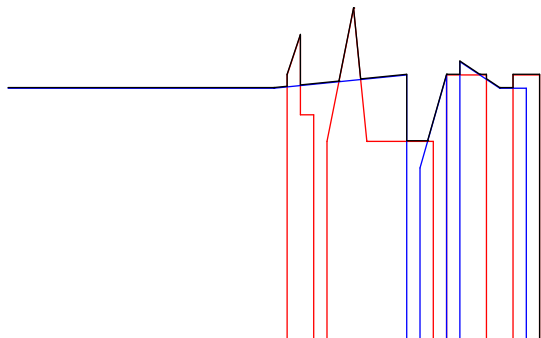
The skyline-horizontal-padding property can be set for System in order to keep systems from being spaced too closely together. In this example, the low notes from a system should not be interleaved with the high notes from the next system.

skyline-horizontal-padding.ly

The image displays three musical staves, labeled 1, 2, and 3, each representing a regression test case for a guitar chord. Each staff consists of a treble clef, a chord diagram, and a vertical fretboard diagram. The chord diagrams show three notes: the 5th fret on the 1st string, the 3rd fret on the 2nd string, and the 1st fret on the 3rd string. The fretboard diagrams show a single fretted note on the 1st fret of the 3rd string, with the number '1' below it. The labels 1, 2, and 3 are positioned to the left of their respective staves.

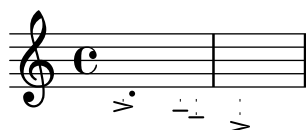
Test skyline merging. The red and blue lines are two skylines with direction UP, represented with the X axis as horizon axis. The black line is the merged skyline. At every point on the X axis, the black line should be at the maximum between the height of the red line and the height of the blue line at that point.

skyline-merging.ly



The Script grobs should follow the descending melody line, even though the NoteHead stencils are point stencils. The Stem_engraver is removed so that the only side-support-element is the NoteHead.

skyline-point-extent.ly



The skylines of side-positioned objects can be removed, without causing crashes.

skyline-removed.ly



Skylines cover all segments of slurs.

skyline-slur-segments.ly



Grobs that have outside-staff-priority set are positioned using a skyline algorithm so that they don't collide with other objects.

skyline-vertical-placement.ly

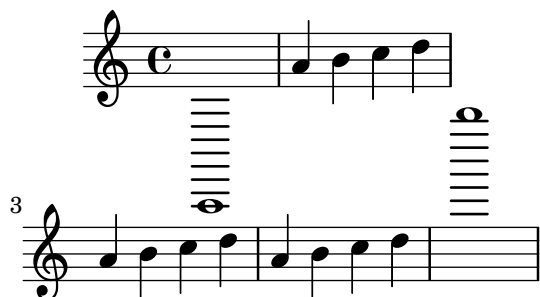
this goes above the previous markup
this doesn't collide with the c



this goes below the dynamic

We use a skyline algorithm to determine the distance to the next system instead of relying only on bounding boxes. This keeps gaps between systems more uniform.

skyline-vertical-spacing.ly



LilyPond v2.25.16

Slurs handle avoid objects better.

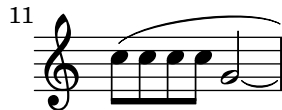
slur-avoid.ly



Across line breaks, slurs behave nicely. On the left, they extend to just after the preparatory matter, and on the right to the end of the staff. A slur should follow the same vertical direction it would have in unbroken state.

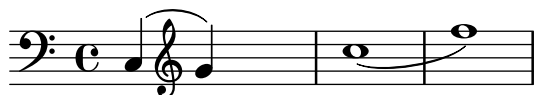
slur-broken-trend.ly





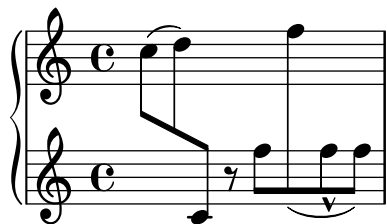
Slurs avoid clefs, but don't avoid bar lines.

`slur-clef.ly`



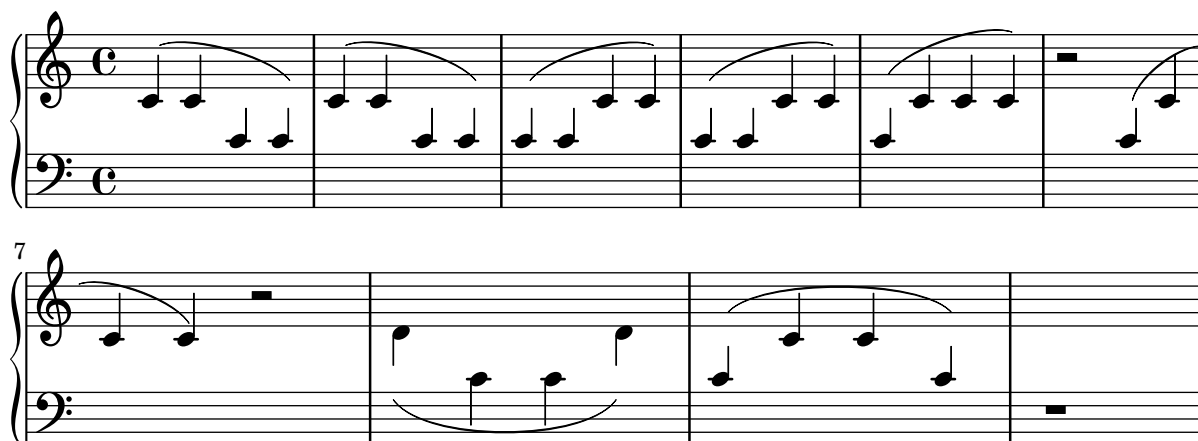
Slurs that depend on a cross-staff beam are not calculated until after line-breaking, and after inside-going articulations have been placed.

`slur-cross-staff-beam.ly`



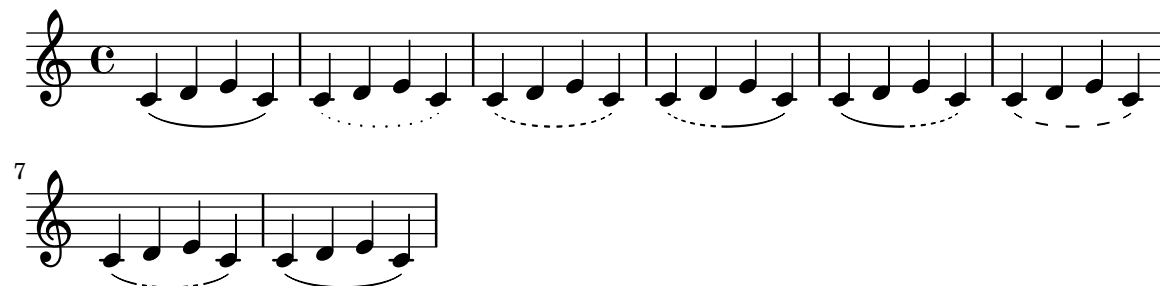
Slurs behave decently when broken across a linebreak.

`slur-cross-staff.ly`



The appearance of slurs may be changed from solid to dotted or dashed.

`slur-dash.ly`



Slurs avoid dots.

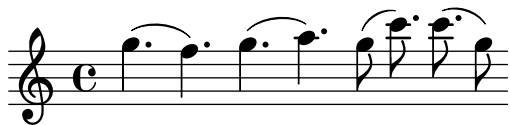
`slur-dot-collision.ly`



Slurs on dotted notes should have a similar distance to the note heads as slurs on non-dotted notes if this does not lead to a collision.

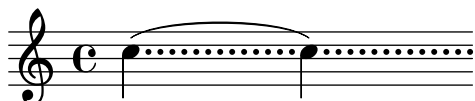
`slur-dot-distance.ly`





Slurs should not get confused by augmentation dots. With a lot of dots, the problems becomes more visible.

`slur-dots.ly`



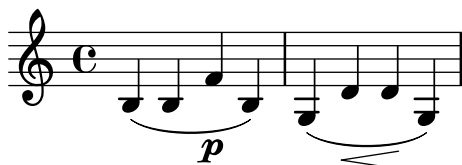
Some composers use slurs both above and below chords. This can be typeset by setting `doubleSlurs`

`slur-double.ly`



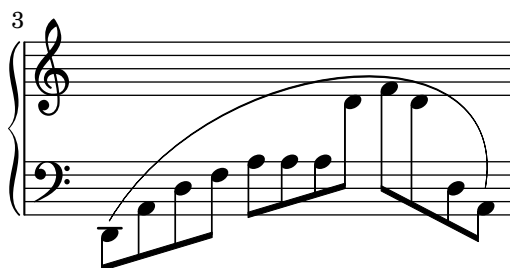
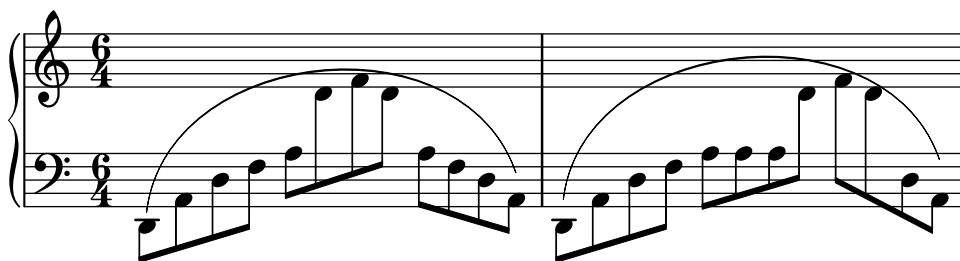
Dynamics avoid collision with slur.

`slur-dynamics.ly`



Extreme slurs are scaled to fit the pattern, but only symmetrically. Asymmetric slurs are created by setting `eccentricity`.

`slur-extreme.ly`



Slurs take flag extents into account.

`slur-flag.ly`



Appoggiatura and acciaccaturas use a different slur than the default, so they produce a nested slur without warnings.

`slur-grace.ly`



Slur shaping is not adapted to accommodate objects towards the edges of slur. Said objects are thus ignored, which should make the slur in this regtest flat. Objects towards the edges are not, however, ignored in the slur scoring.

`slur-height-capping.ly`



Specifying `inspect-quants`, will print out demerit scores for the given configuration. Here, there are demerits for slur slope going to melody slope, and the slur ending far from the right edge.

`slur-inspect-quants.ly`



slope=20.00, R edge=16.71 TOTAL=36.71 idx=7

Setting `positions` overrides the automatic positioning of the slur. It selects the slur configuration closest to the given pair.

`slur-manual.ly`



An additional opening slur during a running slur should be ignored (and a warning printed), but never influence the slur's extents.

`slur-multiple-linebreak.ly`





LilyPond does not support multiple concurrent slurs with the parentheses syntax. In this case, warnings will be given and the nested slur will not be generated. However, one can create a second slur with a different spanner-id.

`slur-multiple.ly`



Slurs should look nice and symmetric. The curvature may increase only to avoid noteheads, and as little as possible. Slurs never run through noteheads or stems.

`slur-nice.ly`



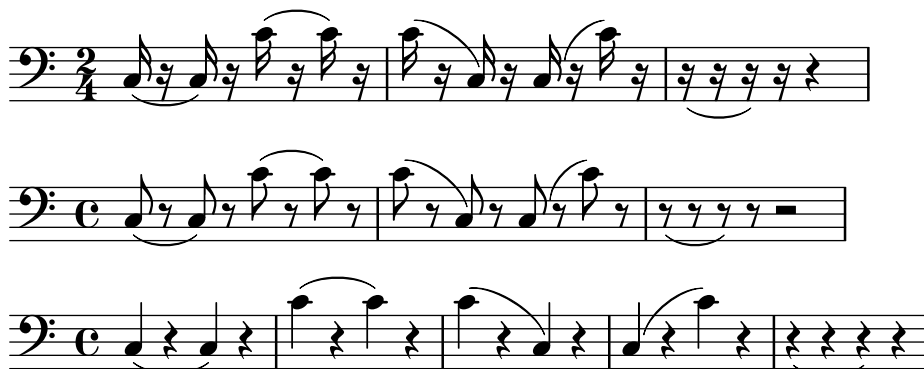
The slur between the stemless notes should begin and end in the same spaces as the slur between the stemmed notes.

`slur-no-stem.ly`



Rests don't change slur direction (default is down).

`slur-rest-direction.ly`





Slurs may be placed over rests. The slur will avoid colliding with the rests.

`slur-rest.ly`



Slur formatting is based on scoring. A large number of slurs are generated. Each esthetic aspect gets demerits, the best configuration (with least demerits) wins. This must be tested in one big file, since changing one score parameter for one situation may affect several other situations.

Tunable parameters are in `scm/slur.scm`.

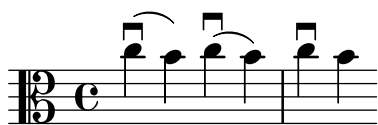
`slur-scoring.ly`

 A series of seven musical staves, each starting with a measure number in the left margin.

- Staff 1 (measure 4): Treble clef, common time. Shows a complex passage with slurs over various note groups.
- Staff 2 (measure 7): Treble clef, common time. Shows a complex passage with slurs over various note groups.
- Staff 3 (measure 12): Treble clef, common time. Shows a complex passage with slurs over various note groups.
- Staff 4 (measure 17): Treble clef, common time. Shows a complex passage with slurs over various note groups.
- Staff 5 (measure 21): Bass clef, common time. Shows a complex passage with slurs over various note groups. The text "slurs forced down" is written above the staff.
- Staff 6 (measure 27): Treble clef, common time. Shows a complex passage with slurs over various note groups.

Slurs avoid scripts with `avoid-slur` set to `inside`, scripts avoid slurs with `avoid-slur` set to `around`. Slurs and scripts keep a distance of `slur-padding`.

`slur-script-inside.ly`



A slur avoids collisions with scripts, which are placed either inside or outside the slur, depending on the script. The slur responds appropriately if a script is moved.

`slur-script.ly`



A slur's shift region is automatically made higher to accommodate extra encompass elements.

`slur-shift-region.ly`



Symmetric figures should lead to symmetric slurs.

`slur-symmetry.ly`



Slurs and ties should never share extremal control points.

`slur-tie-control-points.ly`



The attachment point for strongly sloped slurs is shifted horizontally slightly. Without this correction, slurs will point into one note head, and point over another note head.

`slur-tilt.ly`



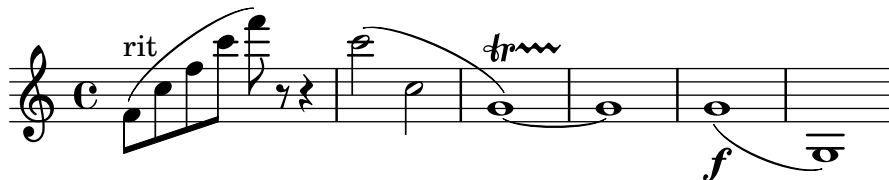
`TupletNumber` grobs are always inside slurs. This may not work if the slur starts after the tuplet.

`slur-tuplet.ly`



Slurs do not force grobs with outside-staff-priority too high.

slur-vertical-skylines.ly



Outside staff callbacks that no longer apply to grobs because they are outside the X boundary of a slur should terminate early. The example below should generate no warnings about Bezier curves and there should be no change in StrokeFinger position between the first and second examples.

slur-vestigial-outside-staff-callback.ly



\smallCaps works on an arbitrary markup argument.

smallcaps-markup.ly

GAVOTTE



The output should include a clef, key signature, and time signature.

spacer-no-notes.ly



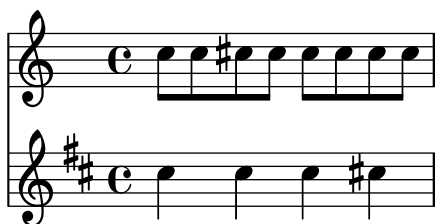
Accidentals don't collide with shifted-down rests.

spacing-accidental-rest.ly



Accidentals in different staves do not affect the spacing of the eighth notes here.

spacing-accidental-staffs.ly



Accidentals do not influence the amount of stretchable space. The accidental does add a little non-stretchable space.

spacing-accidental-stretch.ly



Horizontal spacing works as expected on tied notes with accidentals. No space is reserved for accidentals that end up not being printed, but accidentals that are printed don't collide with anything.

spacing-accidental-tie.ly



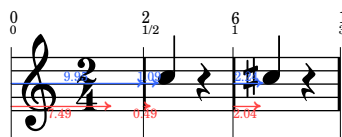
Accidentals sticking out to the left of a note will take a little more space, but only if the spacing is tight.

spacing-accidental.ly



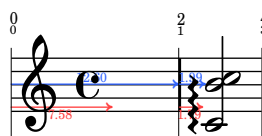
An accidental following a bar gets space so the left edge of the acc is at 0.3 staff space from the bar line

spacing-bar-accidental.ly



An arpeggio following a bar gets space

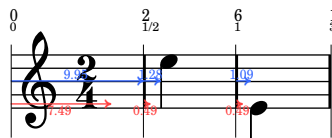
spacing-bar-arpeggio.ly



Downstem notes following a bar line are printed with some extra space. This is an optical correction similar to juxtaposed stems.

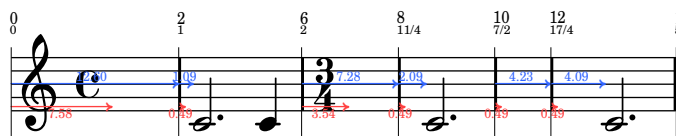
The bar upstem should be approx 1.1 staff space, the bar downstem 1.3 to 1.5 staff space.

spacing-bar-stem.ly



Notes that fill a whole measure are preceded by extra space.

spacing-bar-whole-measure.ly



Clef changes at the start of a line get much more space than clef changes halfway the line.

spacing-clef-first-note.ly



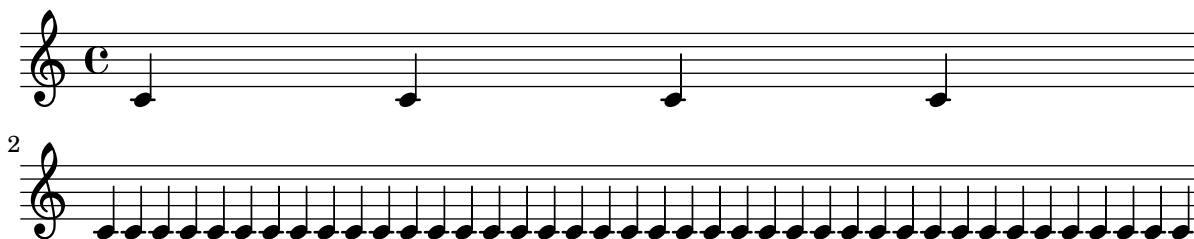
If right hand stems have accidentals, optical spacing correction is still applied, but only if the stem directions are different.

spacing-correction-accidentals.ly



Empty bar lines do not affect spacing.

spacing-empty-bar.ly



Broken engraving of a bar at the end of a line does not upset the space following rests and notes.

spacing-end-of-line.ly





A voicelet (a very short voice to get polyphonic chords correct) should not confuse the spacing engine.

spacing-ended-voice.ly



Clefs are also folded under cross staff constructs.

spacing-folded-clef-cross-staff.ly



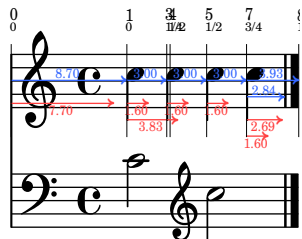
A clef can be folded below notes in a different staff, if this does not disrupt the flow of the notes.

spacing-folded-clef.ly



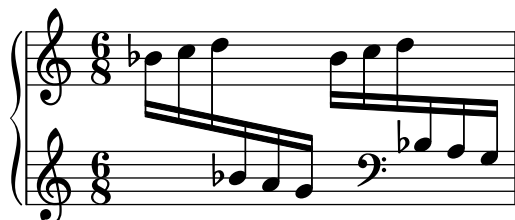
A clef can be folded below notes in a different staff, if there is space enough. With Paper_column stencil callbacks we can show where columns are in the score.

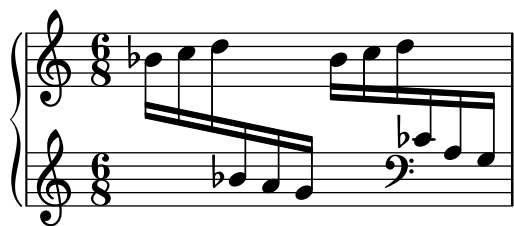
spacing-folded-clef2.ly



Voices that go back and forth between staves do not confuse the spacing engine.

spacing-folded-clef3.ly





Spacing uses the duration of the notes, but disregards grace notes for this. In this example, the 8ths around the grace are spaced exactly as the other 8th notes.

`spacing-grace-duration.ly`



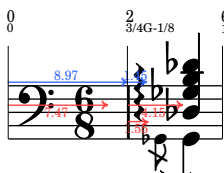
Grace note runs have their own spacing variables in `Score.GraceSpacing`. So differing grace note lengths inside a run are spaced accordingly.

`spacing-grace.ly`



Skyline horizontal spacing may fold non-adjacent columns together, but they still do not collide. In this case, the arpeggio and the bar line do not collide.

`spacing-horizontal-skyline-grace.ly`



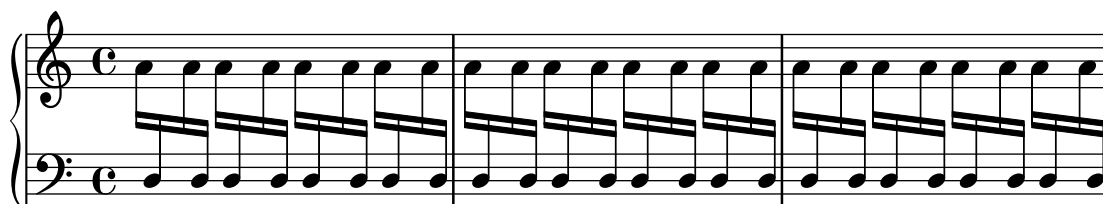
accidentals may be folded under preceding notes.

`spacing-horizontal-skyline.ly`



Spacing corrections for kneed beams still work when compression is involved.

`spacing-knee-compressed.ly`



For knees, the spacing correction is such that the stems are put at regular distances. This effect takes into account the width of the note heads and the thickness of the stem.

`spacing-knee.ly`



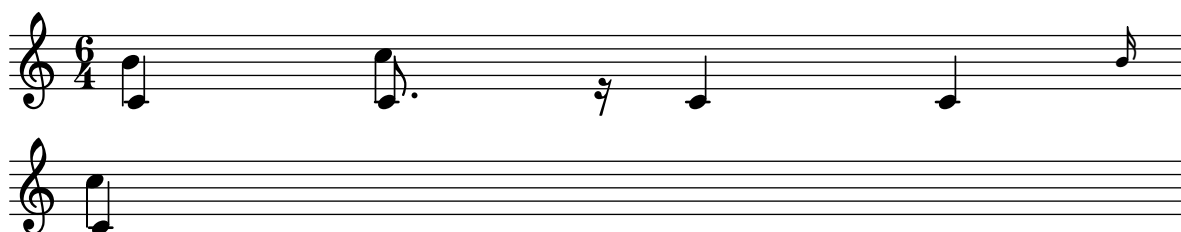
Even in case of incorrect contexts (eg. shortlived contexts) that break linking of columns through spacing wishes, `strict-note-spacing` defaults to a robust solution. This test passes if it does not seg fault; instead it should produce three programming error messages. Note that, in tight music with strict note spacing, grace notes will collide with normal notes. This is expected.

`spacing-loose-grace-error.ly`



If a floating grace spacing section attaches to a note across a line break, it gets attached to the end of line.

`spacing-loose-grace-linebreak.ly`



With `strict-grace-spacing`, grace notes don't influence spacing.

`spacing-loose-grace.ly`



Loose columns (here, the treble clef) are spaced correctly in polyphonic music.

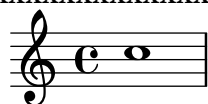
`spacing-loose-polyphony.ly`



Width of marks does not affect spacing.

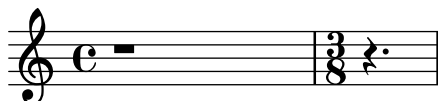
`spacing-mark-width.ly`

xx



Horizontal spacing is bounded by the current measure length. This means that the 3/8 setting does not affect the whole rest spacing.

spacing-measure-length.ly



Concurrent tuplets should be equidistant on all staves.

spacing-multi-tuplet.ly

In the absence of NoteSpacings, wide objects still get extra space. In this case, the slash before the bar line gets a little more space.

spacing-no-note.ly



The spacing engine avoids collisions between non-adjacent columns.

spacing-non-adjacent-columns1.ly

The spacing engine avoids collisions between non-adjacent columns.

spacing-non-adjacent-columns2.ly

The spacing engine avoids collisions between non-adjacent columns.

spacing-non-adjacent-columns3.ly



The flags of 8th notes take some space, but not too much: the space following a flag is less than the space following a beamed 8th head.

spacing-note-flags.ly



In packed mode, pack notes as tight as possible. This makes sense mostly in combination with ragged-right mode: the notes are then printed at minimum distance. This is mostly useful for ancient notation, but may also be useful for some flavours of contemporary music. If not in ragged-right mode, lily will pack as many bars of music as possible into a line, but the line will then be stretched to fill the whole linewidth.

spacing-packed.ly



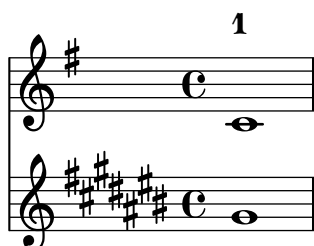
For spacing-pair, when an item matching a break align symbol is omitted, the alignment falls back on later break align symbols in the list. In this test, the measure counter should be centered using the right edge of the key signature.

spacing-pair-omitted-item.ly



The spacing-pair property takes the combined extents of all items having the given break align symbol into account. In this test, the centering of the measure counter should visibly happen with the left point being on the right of the wide key signature. The alignment of the measure counter should be the same for both scores.

spacing-pair-several-matching-items.ly



Notes that are shorter than the common shortest note get a space (i.e. without the space needed for the note) proportional to their duration. So, the 16th notes get 1/2 of the space of an eighth note. The total distance for a 16th (which includes note head) is 3/4 of the eighth note.

spacing-short-notes.ly



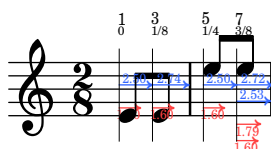
If `space-to-barline` is false, we measure the space between the note and the start of the clef. If `space-to-barline` is true, we measure the space between the note and the start of the bar line.

spacing-space-to-barline.ly



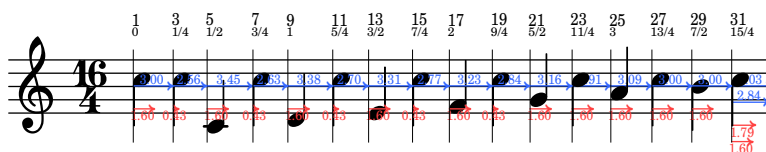
Upstem notes before a bar line are printed with some extra space. This is an optical correction similar to juxtaposed stems.

spacing-stem-bar.ly



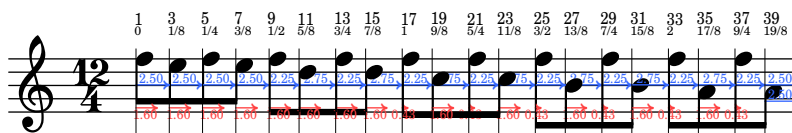
There are optical corrections to the spacing of stems. The overlap between two adjacent stems of different direction is used as a measure for how much to correct.

spacing-stem-direction.ly



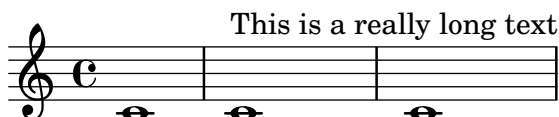
For juxtaposed chords with the same direction, a slight optical correction is used. It is constant, and works only if two chords have no common head-positions range.

spacing-stem-same-direction.ly



LilyPond will space a line to prevent text sticking out of the right margin unless `keep-inside-line` is false for the relevant `PaperColumn`.

spacing-stick-out.ly



If `strict-note-spacing` is set, then spacing of notes is not influenced by bars and clefs half-way on the system. Rather, they are put just before the note that occurs at the same time. This may cause collisions.

`spacing-strict-notespacing.ly`

With `strict-note-spacing` spacing for grace notes (even multiple ones), is floating as well.

`spacing-strict-spacing-grace.ly`

An empty bar line does not confuse the spacing engine too much. The two scores should look approximately the same.

`spacing-to-empty-barline.ly`

Space from a normal note (or bar line) to a grace note is smaller than to a normal note.

`spacing-to-grace.ly`

Notes are spaced exactly according to durations, if `uniform-stretching` is set. Accidentals are ignored, and no optical-stem spacing is performed.

`spacing-uniform-stretching.ly`

The `SpanBarStub` grob takes care of horizontal spacing for `SpanBar` grobs. When the `SpanBar` is disallowed, objects in contexts that the span bar would have otherwise crossed align as if the span bar were not there.

`span-bar-allow-span-bar.ly`

The image shows a musical score for a piano accompaniment. It consists of four staves: a treble clef staff at the top, and three staves grouped by a brace on the left (treble, middle, and bass clefs). The top staff contains a continuous eighth-note pattern. The three staves below it contain a simple harmonic accompaniment with quarter notes. A wide span bar is drawn across the three lower staves, starting at the beginning of the second measure and ending at the end of the fourth measure. Below the staves, the lyrics are: "word a b c word a b c".

5

This image shows the continuation of the musical score from measure 5. It follows the same structure as the previous image: a treble clef staff with eighth notes, and three staves (treble, middle, bass) with a simple harmonic accompaniment. A wide span bar is drawn across the three lower staves, starting at the beginning of the sixth measure and ending at the end of the eighth measure. The lyrics below are: "word a b c word a b c".

Articulations on cross-staff stems do not collide with span bars.

`span-bar-articulation.ly`

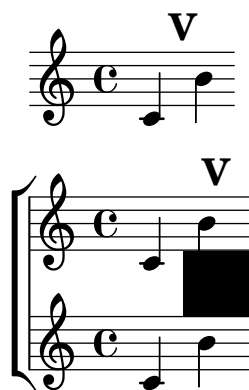
The image shows a musical score for a piano accompaniment. It consists of two staves: a treble clef staff and a bass clef staff. The top staff has a whole note chord in the first measure, followed by a mensurstrich bar line (a horizontal line with a small triangle above it) between the first and second measures. The second measure contains a whole note chord. The bottom staff has a whole note chord in the first measure, followed by a mensurstrich bar line between the first and second measures. The second measure contains a whole note chord with a slur over it and a fermata above it. The lyrics below are: "word a b c".

This tests the calculation of the anchor point on a *mensurstrich* bar line.

The top staff has no span bar. A rehearsal mark should appear over an invisible bar line between the two notes.

The lower pair of staves has a span bar of exaggerated width. A rehearsal mark should appear centered over it.

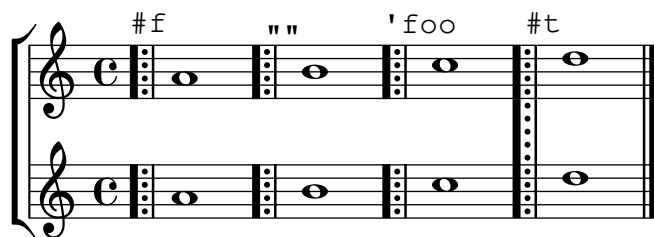
`span-bar-break-align-anchor.ly`



A user-defined bar line with span bar #f does not disturb printing of compound bar lines. Using neither a string nor a boolean prints warnings, though does not abort. An empty string is supported as well.

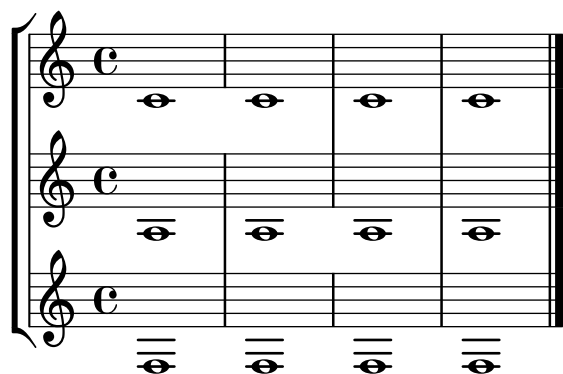
The first three bar lines should look identical (no span bar).

`span-bar-false.ly`



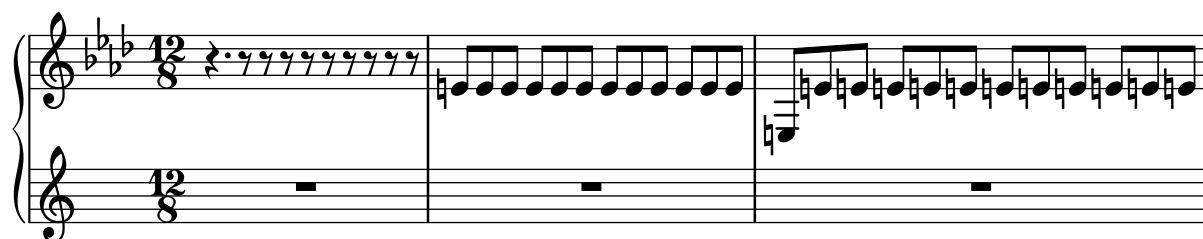
Span bars can be turned on/off on a staff-by-staff basis.

`span-bar-partial.ly`



Because BarLine grobs take their extra-positioning-height from their neighbors via the `pure-from-neighbor-interface`, the left edge of an accidental should never fall to the left of the right edge of a bar line. This spacing should also take place when SpanBar grobs are present.

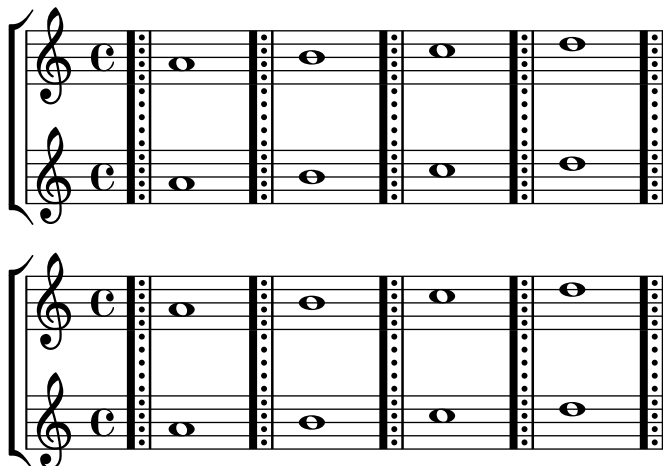
`span-bar-spacing.ly`



A user-defined bar line with annotated *bar-type* does not warn when *span-bar* is `#t` or a string literal that is equal to *bar-type* (including the annotation).

All bar lines should look the same.

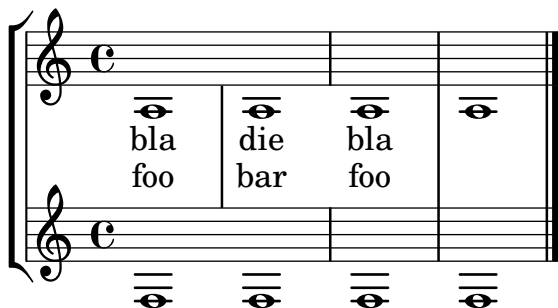
`span-bar-true.ly`



Span bars are drawn only between staff bar lines. By setting bar lines to transparent, they are shown only between systems.

Setting `SpanBar` transparent removes the bar lines between systems.

`span-bar.ly`



The visibility of left-broken line spanners and hairpins which end on the first note (i.e., span no time between bounds) is controlled by the callback `ly:spanner::kill-zero-spanned-time`.

`spanner-after-line-breaking.ly`



Spanners align to musical grobs in paper columns, ignoring things like pedal marks.

spanner-alignment.ly

The image shows two musical staves, each with a treble and bass clef. The first staff contains four measures of music. The first measure has a *cresc.* marking with a dashed line extending to the second measure. The second measure has a *f* marking. The third measure has a *dim.* marking with a dashed line extending to the fourth measure. The fourth measure has a *p* marking. Below the first and third measures is the word "And." with a tilde symbol. Below the second and fourth measures is an asterisk symbol. The second staff is identical to the first, but starts with a measure number "5" above the first measure.

Spanners parts that extend beyond their parents are killed in case of line breaks.

spanner-break-beyond-parent.ly

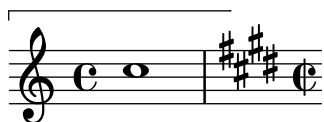
The image shows two musical staves. The first staff has a treble clef and a common time signature. Below the staff, there is a broken spanner consisting of three horizontal lines, with the text "welt_" below it. The second staff is identical to the first, but the broken spanner is positioned lower on the page.

The `break-overshoot` property sets the amount that a broken spanner ‘sticks out’ of its bounds.

For broken beams and broken tuplet brackets, the bounds are given by the prefatory matter on the left and/or the rightmost column on the right. For broken horizontal brackets, the bounds are the leftmost and/or rightmost columns; for measure spanners, the left and/or right edge of the staff.

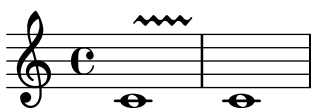
spanner-break-overshoot.ly

The image shows four musical staves. The first staff shows a broken beam with a treble clef, common time, and a key signature of three sharps. The second staff shows a broken tuplet bracket with a treble clef, common time, and a key signature of three sharps. The third staff shows a broken horizontal bracket with a treble clef, common time, and a key signature of three sharps. The fourth staff shows a broken horizontal bracket with a treble clef, common time, and a key signature of three sharps, with a "3" below it indicating a triplet.



Empty bounds on a line spanner do not cause LilyPond to get stuck in an infinite loop.

`spanner-empty-bound.ly`



This should produce a choral score with solo, descant, women, sop 1 and 2, sop, alto, alto 1 and 2, tenor 1 and 2, tenor, bass, bass 1 and 2, men and piano staves. Normally the various combinations would appear at different times in the score, not all at once.

`ssaattbb-template-with-all-staves.ly`

SOLO
DESCANT
WOMEN
SOPRANO 1
SOPRANO 2
SOPRANO
ALTO
ALTO 1
ALTO 2
TENOR 1
TENOR 2
TENOR
BASS
BASS 1
BASS 2
MEN
PIANO

So - ly - rics
Des - cant ly - rics
Wo - men ly - rics
So - pra - no One ly - rics
So - pra - no Two ly - rics
So - pra - no ly - rics
Al - to ly - rics
Al - to One ly - rics
Al - to Two ly - rics
Te - nor One ly - rics
Te - nor Two ly - rics
Te - nor ly - rics
Bass One ly - rics
Bass Two ly - rics
Bass ly - rics
Men ly - rics
Men ly - rics

This should produce a choral score with solo, descant, women, sop divisi, sop and alto, alto divisi, tenor divisi, tenor and bass, bass divisi, men and piano staves. Normally the various combinations would appear at different times in the score, not all at once.

The image shows a musical score for a choir and piano. The score is written in common time (C) and features a variety of instrument names and lyrics. The instruments listed on the left are: SOLO, DESCANT, WOMEN, SOPRANO 1, SOPRANO 2, SOPRANO ALTO, ALTO 1, ALTO 2, TENOR 1, TENOR 2, TENOR BASS, BASS 1, BASS 2, MEN, and PIANO. The lyrics are: SOLO: So - lo ly - rics; DESCANT: Des - cant ly - rics; WOMEN: Wo - men ly - rics; SOPRANO 1: So - pra - no One ly - rics; SOPRANO 2: So - pra - no Two ly - rics; SOPRANO ALTO: So - pra - no ly - rics; ALTO 1: Al - to ly - rics; ALTO 2: Al - to ly - rics; TENOR 1: Te - nor One ly - rics; TENOR 2: Te - nor Two ly - rics; TENOR BASS: Te - nor ly - rics; BASS 1: Bass ly - rics; BASS 2: Bass One ly - rics; MEN: Bass Two ly - rics; PIANO: Men ly - rics.

Instrument names and short instrument names can be changed when using the ssaattbb built-in template.

Musical score for Soprano One, Soprano Two, Men's Division, and Organ. The score is in common time (C) and consists of two systems. The first system has three staves: SOP ONE (Soprano One), SOP TWO (Soprano Two), and MEN DIV (Men's Division). The second system has two staves: ORGAN (Organ). The Soprano parts are in treble clef, and the Men's Division and Organ parts are in bass clef. The Soprano parts play a series of quarter notes, while the Men's Division and Organ parts play a series of quarter notes.

Musical score for Soprano 1, Soprano 2, Men Unison, and Organ. The score is in common time (C) and consists of two systems. The first system has three staves: SOP 1 (Soprano 1), SOP 2 (Soprano 2), and M UNI (Men Unison). The second system has two staves: ORGAN (Organ). The Soprano parts are in treble clef, and the Men Unison and Organ parts are in bass clef. The Soprano parts play a series of quarter notes, while the Men Unison and Organ parts play a series of quarter notes.

This should produce an SSAATTBB score with piano accompaniment, with divisi soprano and tenor on single staves, alto one and alto two on separate staves and unison bass in the first system, then unison soprano and alto voices with descant in the second system and unison women and unison men voices in the third system.

So - pra - no One ly - rics
So - pra - no Two ly - rics
Alto One ly - - rics
Alto Two lyrics
Te - nor One ly - rics
Te - nor Two ly - rics
Bass ly - rics

SOPRANO 1
SOPRANO 2
ALTO 1
ALTO 2
TENOR 1
TENOR 2
BASS
PIANO

Detailed description: This is a musical score for a vocal ensemble and piano. It consists of eight staves. The vocal parts are Soprano 1 and 2, Alto 1 and 2, Tenor 1 and 2, and Bass. The piano part is on the bottom staff. The music is in common time (C). The lyrics are: Soprano 1 and 2: 'So - pra - no One ly - rics'; Soprano 2: 'So - pra - no Two ly - rics'; Alto 1: 'Alto One ly - - rics'; Alto 2: 'Alto Two lyrics'; Tenor 1 and 2: 'Te - nor One ly - rics'; Tenor 2: 'Te - nor Two ly - rics'; Bass: 'Bass ly - rics'. The piano accompaniment consists of simple chords and single notes.

2
D Descant ly - rics
S So - pra - no ly - rics
A Al - to ly - rics

Detailed description: This is a musical score for three voices and piano. It consists of five staves. The vocal parts are Descant (D), Soprano (S), and Alto (A). The piano part is on the bottom staff. The music is in common time (C). The lyrics are: Descant: 'Descant ly - rics'; Soprano: 'So - pra - no ly - rics'; Alto: 'Al - to ly - rics'. The piano accompaniment consists of simple chords and single notes.

A musical score for two voices, labeled 'W' (Women) and 'M' (Men). The 'W' part has a treble clef and a triplet of four quarter notes with lyrics 'Wo-men ly - rics'. The 'M' part has a bass clef and two quarter notes with lyrics 'Men ly - rics'. Below these is a piano accompaniment with a treble and bass clef, showing a simple harmonic accompaniment.

Some scripts must have quantized positions. Vertical position descend monotonously for a descending scale. The staccato dot is close to the notehead. If the head is in a space, then the dot is in the space next to it.

staccato-pos.ly

A musical score in treble clef, common time. It features a series of eighth notes with staccato dots. The notes descend in pitch across the staff. The staccato dots are positioned in the spaces between the notes, following the rule described in the text.

Adding a new staff at a line break doesn't crash.

staff-add-at-linebreak.ly

A musical score showing two systems. The first system has a single treble clef staff with a whole note. The second system has two treble clef staves, with the first staff containing a whole note and the second staff containing a whole note. This demonstrates adding a new staff at a line break.

Staves stay alive long enough to complete an automatic beam.

staff-change-autobeam.ly

A musical score in treble clef, common time. It shows a single staff with a whole note followed by a beam of eighth notes. The beam is positioned such that it spans across the line break, demonstrating the 'staff-change-autobeam' test case.

When a `BreathingSign` is aligned as a `'staff-bar`, staff lines extend through it, even if it is accompanied by a zero-width `BarLine` at the end of the line.

The output should show two identical staves. Between the notes should appear a finalis sign (like a double bar line) overlapping with a dotted bar line; this shows that `BreathingSign` and `BarLine` are aligned alike. At the end of the line should appear a finalis sign with the staff lines extending to its right side.

`staff-extend-to-staff-bar.ly`



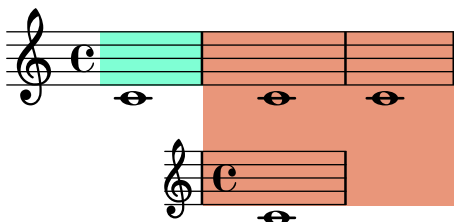
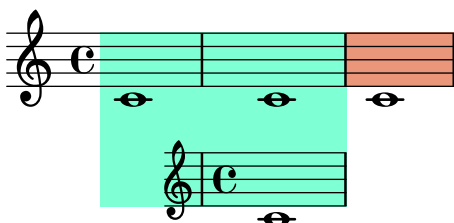
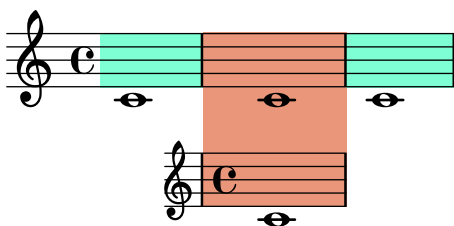
Staves can be started and stopped at command.

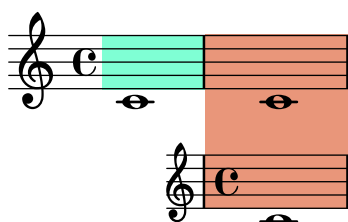
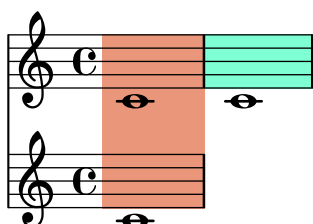
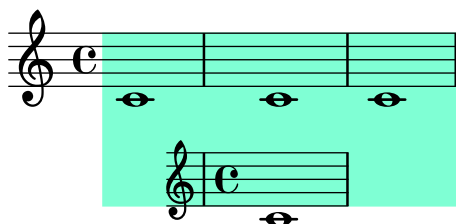
`staff-halfway.ly`



When highlights are used in combination with ossia staves, a highlight only extends to include the ossia staff if it actually spans a portion of it, but not if it ends at the start of the ossia or if it starts at the end of the ossia.

`staff-highlight-ossia.ly`





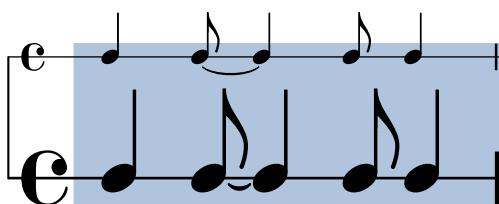
Highlights can be used in `RhythmicStaff`. They extend vertically as far as bar lines do.

`staff-highlight-rhythmicstaff.ly`



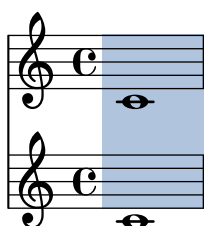
This test exercises highlights spanning a set of rhythmic staves with different font sizes. At the bottom and at the top, the highlight should extend as far as the bar lines do.

`staff-highlight-score-rhythmic-staves.ly`



Highlights can be used in `Score`.

`staff-highlight-score.ly`



Highlights can be used in contexts at higher level than `Staff`.

`staff-highlight-staffgroup.ly`

A musical score in 2/4 time, common time signature. It consists of three staves. The top two staves are grouped by a brace on the left. The first staff has a treble clef, and the second has a bass clef. The music is divided into six measures. The first two measures are highlighted in blue, the next two in yellow, and the last two in blue. The third staff has a treble clef and contains a few notes, including a sharp sign.

This test shows highlights starting and ending on prefatory material in various situations.

`staff-highlight-start-end.ly`

A musical score in 2/4 time, common time signature. It consists of a single staff with a treble clef. The music is divided into six measures. The first two measures are highlighted in blue, the next two in red, and the last two in blue. The notes are mostly eighth and quarter notes.

The `\staffHighlight` command highlights a musical passage. A highlight is terminated by `\stopStaffHighlight`, by the start of another highlight, or by the end of the music.

`staff-highlight.ly`

A musical score in 2/4 time, common time signature. It consists of two staves, both with treble clefs. The top staff has a few notes, and the bottom staff has a continuous sequence of notes. The first two measures of the top staff are highlighted in cyan, the next two in yellow, and the last two in green. The bottom staff has a continuous sequence of notes, with the first two measures highlighted in cyan.

When the vertical positions of ledger lines have been customized by setting the `ledger-positions` property of the `StaffSymbol`, and a dotted note falls on a ledger line, the dot is shifted up to avoid the ledger line (just as with uncustomized ledger lines).

`staff-ledger-positions-dotted-notes.ly`

A musical score in 2/4 time, common time signature. It consists of a single staff with a treble clef. The music is divided into six measures. The first two measures have notes on the staff, and the next two have notes on a ledger line. The last two measures have notes on a ledger line. The notes on the ledger line are dotted.

The vertical positions of ledger lines may be customised by setting the `ledger-positions` property of the `StaffSymbol`. The given pattern is repeated. Bracketed groups are always shown together: either all or none are shown. Ledger lines can be set to appear sooner or later by setting the `ledger-extra` property.

`staff-ledger-positions.ly`

A musical score in 2/4 time, common time signature. It consists of a single staff with a treble clef. The music is divided into six measures. The first two measures have notes on the staff, and the next two have notes on a ledger line. The last two measures have notes on a ledger line. The notes on the ledger line are dotted.

The vertical positions of staff lines may be specified individually, by setting the `line-positions` property of the `StaffSymbol`.

`staff-line-positions.ly`



Staves may be present in several sizes within a score. This is achieved with an internal scaling factor. If the scaling factor is forgotten in some places, objects generally become too thick or too large on smaller staves.

`staff-mixed-size.ly`



Symbols that need on-staffline info (like dots and ties) continue to work in absence of a `staff-symbol`.

`staff-online-symbol-absence.ly`



An ossia staff without a `Time_signature_engraver` stops right at the bar line.

`staff-ossia-end-at-time-change.ly`



Font size configuration is independent from font family configuration. In this test, the call to `set-global-staff-size` should not affect the font families defined previously.

`staff-size-font-selection.ly`

**This text should be rendered in Linux Libertine
(provided that the font is installed).**

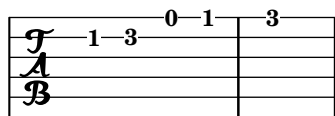
The space between scores containing `Staffs` and `TabStaffs` should be consistent. In this example, all of the spacings should be equivalent.

`staff-tabstaff-spacing.ly`

Title 1



Title 2



Title 3



The staff is a grob (graphical object) which may be adjusted as well, for example, to have 6 thick lines and a slightly large `staff-space`. However, beams remain correctly quantized.

`staff-tweak.ly`



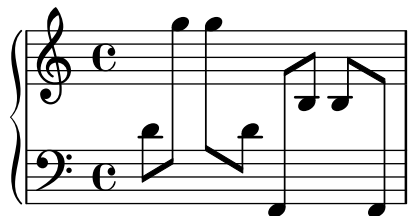
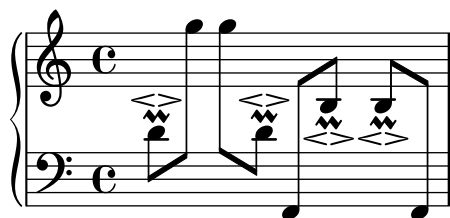
Stanza numbers are put left of their lyric. They are aligned in a column.

`stanza-number.ly`



Cross-staff stems avoid articulations. Articulations that don't get in the way of stems do not cause unwanted horizontal space.

`stem-cross-staff-articulation.ly`



The `Melody_engraver` decides stem direction for notes on the middle staff line based on neighboring notes. Mid-measure repeat bar lines break up the melody as do normal measure bar lines. In this test, marcato marks show the expected stem direction.

`stem-direction-context-bar-lines.ly`



Context-dependent orientation of the stem for a note on the middle line of the staff can be turned off locally using the `suspendMelodyDecisions` context property.

In this test, marcato marks show the expected stem direction.

`stem-direction-context-pause.ly`



Stem directions for notes on the middle staff line are determined by the directions of their neighbors.

`stem-direction-context.ly`



Stems, beams, ties and slurs should behave similarly, when placed on the middle staff line. Of course stem-direction is down for high notes, and up for low notes.

`stem-direction.ly`



Stems with overridden 'Y'-extent should not confuse height estimation. This example should fit snugly on one page.

`stem-length-estimation.ly`



Stem length and stem-begin-position can be set manually.

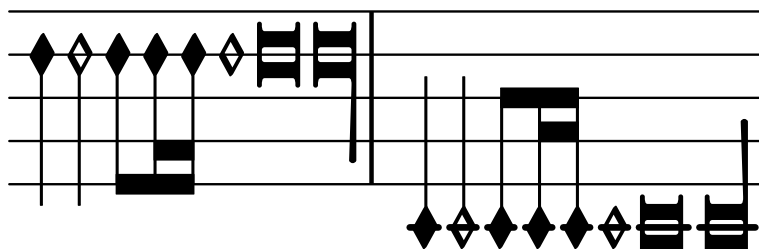
`stem-length.ly`



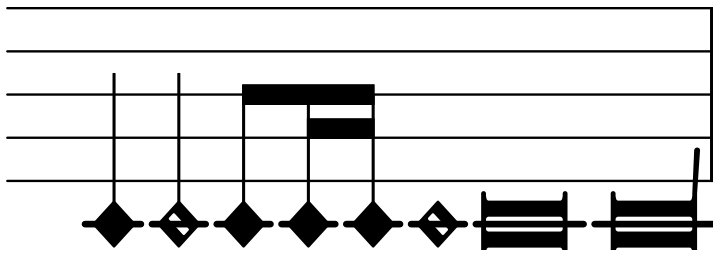
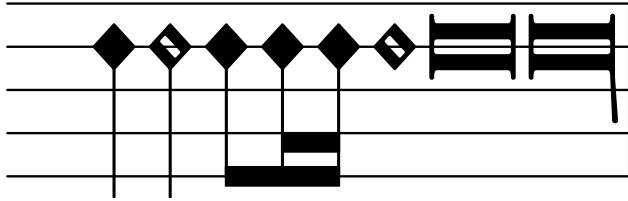
Mensural stems must have exact center alignment. This test was made to inspect pixel-granular misalignment bugs.

`stem-mensural.ly`

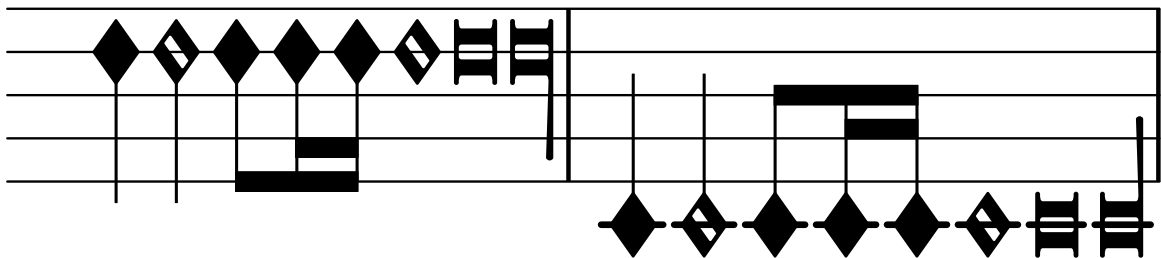
mensural



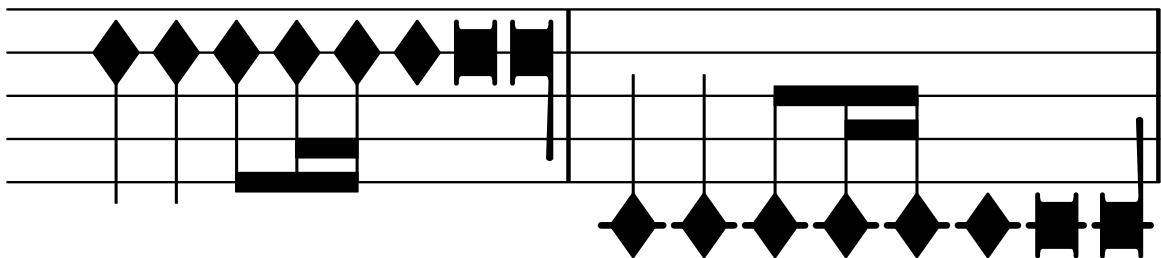
neomensural



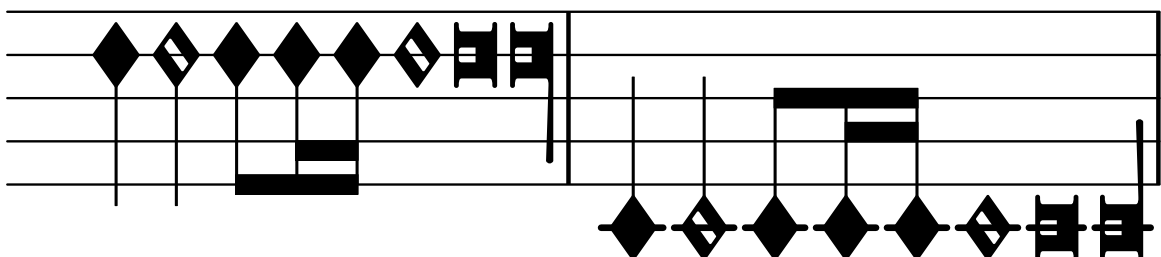
petrucci



blackpetrucci



semipetrucci



Setting `Stem.neutral-direction` to an invalid direction value does not result in a crash.

`stem-neutral-direction-crash.ly`



Lilypond gets beamed stem pure heights correct to avoid outside staff collisions.

`stem-pure-height-beamed.ly`



If note head is 'over' the center line, the stem is shortened. This happens with forced stem directions, and with some chord configurations.

`stem-shorten.ly`



Stemlets don't cause stems on whole notes.

`stem-stemlet-whole.ly`



Stemlets are small stems under beams over rests. Their length can be set with `stemlet-length`.

`stem-stemlet.ly`



Stem tremolos on cross-staff beams do not cause circular dependencies.

`stem-tremolo-cross-staff-beam.ly`



Tremolo works even when a stem is forced in a particular direction.

`stem-tremolo-forced-dir.ly`



Tremolos should avoid other notes in the staff as best as possible and issue a warning otherwise.

`stem-tremolo-note-collision.ly`



Stem tremolos count in a note column's horizontal skyline.

`stem-tremolo-note-column.ly`



Tremolos are positioned a fixed distance from the end of the beam. Tremolo flags are shortened and made rectangular on beamed notes or on stem-up notes with a flag. Tremolo flags are tilted extra on stem-down notes with a flag.

`stem-tremolo-position.ly`



stem tremolo vertical distance also obeys staff-space settings.

`stem-tremolo-staff-space.ly`



Controlling the appearance of tremolo slashes. Property `slope` is self-explanatory. Property `shape` determines whether slashes look like rectangles or like very small beams. Setting these properties directly cause all slashes behave in the specified way. However, one usually wants the slashes to behave differently depending on whether the note has flags, beams or only a plain stem. That's what the `style` property is used for: it sets `shape` and `slope` depending on the situation. There are two styles defined: `default` and `constant`.

`stem-tremolo-style.ly`

`default`. First three notes should have beam-like slashes. Slash of the third note should be more sloped than first two notes. Slashes on beamed notes should be rectangular and parallel to the beams.



style=constant. All slashes should be beam-like. All slashes should have the same slope except for downstem flagged notes.



shape=rectangle. All slashes should be rectangular. Slope like in default.



shape=beam-like. All slashes should be beam-like. Slope like in default.



slope=-0.2 All slashes should have the same downward slope. Shape like in default.



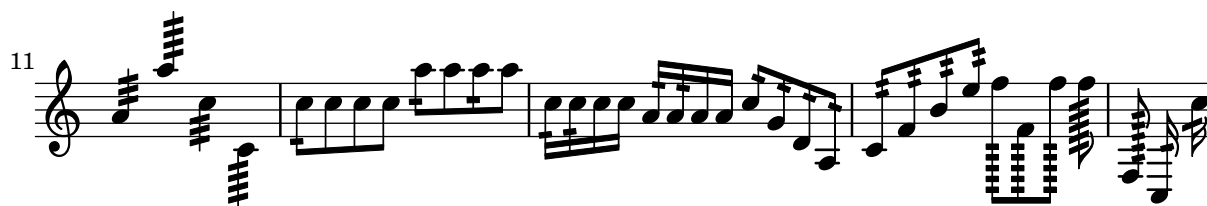
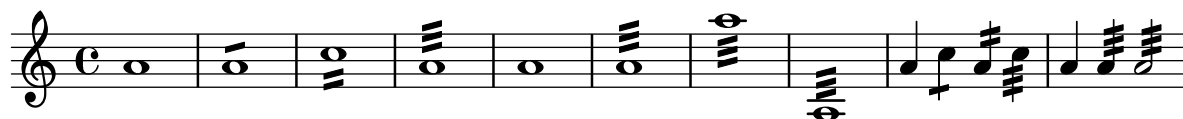
Stem tremolos or rolls are tremolo signs that look like beam segments crossing stems. If the stem is in a beam, the tremolo must be parallel to the beam. If the stem is invisible (e.g. on a whole note), the tremolo must be centered on the note. If the note has a flag (eg. an unbeamed 8th note), the tremolo should be shortened if the stem is up and tilted extra if the stem is down.

The tremolos should be positioned a fixed distance from the end of the stems unless there is no stem, in which case they should be positioned a fixed distance from the note head.

If an impossible tremolo duration (e.g. :4) is given, a warning is printed.

stem-tremolo.ly

:4 :8 :16 :32 x :



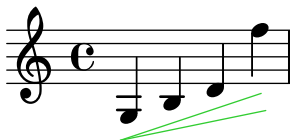
In this test, the vertical distance between two adjacent staves should be large enough to avoid a clash if the stems are very close.

stems-clash-between-staves.ly



Combinations of rotation and color do work.

stencil-color-rotation.ly



Tests all lilypond stencil commands that are relevant to PDF output

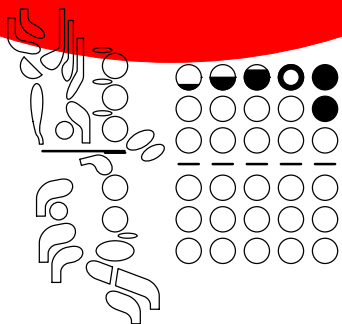
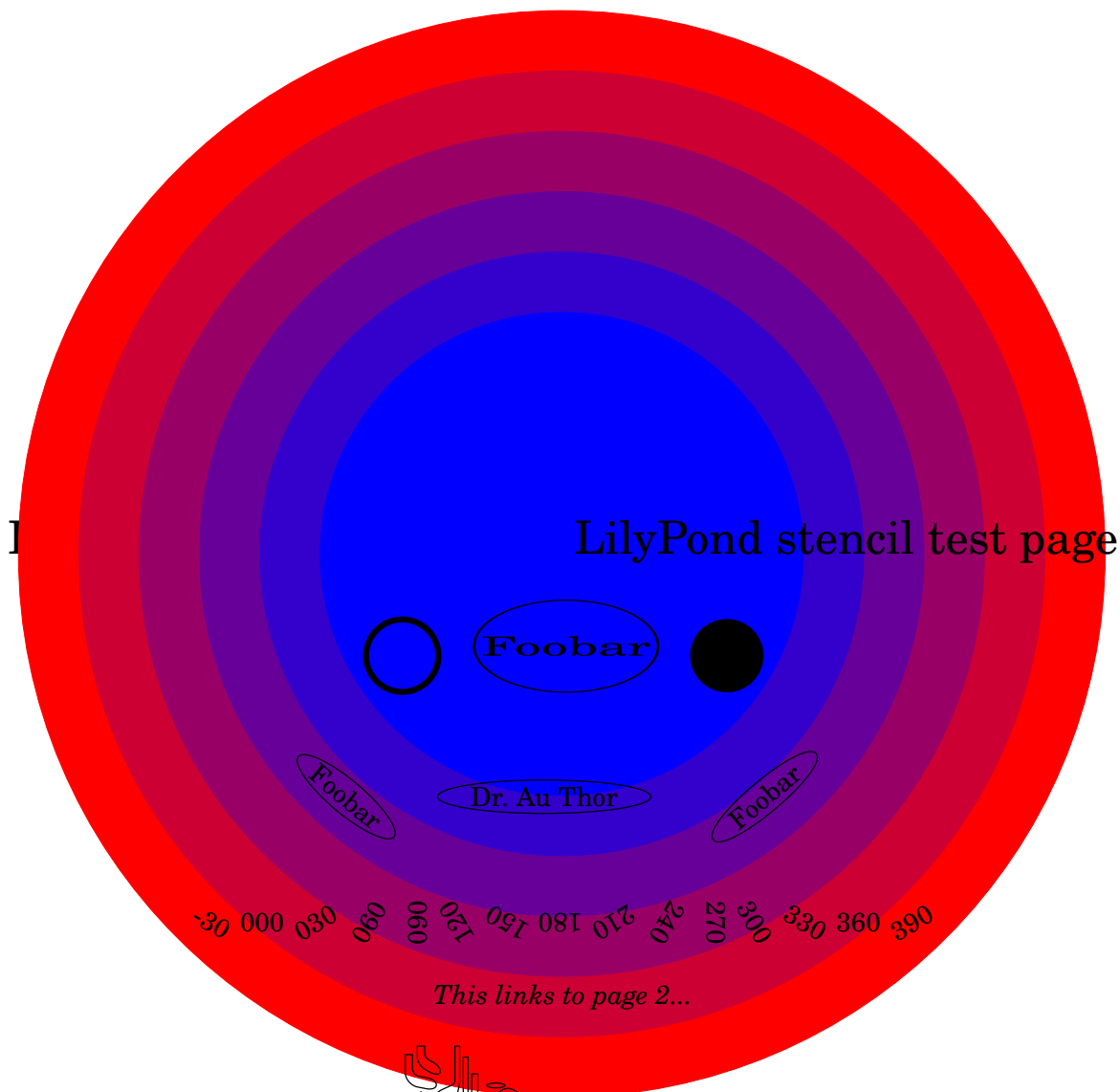
stencil-expressions.ly

Lilypond Stencil Tests

LilyPond

stæt licnəts

LilyPond stencil test page



Test the textedit links in the score below ...

Violin

Lilypond Stencil Tests

This links to page 1...

This links to page 3...

Lilypond Stencil Tests

This links to page 2...

You can write stencil callbacks in Scheme, thus providing custom glyphs for notation elements. A simple example is adding parentheses to existing stencil callbacks.

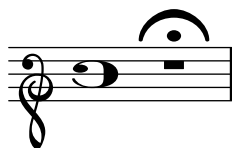
The parenthesized beam is less successful due to implementation of the Beam. The note head is also rather naive, since the extent of the parens are also not seen by accidentals.

`stencil-hacking.ly`



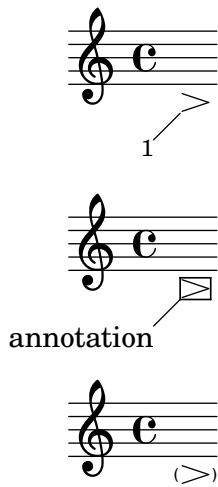
Stencils can be scaled using `ly:stencil-scale`. Negative values will flip or mirror the stencil without changing its origin; this may result in collisions unless the scaled stencil is realigned (e.g., the time signature in this test).

`stencil-scale.ly`



Sticky spanners also work when the host's bounds are not set immediately, such as with a hairpin ending on a skip.

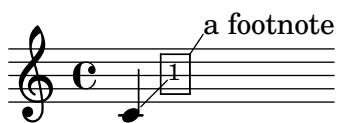
`sticky-late-bounds.ly`



¹footnote

LilyPond v2.25.16

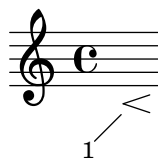
Sticky grobs can be attached to other sticky grobs.
 sticky-second-order.ly



¹note

LilyPond v2.25.16

Sticky spanners have their end announced as soon as their host's is announced.
 sticky-spanner-end-announcement.ly

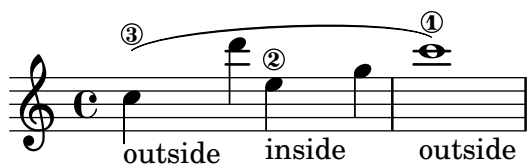


¹note

LilyPond v2.25.16

String numbers should only be moved outside slurs when there is a collision.

string-number-around-slur.ly



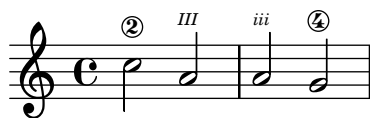
String numbers don't segfault when their stencil is set to ##f.

string-number-no-stencil.ly



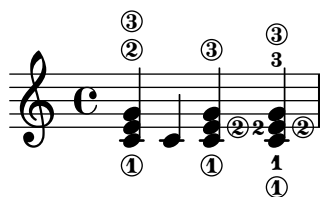
Different styles may be used for string number indications. Predefined options are arabic (used by default) and roman numerals.

string-number-styles.ly



String numbers can be added to chords. They use the same positioning mechanism as finger instructions.

string-number.ly



Stroke fingerings don't segfault when their stencil is set to ##f.

stroke-fingering-no-stencil.ly



SVG output attributes are not duplicated.

The proper way to know if this test passes is to compile it into an SVG file (with `--svg`) and check the generated SVG code.

`svg-duplicate-attribute.ly`



Tests for `swing.ly`

`swing-test.ly`

1. Swing type demos

	<code>swing eighths</code> <code>\tripletFeel 8</code>	<code>smoother swung eighths</code> <code>\applySwing 8 #'(3 2)</code>
notes with applied swing		
corresponding to		

	<code>swung sixteenths</code> <code>\tripletFeel 16</code>	<code>straight fourths read as dotted</code> <code>\applySwing 4 #'(3 1)</code>
3		

	<code>samba swing</code> <code>\applySwing 16 #'(3 2 2 3)</code>	<code>smoother samba swing, start off-beat</code> <code>\applySwingWithOffset 16 #'(4 3 3 4)</code> <code>\musicLength 8</code>
5		

2. Triplet feel in various situations

straight

quarter notes should remain unaffected

syncopation without tie grace note should not create confusion

\tripletFeel 8

triplet pulse for comparison

3

syncopation with ties

music with chords

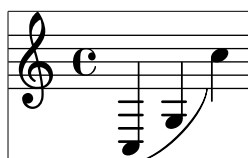
parallel music

6

with notes shorter than swingDiv

The size of every system is correctly determined; this includes postscript constructs such as slurs.

system-extents.ly



By setting the padding between systems to a negative value, it is possible to eliminate the anti-collision constraints.

system-overstrike.ly



System separator positioning works with all spaceable staff contexts.

The image displays four distinct musical notation examples arranged vertically, separated by double slashes (//).
1. The first example shows a five-line staff with three notes: G on the first line, A on the second line, and B on the third line. A '1' is positioned above the G note.
2. The second example features a treble clef on the left, a common time signature 'C' on the staff, and a single note on the second line.
3. The third example shows a staff with a common time signature 'C' and a single note on the second line.
4. The fourth example consists of a single horizontal line with a common time signature 'C' on the left and a single note on the line.

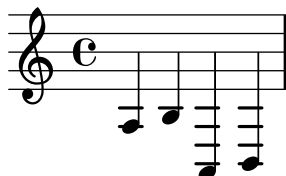
System separators may be defined as markups in the `system-separator-markup` field of the paper block. They are centered between the boundary staves of each system.

The image displays three systems of musical notation, each consisting of a grand staff (treble and bass clefs) with a common time signature 'C'. Each system is separated by a double bar line and a system number (3, 5, and 5 respectively). The notes are as follows:

- System 1:** Treble clef has a whole note G4; Bass clef has a whole note G3.
- System 2:** Treble clef has a whole note G4; Bass clef has a whole note G3.
- System 3:** Treble clef has a whole note G4; Bass clef has a whole note G3.

When the staff-space is increased, the system-start delimiter should still be collapsed (i.e. the collapse-height should not give an absolute length, but a multiple of staff-spaces).

`system-start-bar-collapse-staffspace.ly`



Disregarding the value of `systemStartDelimiter`, setting `SystemStartGrob` style of `StaffGroup` to `'brace` always prints a `SystemStartBrace`.

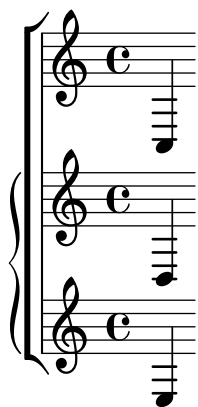
Every `StaffGroup` should start with a `SystemStartBrace`.

`system-start-brace-style.ly`



A piano context included within a staff group should cause the piano brace to be drawn to the left of the staff angle bracket.

`system-start-bracket.ly`

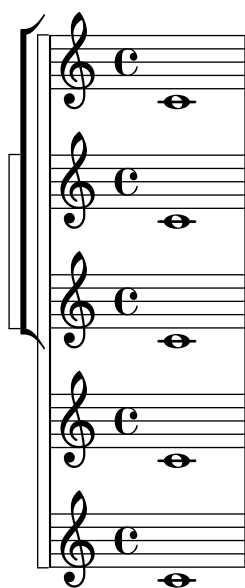


A heavy-bar system start delimiter may be created by tuning the `SystemStartBar` grob.
`system-start-heavy-bar.ly`



Deeply nested system braces, brackets, etc., may be created with the `systemStartDelimiterHierarchy` property.

`system-start-nesting.ly`



Additional bass strings (for baroque lute, etc.) are supported in `TabStaff`. They are printed below lowest line as: `a`, `/a`, `//a`, `///a`, 4, 5 etc. `additionalBassStrings` needs to be set accordingly.

tablature-additional-bass-strings.ly

Tablature may also be tuned for banjo.

tablature-banjo.ly

In a TabStaff, the chord repetition function needs to retain string and fingering information. Using `\tabChordRepeats` achieves that, in contrast to the music on the main staff.

tablature-chord-repetition-finger.ly

In a TabStaff, the chord repetition function needs to save the string information. The obsolete function `\tabChordRepetition` establishes this setting score-wide. Nowadays, you would rather use just `\tabChordRepeat` on the music in the tabstaff, not affecting other contexts.

tablature-chord-repetition.ly

Context property `defaultStrings` defines desired strings for fret calculations if no strings are defined explicitly.

tablature-default-strings.ly

With full notation, the dots on the tablature heads should respect two-digit fret numbers.
 tablature-dot-placement.ly

Tremoli applied to double stems in a TabVoice should be centered on the double stem.
 tablature-double-stem-tremolo.ly

Tablatures derived from stored fretboard diagrams display open strings as fret 0 in the tablature. The tablature and fretboard should match.

tablature-fretboard-open-string.ly

As default, tablature staves show only the fret numbers, because in most situations, they are combined with normal staves. When used without standard notation, `tabFullNotation` can be used.

tablature-full-notation.ly

Glissando lines in tablature have the right slope.

tablature-glissando.ly

Fret numbers belonging to grace notes are smaller.

tablature-grace-notes.ly

Harmonics can be specified either by ratio or by fret number.

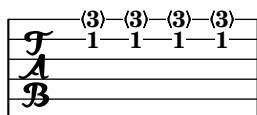
tablature-harmonic-functions.ly

When a harmonic note is tied in tablature, neither the fret number nor the harmonic brackets for the second note appear in the tablature.

tablature-harmonic-tie.ly

Harmonics get angled brackets in tablature. Harmonics in chords should retain their proper position, regardless of whether or not strings are specified. In this example, the harmonics should always be on string 1.

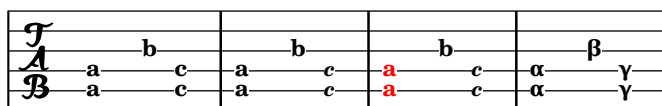
tablature-harmonic.ly



A sample tablature with lettered tab, using fretLabels to modify the fret letters.

By default, letters are drawn sequentially from the alphabet, but if the context property fretLabels is defined, these are substituted. If specified, the length of fretLabels must be sufficient to label all the frets used. A warning is issued if the length is too short.

tablature-letter.ly



The TabStaff will print micro-tones as mixed numbers of fret-number and a fraction. The context-property supportNonIntegerFret needs to be set #t in Score-context. FretBoards will print those micro-tones only if they can be found in the chosen settings for stringTunings, otherwise a warning (surpressed here) will be printed and an empty FretBoard returned. Which should be the case for the last four of the examples pitches. Micro-tones assigned to strings work nicely.

tablature-micro-tone.ly

Negative fret numbers calculated due to assigning a string number can be displayed, ignored, or recalculated. Here we should have all three cases demonstrated.

tablature-negative-fret.ly

recalculate ①	include ①	ignore ①
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Open strings can always be part of a chord in tablature, even when frets above 4 have been used in the chord. In this case, both chords should show an open fourth string.

tablature-open-string-chord.ly

G		
A	5	5
B	0	0

Open strings are part of a chord in tablature, even when `minimumFret` is set. This can be changed via `restrainOpenStrings`.

tablature-open-string-handling.ly

G		
A	0	
B	3	5 3

How a repeat sign looks in tablature.

tablature-repeat.ly

G		
A		
B		

Tab supports slides.

tablature-slide.ly

G			
A			
B			

Slur placement in complementary tablatures should not be affected by either automatic or manual beaming.

tablature-slurs-with-beams.ly

Manual beams Automatic beams

For other tunings, it is sufficient to set `stringTunings`. The number of staff lines is adjusted accordingly.

`tablature-string-tunings.ly`

In tablature, notes that are tied to are invisible except after a line break or within a second volta; here, the fret number is displayed in parentheses.

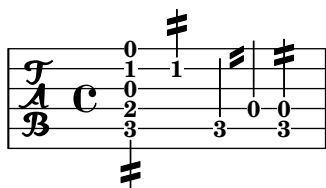
As an option, the notes that are tied to may become invisible completely, even after line breaks.

`tablature-tie-behaviour.ly`

If a slur or a glissando follows a tie, the corresponding fret number is displayed in parentheses.
`tablature-tie-spanner.ly`

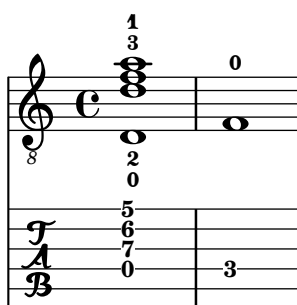
Tremolos will appear on tablature staves only if `\tabFullNotation` is active. Otherwise, no tremolo indications are displayed on the TabStaff. Also, tablature beams are the same thickness on TabStaff and Staff.

`tablature-tremolo.ly`



A fingering indication of zero counts as an open string for fret calculations. An inappropriate request for an open string will generate a warning message and set the requested pitch in the tablature.

tablature-zero-finger.ly

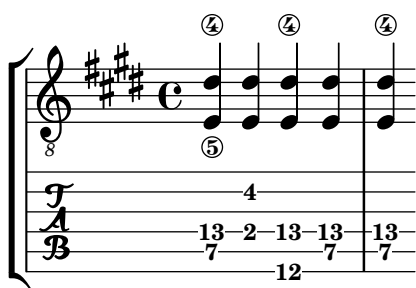


A sample tablature, with both normal staff and tab.

Tablature is done by overriding the note-head formatting function, and putting it on a 6-line staff. A special engraver takes care of going from string-number + pitch to number.

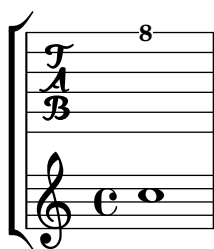
String numbers can be entered as note articulations (inside a chord) and chord articulations (outside a chord)

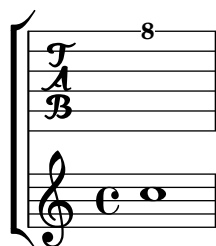
tablature.ly



A TabStaff placed inside a ChoirStaff does not have an extraneous bracket. In this test, the two snippets should look the same.

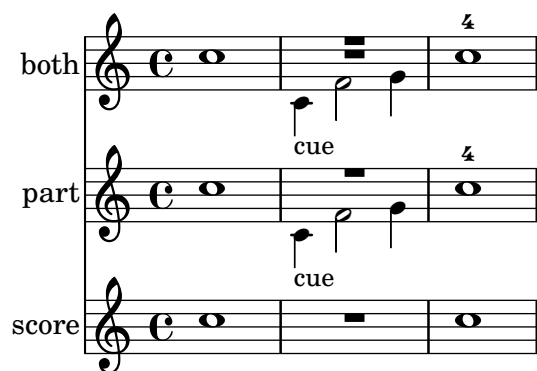
tabstaff-choirstaff-brace.ly





The `\tag` command marks music expressions with a name. These tagged expressions can be filtered out later. This mechanism can be used to make different versions of the same music. In this example, the top staff displays the music expression with all tags included. The bottom two staves are filtered: the part has cue notes and fingerings, but the score has not.

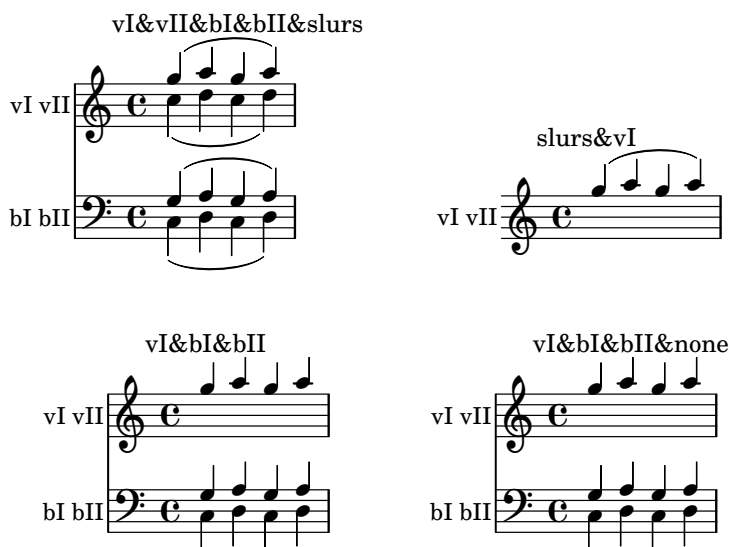
tag-filter.ly



The operation of `\keepWithTag` can be made more flexible by using `\tagGroup`.

tag-group.ly

`\keepWithTag`



\tagGroup vI.vII
\tagGroup bI.bII

vI&vII&bI&bII&slurs

slurs&vI

vI&bI&bII

vI&bI&bII&none

The image shows four musical examples in a 2-staff system (treble and bass clefs). Each example has a common time signature 'C'. The first example, labeled 'vI&vII&bI&bII&slurs', shows a slur over the first two notes of the treble staff and another slur over the first two notes of the bass staff. The second example, 'slurs&vI', shows a slur over the first two notes of the treble staff and a slur over the first two notes of the bass staff. The third example, 'vI&bI&bII', shows a slur over the first two notes of the treble staff and a slur over the first two notes of the bass staff. The fourth example, 'vI&bI&bII&none', shows a slur over the first two notes of the treble staff and a slur over the first two notes of the bass staff.

The `\removeWithTag` and `\keepWithTag` commands can name multiple tags to remove or to keep.

`tag-multiple.ly`

\keepWithTag

none

flood&highball&buffoon

4

flood&buffoon

The image shows four musical examples in a single staff with a common time signature 'C'. The first example, labeled 'none', is an empty staff. The second example, 'flood&highball&buffoon', shows a complex rhythmic pattern with slurs and ties. The third example, '4', shows a similar rhythmic pattern with a '4' above the staff. The fourth example, 'flood&buffoon', shows a similar rhythmic pattern with slurs and ties.

4

buffoon

`\removeWithTag`

none

4

flood&highball&buffoon

flood&buffoon

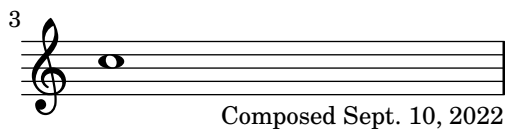
buffoon

4

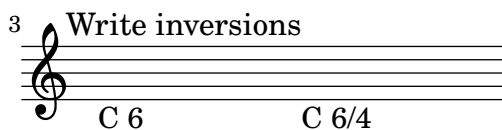
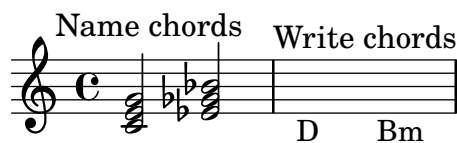
Compound articulations with `\tenuto` are stacked correctly, independent of input order.
`tenuto-priority.ly`

A text mark created by `\textEndMark` is visible everywhere except at the beginning of a line.
`text-end-mark-break-visibility.ly`

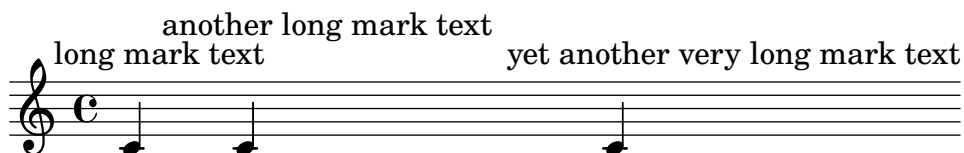
ad lib. *ad lib.*



A text mark created by `\textMark` is visible everywhere except at the end of a line.
`text-mark-break-visibility.ly`



`\markLengthOn` also works on text marks.
`text-mark-marklengthon.ly`



The `\textMark` and `\textEndMark` commands draw arbitrary textual indications between notes.

`text-mark.ly`



text replacement settings are scoped to the `\paper` block
`text-replacement-scoping.ly`

good

Text replacements can replace strings with arbitrary markups.
`text-replacements-replace-with-markup.ly`

2nd time

When `\smallCaps` and text replacements are used together, the result of text replacements is also written in small caps.

`text-replacements-smallcaps.ly`

SECOND TIME

SECOND TIME

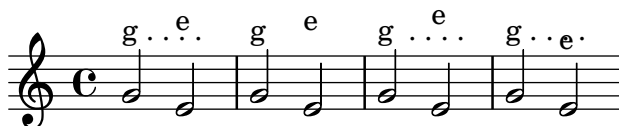
Text replacements can replace patterns containing non-ASCII characters. In particular, this test should also work if compiled under a non-Unicode-aware locale (e.g., `LC_ALL=C lilypond ...`).

text-replacements-unicode.ly

La troisième fois

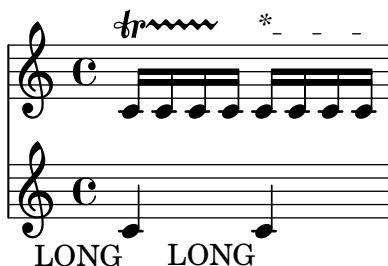
TextScripts are spaced closely, following outlines of the stencil. When markup commands like `pad-around` and `with-dimensions` change the extent of a stencil, these changed extents have effect in the stencil outline used to place the resulting TextScript.

text-script-vertical-skylines.ly



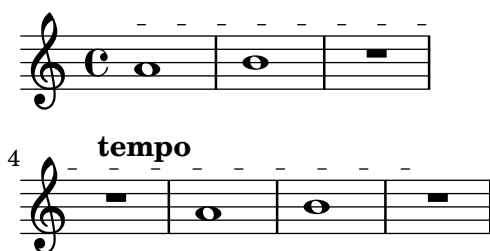
Text and trill spanners are attached to note columns, so attachments in other staves have no effect on them.

text-spanner-attachment-alignment.ly



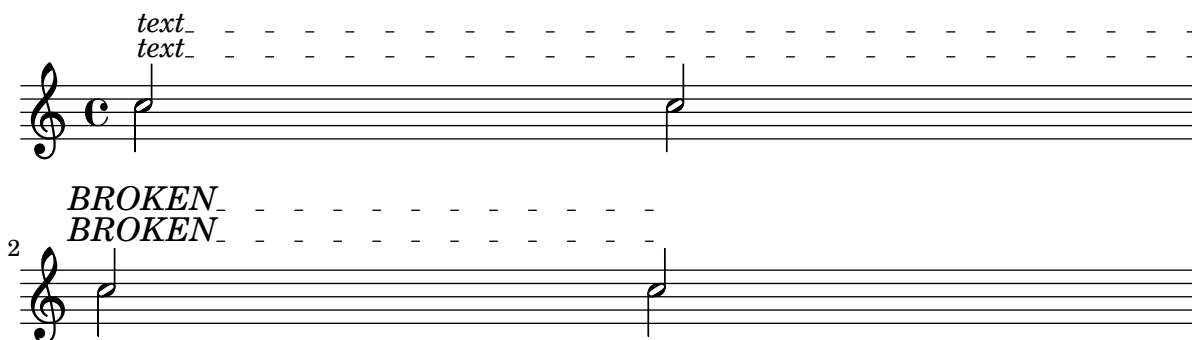
Text spanners ending on, or broken across, full-measure rests extend to the rests, or over the rests, as appropriate.

text-spanner-full-rest.ly



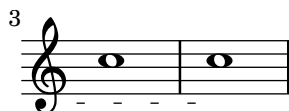
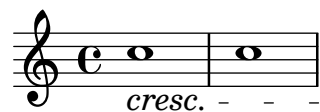
The order of setting nested properties does not influence text spanner layout.

text-spanner-override-order.ly



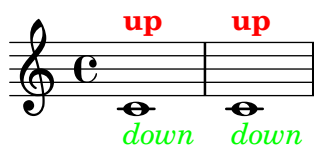
Text spanners should not repeat start text when broken.

text-spanner.ly



\etc can be used for constructing event functions for ‘TextScript’ events with sequences starting with ‘-’, ‘^’, or ‘_’. This example should have notes all adorned in the same manner.

textetc.ly



lilypond should flip the tie’s direction to avoid a collision with the sharp.

tie-accidental.ly



Advanced tie chord formatting also works with arpeggiated ties. Due to arpeggios, tie directions may be changed relative to the unarpeggiated case.

tie-arpeggio-collision.ly



when `tieWaitForNote` is set, the right-tied note does not have to follow the left-tied note directly. When `tieWaitForNote` is set to false, any tie will erase all pending ties.

tie-arpeggio.ly



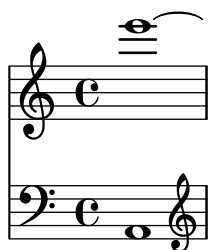
Broken ties honor `minimum-length` also. This tie has a `minimum-length` of 5.

tie-broken-minimum-length.ly



Broken tie lengths are not affected by clefs in other staves.

tie-broken-other-staff.ly



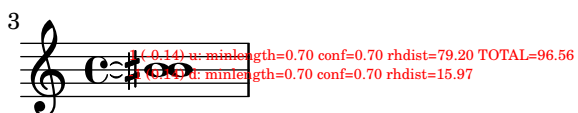
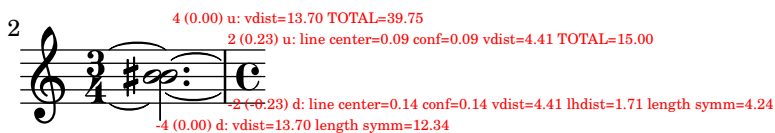
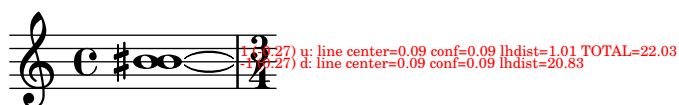
Ties behave properly at line breaks.

tie-broken.ly



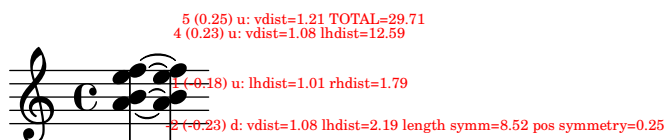
Tie detail property multi-tie-region-size controls how many variations are tried for the extremal ties in a chord.

tie-chord-broken-extremal.ly



Switching on debug-tie-scoring annotates the tie scoring decisions made.

tie-chord-debug.ly



Individual chord notes can also be tied

tie-chord-partial.ly



In chords, ties keep closer to the note head vertically, but never collide with heads or stems. Seconds are formatted up/down; the rest of the ties are positioned according to their vertical position.

The code does not handle all cases. Sometimes ties will be printed on top of or very close to each other. This happens in the last chords of each system.

tie-chord.ly

Musical notation for 'tie-chord.ly'. It consists of eight systems of music, each starting with a measure number. The notation is complex, featuring various time signatures (2/4, 3/4, 5/4) and key signatures (one sharp, two sharps). It shows a sequence of chords with ties between notes in adjacent measures. The ties are positioned to avoid collisions with note heads and stems, though some overlap is visible in the final chords of each system.

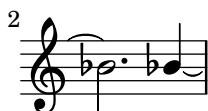
The appearance of ties may be changed from solid to dotted or dashed.

tie-dash.ly



In the single tie case, broken ties peek across line boundaries to determine which direction to take.

`tie-direction-broken.ly`



Tie directions can be set with `_` and `^`. This makes correction in complex chords easier.

`tie-direction-manual.ly`



Ties avoid collisions with dots.

`tie-dot.ly`



LilyPond should accept a tie between notes which are enharmonically identical.

`tie-enharmonic.ly`



Tying a grace to a following grace or main note works.

`tie-grace.ly`



If using exact values (this is, either integers or rational values like `'(/ 4 5)'`), `staff-position` is used to vertically tune the tie for staff line avoidance. If using an inexact value like a floating point number, it is taken as the vertical location.

`tie-manual-vertical-tune.ly`



Tie formatting may be adjusted manually, by setting the `tie-configuration` property. The override should be placed at the second note of the chord.

You can leave a Tie alone by introducing a non-pair value (eg. #t) in the tie-configuration list.

tie-manual.ly



The pitch of a pitched trill should not trigger a warning for unterminated ties.

tie-pitched-trill.ly



Like normal ties, single semities (LaissezVibrerTie or RepeatTie) get their direction from the stem direction, and may be tweaked with 'direction'.

tie-semi-single.ly



Tie directions are also scored. In hairy configurations, the default rule for tie directions is overruled.

tie-single-chord.ly



Individual ties may be formatted manually by specifying their direction and/or staff-position.

tie-single-manual.ly

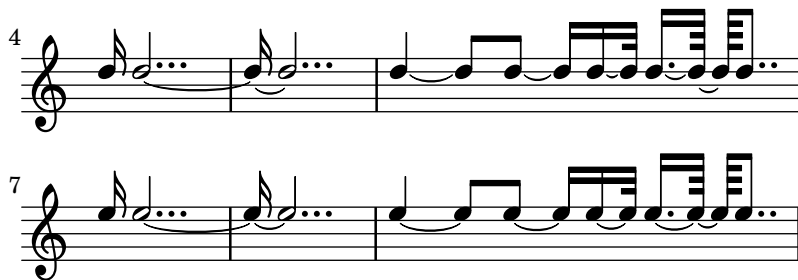


Formatting for isolated ties.

- short ties are in spaces
- long ties cross staff lines
- ties avoid flags of left stems.
- ties avoid dots of left notes.
- short ties are vertically centered in the space, as well those that otherwise don't fit in a space
- extremely short ties are put over the noteheads, instead of between.

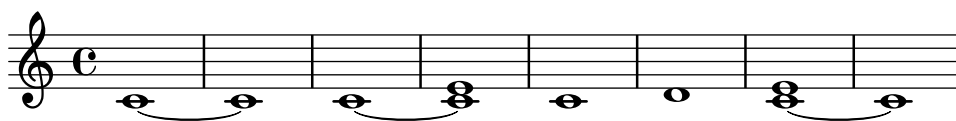
tie-single.ly





When a tie is followed only by unmatched notes and the tie cannot be created, lilypond prints out a warning unless `tieWaitForNote` is set.

`tie-unterminated.ly`



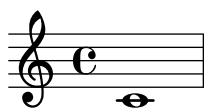
For whole notes, the inside ties do not cross the center of the note head, horizontally.

`tie-whole.ly`



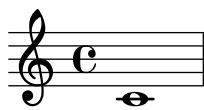
`\time` with a zero denominator results in a warning.

`time-denominator-zero.ly`



`\time` with a zero numerator results in a warning.

`time-numerator-zero.ly`

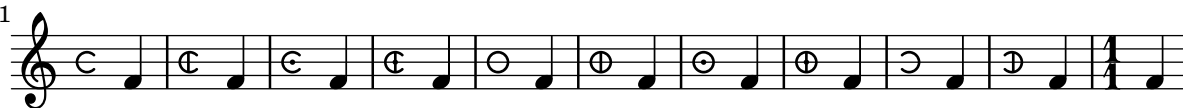


This test covers the mensural and neomensural time signature styles.

`time-signature-mensural.ly`



11



Mid-measure time signature changes not accompanied by `\partial` generate warnings.

`time-signature-midmeasure-warning.ly`



Mid-measure time signature changes must be accompanied by `\partial`.

In this example, no bar numbers should be omitted or repeated, and all double bar lines should have parenthesized bar numbers consistent with the single bar lines. Both scores should look identical.

- `\time 2/4` occurs at a negative position
- `\time 6/8` occurs at a position less than the new measure length
- `\time 3/8` occurs at a position equal to the new measure length
- `\time 3/16` occurs at a position greater than the new measure length

`time-signature-midmeasure.ly`

The numbered time signature style prints a fraction.

`time-signature-numbered.ly`

`\numericTimeSignature` and `\defaultTimeSignature`, like `\time`, affect all simultaneous staves.

`time-signature-numeric-and-default.ly`

Setting `Timing.timeSignatureFraction` to `##f` prints a special sign in place of a time signature, provided that `TimeSignature` is appropriately configured. The first and third measures should have an X-shaped sign.

`time-signature-senza-misura-context.ly`

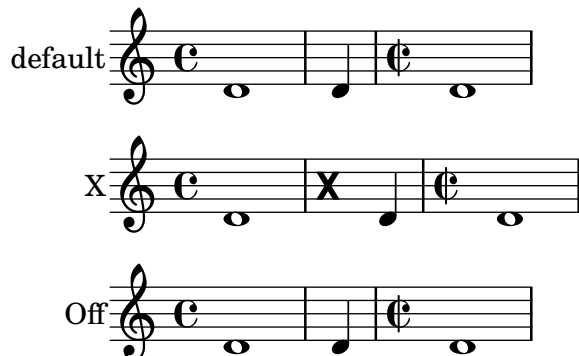
When the `Timing` context is initialized with `timeSignatureFraction = ##f`, various derived properties are set accordingly. The output should have no time signature or bar lines.

`time-signature-senza-misura-initial.ly`



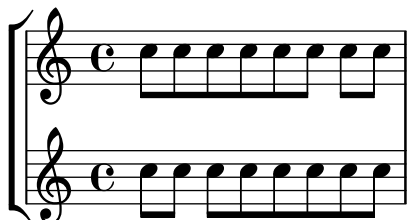
`\senzaMisuraTimeSignatureX` and `\senzaMisuraTimeSignatureOff` control the creation of an X sign when `TimeSignature.fraction` is not set. The middle bar of the middle staff should contain an X-shaped sign and a quarter note.

`time-signature-senza-misura-stencil.ly`



Default values for time signature settings can vary by staff if the `Timing_translator` is moved from `Score` to `Staff`. In this case, the upper staff should be beamed $3/4$, $1/4$. The lower staff should be beamed $1/4$, $3/4$.

`time-signature-settings-by-staff.ly`



`\overrideTimeSignatureSettings` can set beaming properties to use when `timeSignatureFraction` is `#f`. The output should have no time signature or bar lines. The first 15 notes should be grouped 1,2,3,4,5.

`time-signature-settings-senza-misura.ly`



The single-number time signature style prints the numerator only.

`time-signature-single-number.ly`



Demonstrate all titling variables used by default.

titling.ly

Dedication

Title

Subtitle

Subsubtitle

Poet

Instrument

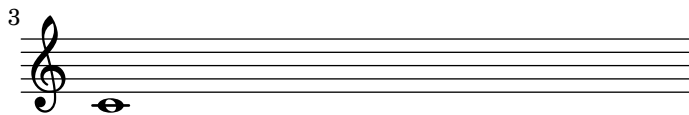
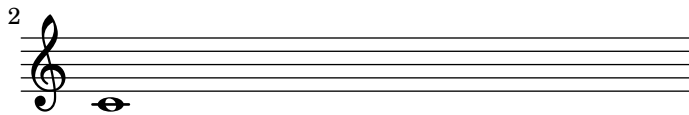
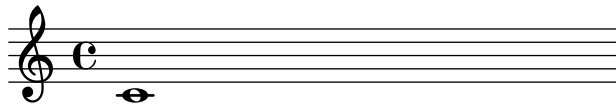
Composer

Meter

Arranger

Piece

Opus



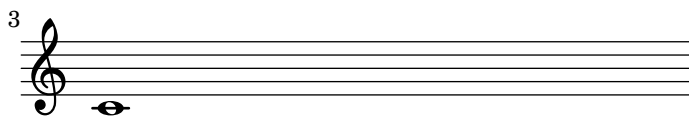
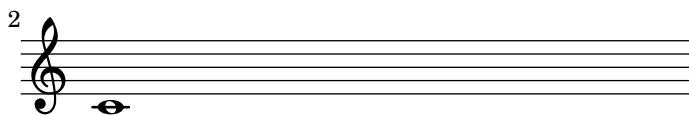
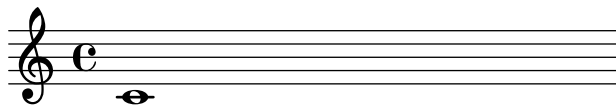
Copyright

2

Instrument

Piece 2

Opus 2



3

Dedication
Title
Subtitle
Subsubtitle
Poet **Instrument** Composer
Meter Arranger

Dedication
Overridden title
Subtitle
Subsubtitle
Poet **Instrument** Composer
Meter Arranger
Piece again Opus



Copyright

4

Instrument

Dedication

Title**Subtitle****Subsubtitle**

Poet

Instrument

Composer

Meter

Arranger

Piece 2 again

Opus 2



Tagline

The input representation is generic, and may be translated to XML.

to-xml.ly



There is no error when a file contains TOC items but no TOC.

toc-items-no-toc.ly



A missing node in a structured TOC is handled gracefully.

toc-missing-node.ly

Table of Contents

spam ?

oops ?

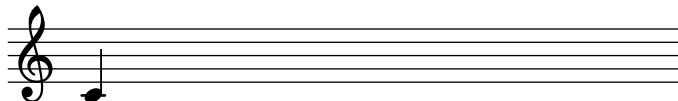
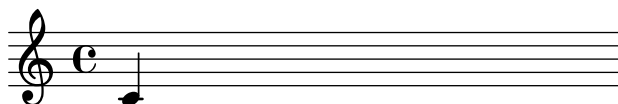


ToC items on the same page stay in the same order as PDF bookmarks. (The order of ToC items and PDF bookmarks may differ in other documents.)

`toc-multiple-entries-on-same-page.ly`

Table of Contents

1	1
2	1
3	1
4	1
5	1



LilyPond v2.25.16

In structured tables of contents, the first path component of an entry can refer to a previously defined node anywhere in the tree. The rest of the path is directly interpreted from this initial node.

`toc-structured-naming-conflicts.ly`

Table of Contents

Foo ?

Foo 2 ?

Bar	?
Baz	?
Spam	?
Spam bar	?
Spam bar eggs	?
Spam bar barbar	?



TOC labels can be explicitly specified, and structured hierarchically; they appear in PDF bookmarks as well (the 'table of contents' panel in PDF viewers). PDF bookmarks are reordered so as to not 'go back in time'.

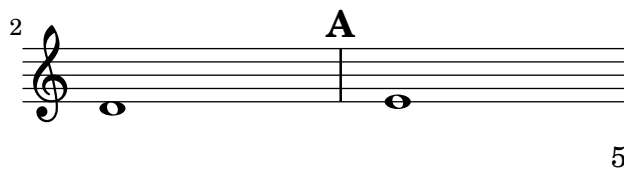
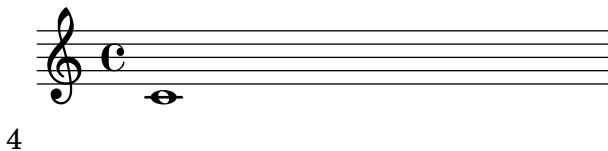
toc-structured.ly

Table of Contents

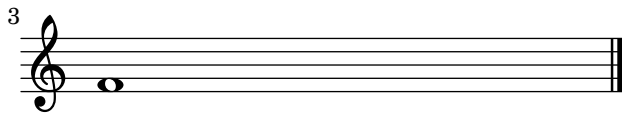
<u>Introduction</u>	2
First-level I.	3
Second level I. a	4
Third level I. a, 1	4
First-level II.	5
The end	6
Before the end	5
2	

Hello World.

3



6



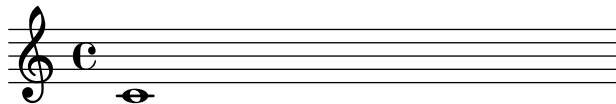
A table of contents is included using `\markuplist \table-of-contents`. The toc items are added with the `\tocItem` command. In the PDF backend, the toc items are linked to the corresponding pages.

```
toc.ly
```

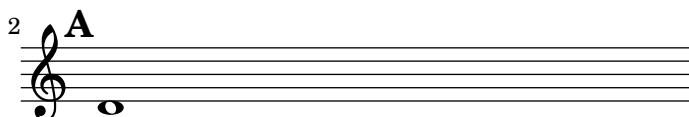
Table of Contents

The first score	2
(score begins here)	2
Mark A	3
The second score	4

2



3



4

Second score



LilyPond v2.25.16

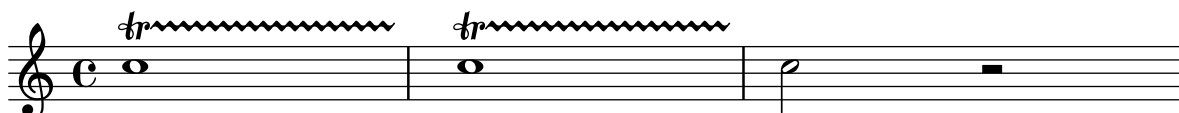
Trill spanners stop before the accidental of the following note, if any.

`trill-spanner-accidental.ly`



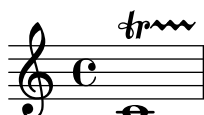
Consecutive trill spans work without explicit `\stopTrillSpan` commands, since successive trill spanners will automatically become the right bound of the previous trill.

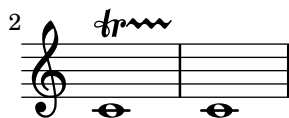
`trill-spanner-auto-stop.ly`



A TrillSpanner crossing a line break should restart exactly above the first note on the new line.

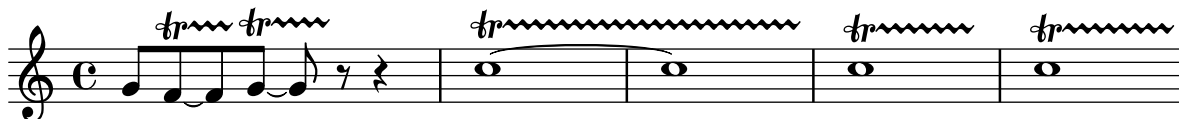
`trill-spanner-broken.ly`





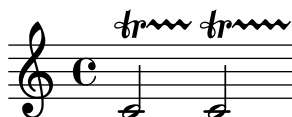
Chained trills end at the next trill or bar line. Collisions can be prevented by overriding bound-details.

trill-spanner-chained.ly



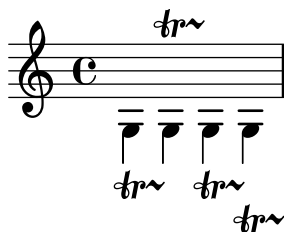
Consecutive trill spanners never overlap.

trill-spanner-consecutive.ly



The direction of a trill spanner can be set with `_` and `^` indicators.

trill-spanner-direction.ly



Trill spanner can end on a grace note

trill-spanner-grace.ly



Trill spanners with `outside-staff-priority` turned off do not collide with notes.

trill-spanner-no-outside-staff-priority.ly



Pitched trills on consecutive notes with the same name and octave should not lose accidentals; in the following example, accidentals should be visible for all trill-pitches.

trill-spanner-pitched-consecutive.ly



Pitched trill accidentals can be forced.

trill-spanner-pitched-forced.ly



Pitched trills are denoted by a small note head in parentheses following the main note. This note head is properly ledgered, and parentheses include the accidental.

trill-spanner-pitched.ly



The horizontal position of the beginning of a trill spanner is positioned correctly relative to the note head it is attached to, even if scaled to a smaller size.

trill-spanner-scaled.ly



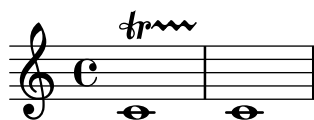
A trill spanner can be made to run to the end of the score by never issuing a `\stopTrillSpan` command.

trill-spanner-terminated-implicitly.ly



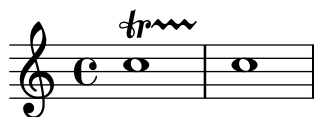
By default, a trill spanner ending on the first note on a bar extends no further than the preceding bar line.

trill-spanner-to-barline.ly



The trill symbol and the wavy line are neatly aligned: the wavy line should appear to come from the crook of the r

`trill-spanner.ly`

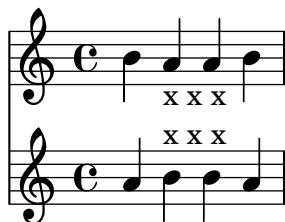


Paths can be empty, or contain just a `moveto` command. The extents of such a path are empty.

`trivial-path.ly`

X X X X

X X X X



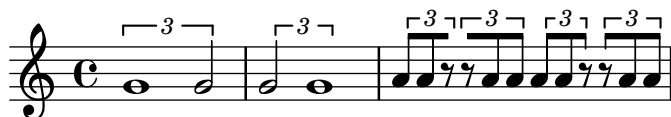
In combination with a beam, the bracket of the tuplet bracket is removed. This only happens if there is one beam, as long as the bracket.

`tuplet-beam.ly`



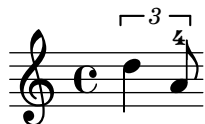
Tuplet brackets should align to visible or transparent stems only. For stemless notes or rests they should span the whole note width.

`tuplet-bracket-X-positions.ly`



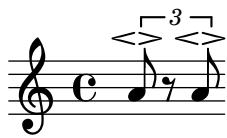
TupletBracket grobs avoid Fingering grobs.

`tuplet-bracket-avoid-fingering.ly`



Tuplet brackets avoid scripts by default.

`tuplet-bracket-avoid-scripts.ly`



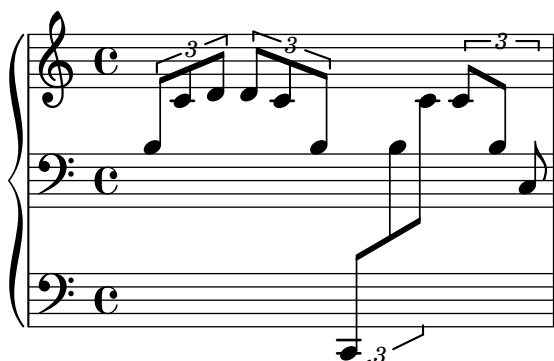
TupletBracket grobs avoid StringNumber grobs.
 tuplet-bracket-avoid-string-number.ly



When the tuplet number is wider than the bracket, no tuplet bracket is printed.
 tuplet-bracket-backwards.ly



Cross-staff tuplets are drawn correctly, even across multiple staves.
 tuplet-bracket-cross-staff.ly



The direction of tuplet brackets is the direction of the majority of the stems under the bracket, with ties going to UP.

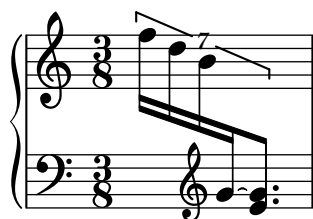
tuplet-bracket-direction.ly



Tuplet brackets are not too steep. In groups without beams, their angle should match an equivalent beam slant when possible.

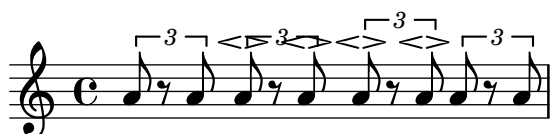
tuplet-bracket-max-slope.ly

A series of musical staves illustrating various complex tuplets. The first staff shows a 3-note triplet and a 5-note quintuplet. The second staff shows a 2-note pair and a 5-note quintuplet. The third staff shows a 2-note pair and a 5-note quintuplet. The fourth staff shows a 5-note quintuplet. The fifth staff shows a 9-note nonuplet. The sixth staff shows a 7-note septuplet. The seventh staff shows a 9-note nonuplet. The eighth staff shows a 7-note septuplet. The ninth staff shows a 9-note nonuplet. The tenth staff shows a 7-note septuplet. The eleventh staff shows a 9-note nonuplet. The twelfth staff shows a 7-note septuplet. The thirteenth staff shows a 9-note nonuplet. The fourteenth staff shows a 7-note septuplet. The fifteenth staff shows a 9-note nonuplet. The sixteenth staff shows a 7-note septuplet. The seventeenth staff shows a 9-note nonuplet. The eighteenth staff shows a 7-note septuplet. The nineteenth staff shows a 9-note nonuplet. The twentieth staff shows a 7-note septuplet. The twenty-first staff shows a 9-note nonuplet. The twenty-second staff shows a 7-note septuplet. The twenty-third staff shows a 9-note nonuplet. The twenty-fourth staff shows a 7-note septuplet. The twenty-fifth staff shows a 9-note nonuplet. The twenty-sixth staff shows a 7-note septuplet. The twenty-seventh staff shows a 9-note nonuplet. The twenty-eighth staff shows a 7-note septuplet. The twenty-ninth staff shows a 9-note nonuplet. The thirtieth staff shows a 7-note septuplet. The thirty-first staff shows a 9-note nonuplet. The thirty-second staff shows a 7-note septuplet. The thirty-third staff shows a 9-note nonuplet. The thirty-fourth staff shows a 7-note septuplet. The thirty-fifth staff shows a 9-note nonuplet. The thirty-sixth staff shows a 7-note septuplet. The thirty-seventh staff shows a 9-note nonuplet. The thirty-eighth staff shows a 7-note septuplet. The thirty-ninth staff shows a 9-note nonuplet. The fortieth staff shows a 7-note septuplet. The forty-first staff shows a 9-note nonuplet. The forty-second staff shows a 7-note septuplet. The forty-third staff shows a 9-note nonuplet. The forty-fourth staff shows a 7-note septuplet. The forty-fifth staff shows a 9-note nonuplet. The forty-sixth staff shows a 7-note septuplet. The forty-seventh staff shows a 9-note nonuplet. The forty-eighth staff shows a 7-note septuplet. The forty-ninth staff shows a 9-note nonuplet. The fiftieth staff shows a 7-note septuplet. The fifty-first staff shows a 9-note nonuplet. The fifty-second staff shows a 7-note septuplet. The fifty-third staff shows a 9-note nonuplet. The fifty-fourth staff shows a 7-note septuplet. The fifty-fifth staff shows a 9-note nonuplet. The fifty-sixth staff shows a 7-note septuplet. The fifty-seventh staff shows a 9-note nonuplet. The fifty-eighth staff shows a 7-note septuplet. The fifty-ninth staff shows a 9-note nonuplet. The sixtieth staff shows a 7-note septuplet. The sixty-first staff shows a 9-note nonuplet. The sixty-second staff shows a 7-note septuplet. The sixty-third staff shows a 9-note nonuplet. The sixty-fourth staff shows a 7-note septuplet. The sixty-fifth staff shows a 9-note nonuplet. The sixty-sixth staff shows a 7-note septuplet. The sixty-seventh staff shows a 9-note nonuplet. The sixty-eighth staff shows a 7-note septuplet. The sixty-ninth staff shows a 9-note nonuplet. The seventieth staff shows a 7-note septuplet. The seventy-first staff shows a 9-note nonuplet. The seventy-second staff shows a 7-note septuplet. The seventy-third staff shows a 9-note nonuplet. The seventy-fourth staff shows a 7-note septuplet. The seventy-fifth staff shows a 9-note nonuplet. The seventy-sixth staff shows a 7-note septuplet. The seventy-seventh staff shows a 9-note nonuplet. The seventy-eighth staff shows a 7-note septuplet. The seventy-ninth staff shows a 9-note nonuplet. The eightieth staff shows a 7-note septuplet. The eighty-first staff shows a 9-note nonuplet. The eighty-second staff shows a 7-note septuplet. The eighty-third staff shows a 9-note nonuplet. The eighty-fourth staff shows a 7-note septuplet. The eighty-fifth staff shows a 9-note nonuplet. The eighty-sixth staff shows a 7-note septuplet. The eighty-seventh staff shows a 9-note nonuplet. The eighty-eighth staff shows a 7-note septuplet. The eighty-ninth staff shows a 9-note nonuplet. The ninetieth staff shows a 7-note septuplet. The ninety-first staff shows a 9-note nonuplet. The ninety-second staff shows a 7-note septuplet. The ninety-third staff shows a 9-note nonuplet. The ninety-fourth staff shows a 7-note septuplet. The ninety-fifth staff shows a 9-note nonuplet. The ninety-sixth staff shows a 7-note septuplet. The ninety-seventh staff shows a 9-note nonuplet. The ninety-eighth staff shows a 7-note septuplet. The ninety-ninth staff shows a 9-note nonuplet. The hundredth staff shows a 7-note septuplet.



Tuplet brackets' outside staff priority can be set. Brackets, by default, carry their numbers with them.

`tuplet-bracket-outside-staff-priority.ly`



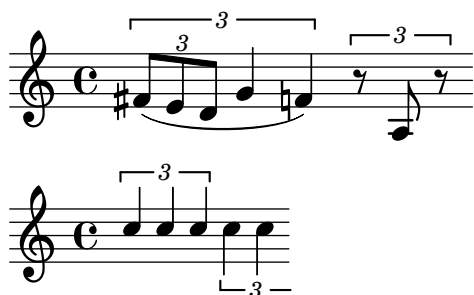
Tuplet brackets can be set to always be printed when the direction of the bracket is forced to be on the note head side. This setting doesn't have any effect on kneed tuplets.

`tuplet-bracket-over-note-heads.ly`



The option `span-all-note-heads` may be used to make tuplet brackets span over all note heads (instead of stems) as done in standard typesetting practice.

`tuplet-bracket-span-all-note-heads.ly`



Tuplet brackets do not push objects with outside-staff-priority too high.
 tuplet-bracket-vertical-skylines.ly

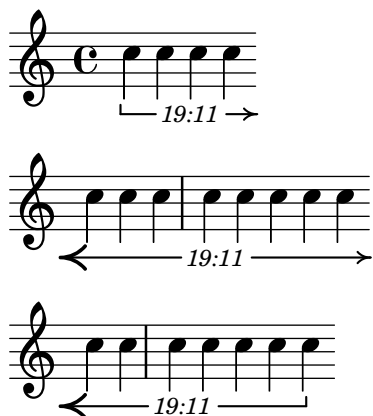
The default behavior of tuplet-bracket visibility is to print a bracket unless there is a beam of the same length as the tuplet. Overriding `'bracket-visibility` changes the bracket visibility as follows:

- `#t` (always print a bracket)
- `#f` (never print a bracket)
- `'if-no-beam` (only print a bracket if there is no beam)

tuplet-bracket-visibility.ly

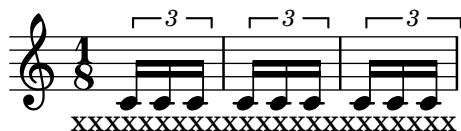
Broken tuplets are adorned with little arrows. The arrows come from the `edge-text` property, and thus be replaced with larger glyphs or other text.

tuplet-broken.ly



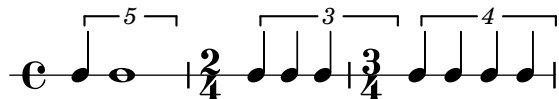
With full-length-to-extent, the extent of the attaching column for a full-length tuplet bracket can be ignored.

tuplet-full-length-extent.ly



tuplet can be made to run to prefatory matter or the next note, by setting tupletFullLengthNote.

tuplet-full-length-note.ly



If tupletFullLength is set, tuplets end at the start of the next non-tuplet note.

tuplet-full-length.ly



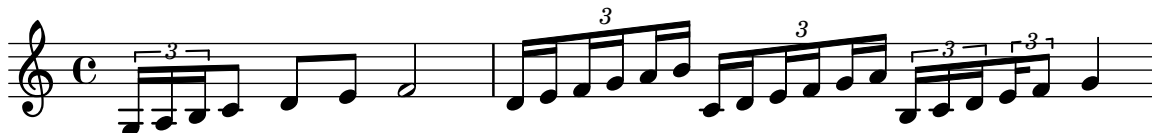
The size of the tuplet bracket gap is adjusted to the width of the text.

tuplet-gap.ly



Overlong tuplet span specifications are reduced to the actual length.

tuplet-long-spanner.ly



A misplaced tuplet (starting while a note is playing) is handled robustly.

tuplet-misplaced.ly



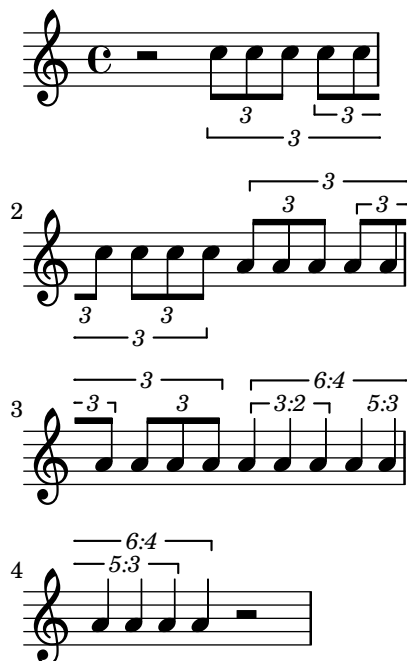
Nested tuplets do collision resolution, also when they span beams.

tuplet-nest-beam.ly



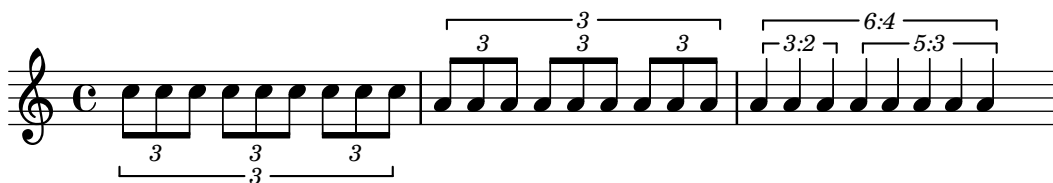
Broken nested tuplets avoid each other correctly.

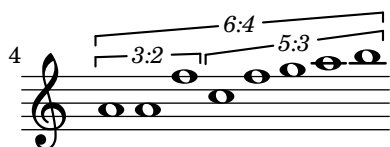
tuplet-nest-broken.ly



Tuplets may be nested.

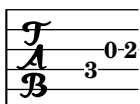
tuplet-nest.ly





Removing Stem_engraver doesn't cause crashes.

tuplet-no-stems.ly



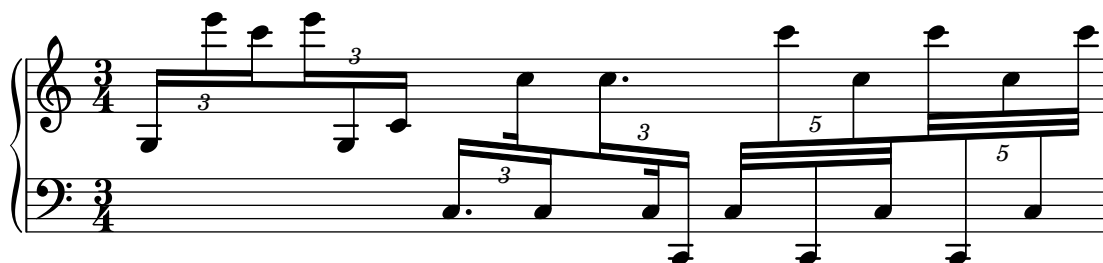
Tuplet numbers of flat beams vertically align with similar looking beams.

tuplet-number-alignment.ly



Tuplet numbers are positioned correctly on kneed French-style beams.

tuplet-number-french-knead-beams.ly



In tuplets with an even number of stems, the number may be placed on either side of the beam when the central stems point in different directions. The exception to this is when there is a fractional beam on one of the central stems, in which case the number is placed opposite the partial beam.

tuplet-number-knead-beam-even-stem-count.ly



Tuplet numbers are placed next to the beam unless there is insufficient horizontal space for them, in which case bracket-based positioning is used and a programming error is issued.

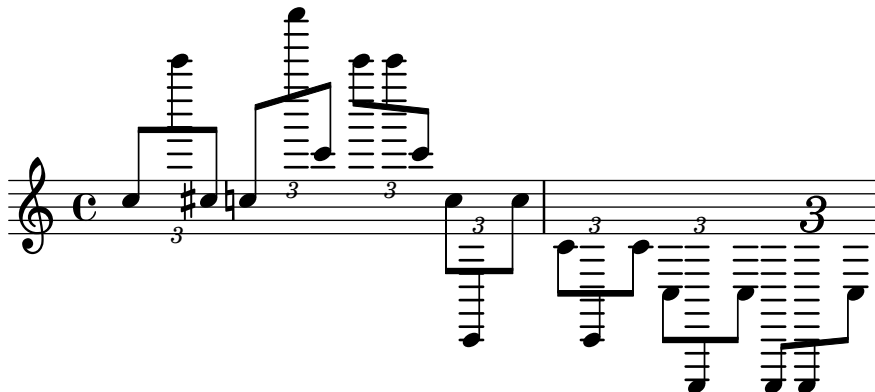
The first tuplet number should be between stems; the second should be below the noteheads.

tuplet-number-knead-beam-horizontal-fit.ly



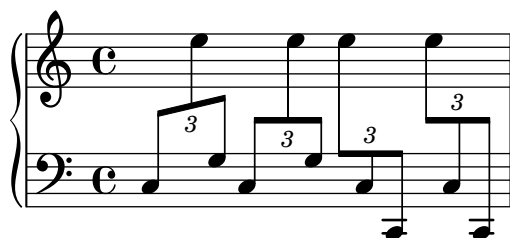
A tuplet number associated with a kneed beam is not placed between beam and staff where it may collide with ledger lines.

tuplet-number-kneed-beam-ledger-lines.ly



Tuplet numbers are placed next to kneed beams when `Beam.positions` is overridden.

tuplet-number-kneed-beam-positions.ly



Grobs whose parents have `outside-staff-priority` set should figure into the vertical skyline of the `VerticalAxisGroup` such that grobs with a higher `outside-staff-priority` are correctly positioned above them.

tuplet-number-outside-staff-positioning.ly



Tuplet numbers' outside staff priority can be set.

tuplet-number-outside-staff-priority.ly



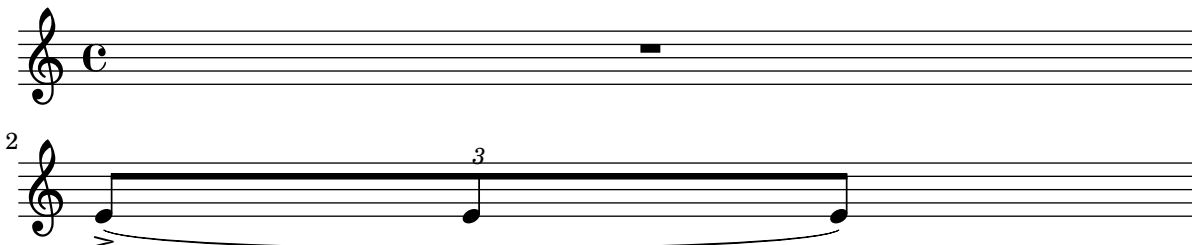
Tuplet numbers will maintain a constant distance from kneed beams when offset horizontally.

tuplet-number-shift-along-kneed-beam.ly



Tuplet number position is correct when slurs and scripts are present.

tuplet-number-slur-script.ly



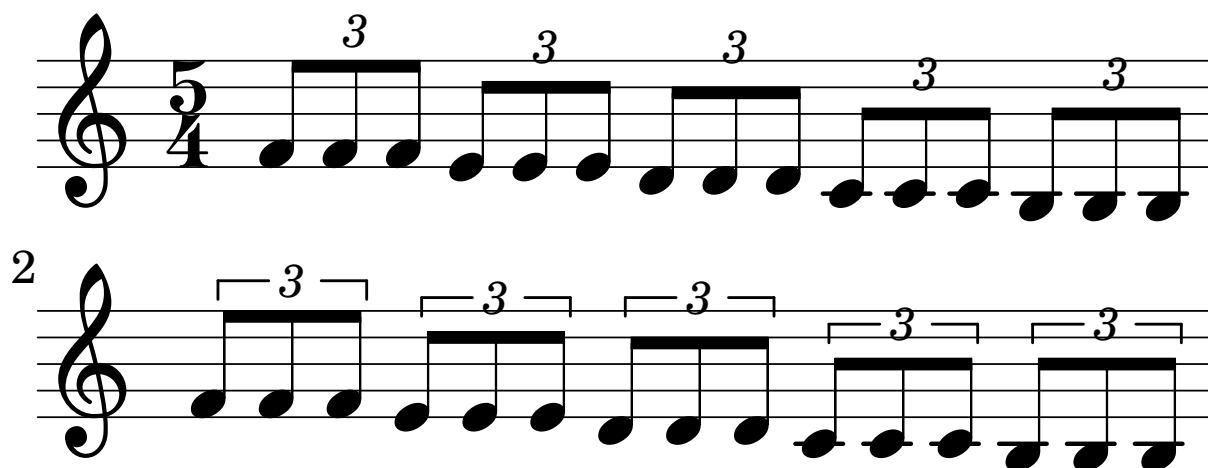
Tuplet numbers that are slightly outside the staff sit on the staff line.

tuplet-number-staffline-size10.ly



Tuplet numbers that are slightly outside the staff sit on the staff line.

tuplet-number-staffline-size40.ly



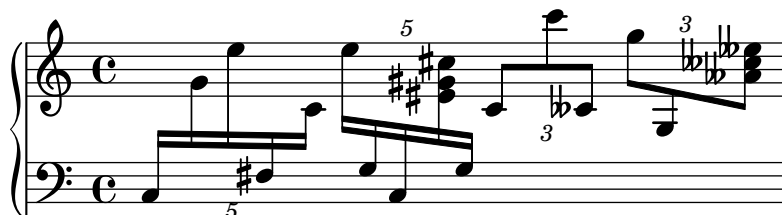
Tuplet numbers that are slightly outside the staff sit on the staff line.

tuplet-number-staffline.ly



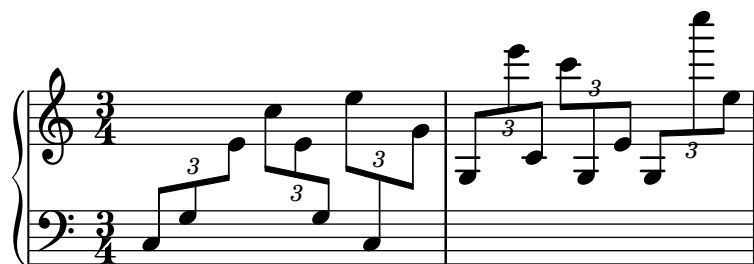
Tuplet numbers associated with kneed beams will avoid accidentals.

tuplet-numbers-knead-beams-accidentals.ly



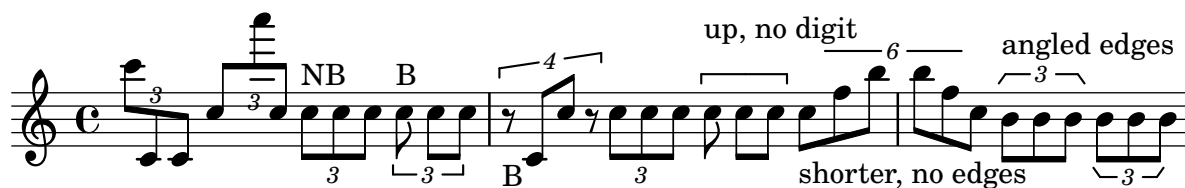
Tuplet numbers are positioned next to kneed beams.

tuplet-numbers-knead-beams.ly



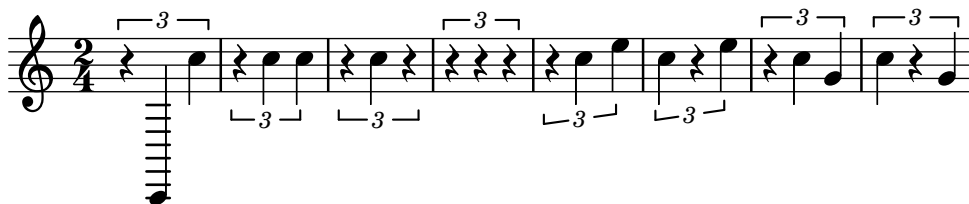
Tuplet bracket formatting supports numerous options, for instance, bracketed (B) and non-bracketed (NB).

tuplet-properties.ly



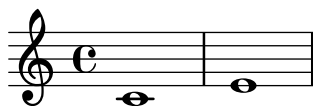
Tuplets may contain rests.

tuplet-rest.ly



Regression test for Issue #6205. Expected output is a single staff with notes C and E.

tuplet-set.ly



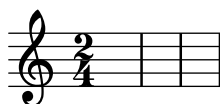
Show tuplet numbers also on single-note triplets (otherwise the timing would look messed up!), but don't show a bracket. Make sure that triplets without any notes don't show any number, either.

tuplet-single-note.ly



A tuplet with only skips is silently omitted.

tuplet-skips.ly



Tuplet brackets stay clear of the staff. The slope is determined by the graphical characteristic of the notes, but if the musical pattern does not follow graphical slope, then the bracket is horizontal

The bracket direction is determined by the dominating stem direction.

tuplet-slope.ly



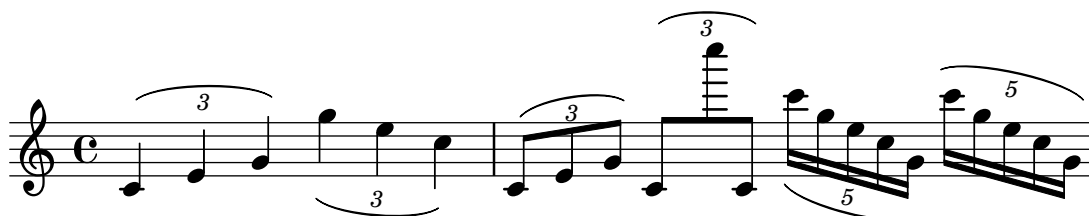
Tuplet slurs may be tweaked through the shorten-pair and dash-definition properties.

tuplet-slur-tweaks.ly



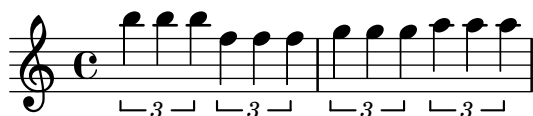
Slurs may be used instead of brackets for tuplets through the tuplet-slur property of TupletBracket. Rules for visibility are the same as for regular brackets, so bracket-visibility should be set to #t if the slur is desired for beamed groups.

tuplet-slurs.ly



Horizontal tuplet brackets are shifted vertically to avoid staff line collisions.

tuplet-staffline-collision.ly



Subdivision works properly for tuplets.

tuplet-subdivision.ly



Non-standard tuplet texts: Printing other tuplet fractions than the ones actually assigned.

tuplet-text-different-numbers.ly



Non-standard tuplet texts: Printing a tuplet fraction with note durations assigned to both the denominator and the numerator.

tuplet-text-fraction-with-notes.ly



Non-standard tuplet texts: Appending a note value to the normal text and to the fraction text.

tuplet-text-note-appended.ly



Tuplets are indicated by a bracket with a number. There should be no bracket if there is a beam exactly matching the length of the tuplet. The bracket does not interfere with the stafflines, and the number is centered in the gap in the bracket.

The bracket stops at the end of the stems, if the stems have the same direction as the bracket. The endings can be adjusted with `bracket-flare`.

tuplets.ly

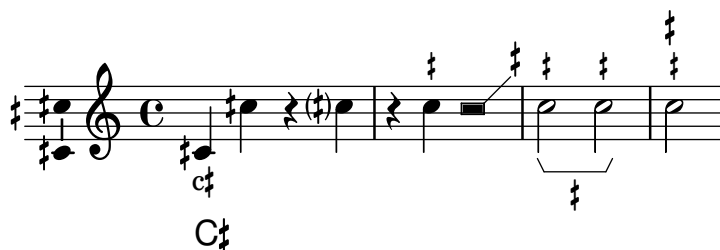


Alternative notation systems using accidentals different from the Western ones set them systematically, for standalone markups and all grobs that print accidentals.

This include file provides a function to draw many accidental in different contexts. It is used by various tests.

turkish-makam-accidental-glyphs.ly

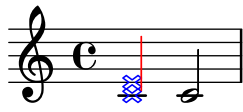
All †



†

Overrides can be the target of a `\propertyTweak`, with the tweaks accumulating as override. The main application is for stacking commands implemented in terms of `\propertyTweak`. This example should show the starting chord with blue, cross-styled note heads and a red stem.

tweaks-as-overrides.ly



heavily mutilated Edition Peters Morgenlied by Schubert

LilyPond demo

Lieblich, etwas geschwind

1. Sü - ßes
2. いろはに 𐌹𐌿

3
Licht! Aus gol - denen Pfor - ten brichst du sie - gend durch die
ta ta ほへど ちり ぬるを Жъл дю ля 𐌹𐌿 いろはに 𐌹𐌿

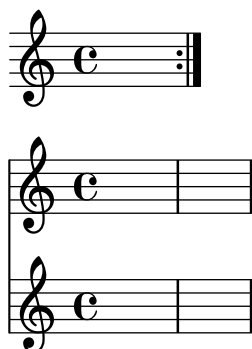
6
Nacht. Schöner Tag, du bist er - wacht.
ta ta ほへ ちり ぬる Жъл дю ля

cresc. - - - *f*

The image displays a musical score for a piece titled 'LilyPond demo'. It is written in 6/8 time and consists of three systems of music. The first system shows the beginning of the piece with the tempo marking 'Lieblich, etwas geschwind'. It features a vocal line and a piano accompaniment. The second system continues the vocal line with lyrics in German, Japanese, and Cyrillic. The third system concludes the piece with a piano accompaniment that includes a crescendo and a fortissimo dynamic marking. The score is presented in a standard musical notation format with treble and bass clefs, and various musical symbols such as notes, rests, and accidentals.

`\unfolded` hides music until a repeat is unfolded. In this case, a second staff appears when the piece is unfolded.

`unfolded-spec.ly`



unpure-pure containers take two arguments: an unpure property and a pure property. The pure property is evaluated (and cached) for all pure calculations, and the unpure is evaluated for all unpure calculations. In this regtest, there are three groups of two eighth notes. In the first group, the second note should move to accommodate the flag, whereas it should not in the second group and in the third group because it registers the flag as being higher. The flag, however, remains at the Y-offset dictated by `ly:flag::calc-y-offset`. In the fourth set of two 8th notes, the flag should be pushed up to a Y-offset of 8.

`unpure-pure-container.ly`



`\once \unset` should change a context property value for just one timestep and then return to the previous value.

`unset-once.ly`



words in mixed font in a single string are separated by spaces as in the input string. Here a Russian word followed by a roman word.

`utf-8-mixed-text.ly`

Здравствуйte Hallo

In Guile v2, embedded Scheme can contain UTF-8 strings and identifiers. Here, identifier `bääh` contains music with the text "bööh"

`utf-8-scheme.ly`



Various scripts may be used for texts (like titles and lyrics) by entering them in UTF-8 encoding, and using a Pango based backend. Depending on the fonts installed, this fragment will render Bulgarian (Cyrillic), Hebrew, Japanese and Portuguese.

utf-8.ly

Жълтата дюля беше щастлива,
 לַשְׂמוּעַ כִּי הָיָה זֶה
 いろはにほへどちりぬるをわがよたれぞつねならむ
 à vo - cê uma

3
 че пухът, който цъфна,
 קָרָא הַנֶּחֱמָה קָרָא עָרַב
 うるのおくやまけふこえてあさきゆめみじゑひもせず
 can - ção le - gal

The Scheme function `ly:version?` checks that the version of LilyPond being used satisfies a comparison predicate against a given version.

version-compare.ly

This does not produce typeset output but checks that `\version` statements in included files do not inhibit the warning in the main file when a `\version` statement is missing there.

version-seen.ly

Score level `Vertical-align-engraver` ignore axis groups that are not spanners. In this case, the `Devnull` context has no `Axis-group-engraver`, so the `NoteColumn` appears like a parent-less axis group; even so, the Score level alignment ignores it.

vertical-alignment-spanner-only.ly

Voice followers can be broken across more than two systems.

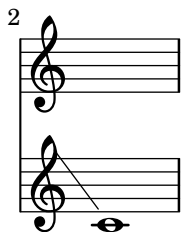
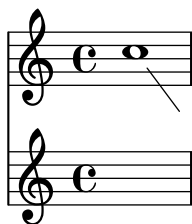
voice-follower-broken-several-systems.ly

2



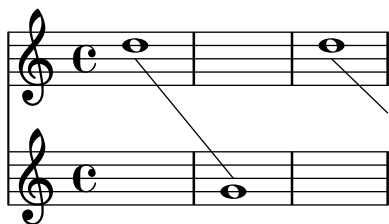
Voice followers have acceptable slopes across lines breaks.

`voice-follower-broken.ly`



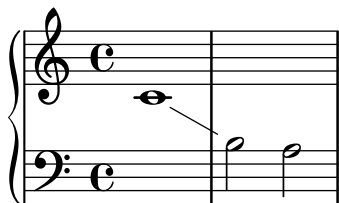
Adjustments to `VoiceFollower.bound-details.left.Y` are relative to the `VoiceFollower` grob's start staff. In this test, the lines should start and end at the exact middle of the respective staves.

`voice-follower-y-tweaks.ly`



Whenever a voice switches to another staff a line connecting the notes can be printed automatically. This is enabled if the property `followVoice` is set to true.

`voice-follower.ly`



The `\voices` command can be used for continuing voices and changing the order of `\voiceOne... \voiceFour` style overrides.

`voices-command.ly`



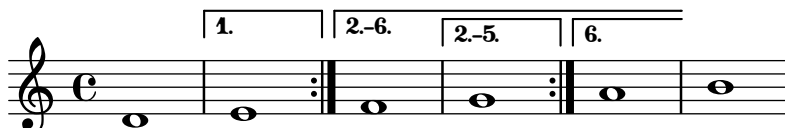
Volta bracket end hooks can be added for other bar line types.

`volta-bracket-add-volta-hook.ly`



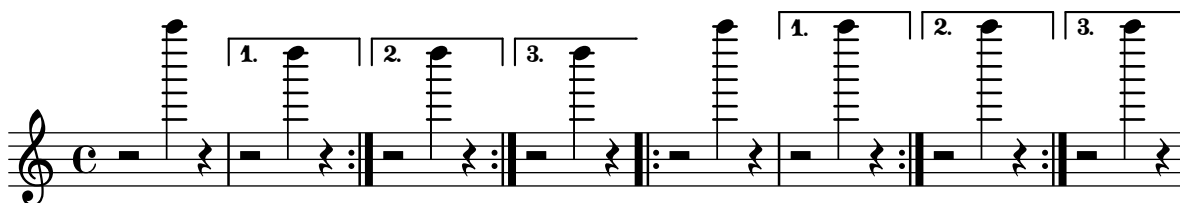
When alternatives are nested, volta brackets stack with the outermost alternative on top. In this case, alternatives for volte 2-5 and 6 are nested inside an alternative for volte 2-6.

`volta-bracket-nest.ly`



Volta brackets are vertically fit to objects below them.

`volta-bracket-vertical-skylines.ly`



Broken volta spanners behave correctly at their left edge in all cases.

`volta-broken-left-edge.ly`

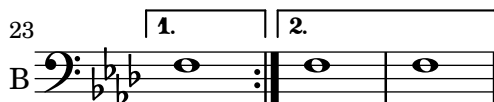
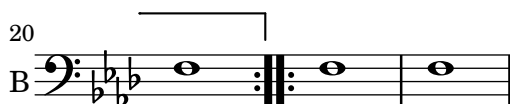
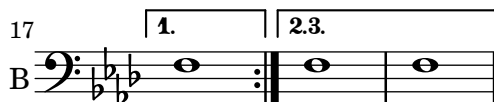
Bass

3

6

9

12



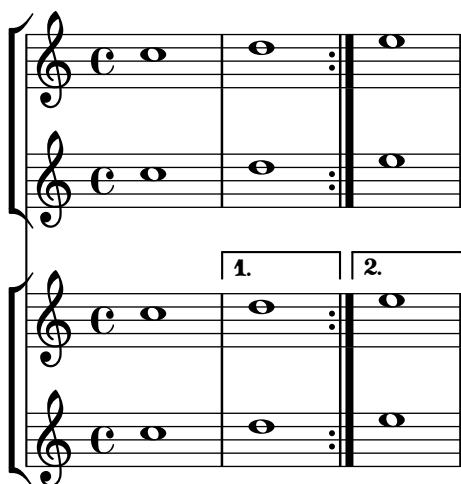
Volte using `repeatCommands` can have markup text.

`volta-markup-text.ly`



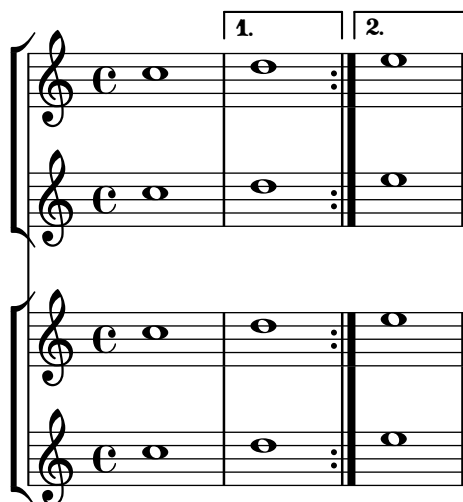
By putting `Volta_engraver` in a staff context, one can get volta brackets on staves other than the topmost one.

`volta-multi-staff-inner-staff.ly`

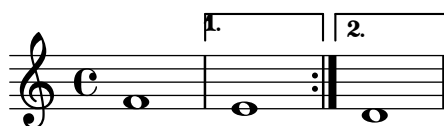


By default, the volta brackets appear only in the topmost staff.

`volta-multi-staff.ly`

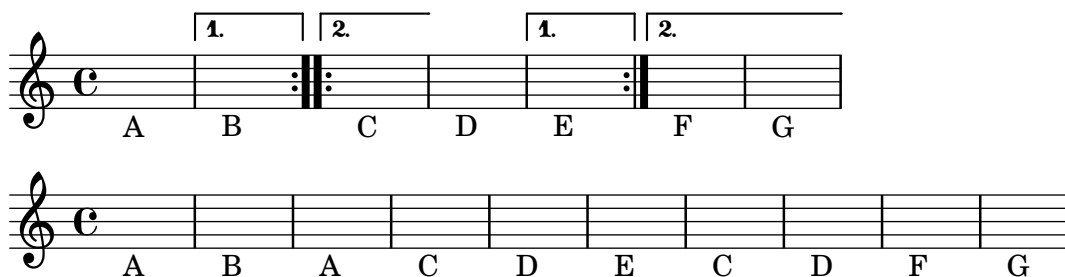


The offset of the volta number can be controlled with the property `volta-number-offset`.
`volta-number-offset.ly`



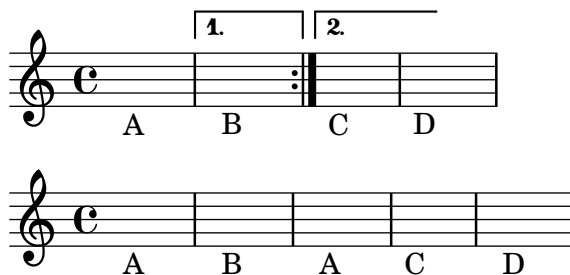
A final volta bracket overhanging the next section can be achieved manually with the `repeatCommands` and `voltaSpannerDuration` properties.

`volta-overhang-manual.ly`



A final volta bracket overhanging the next section can be achieved by overriding `Score.VoltaBracket.musical-length` in a zero-duration alternative. The context property `voltaSpannerDuration` is ignored. The bracket for volta 2 should end 1/3 of the way into the final measure.

`volta-overhang.ly`



`\volta` can add volta-specific grace notes.
`volta-spec-after-grace.ly`



Regression test for Issue #6207. Expected output is a single staff with notes C and E.
`volta-spec-set.ly`



`\volta` can add a volta-specific tie.
`volta-spec-tie.ly`



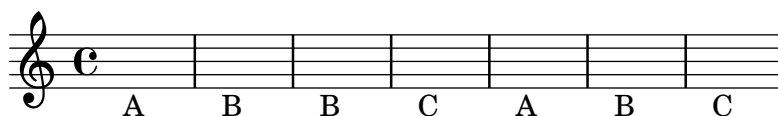
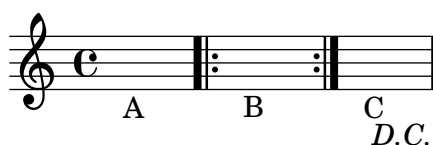
Simultaneous alternatives in nested repeats are unfolded according to the innermost repeat. In this test, the upper voice has two groups of three and the lower voice has three groups of two.
`volta-spec-unfold-in-unfold.ly`



When unfolding volta-specific music, music marked for an out-of-range volta is ignored. In this case, four notes marked 1-4 should appear.
`volta-spec-unused.ly`

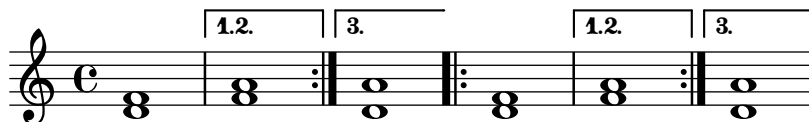


`\volta` and `\unfolded` can remove/add music in the main body of a repeated section even if they change the length. In this case, a repeat is skipped after *D.C.*
`volta-spec-volta-in-segno.ly`



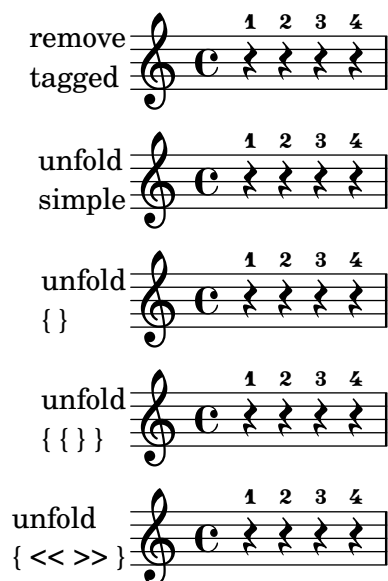
`\volta` pertains to the innermost repeat. In this case, alternative notes are inside a volta repeat, so they are engraved as chords even though the volta repeat is inside an unfolded repeat.

`volta-spec-volta-in-unfold.ly`



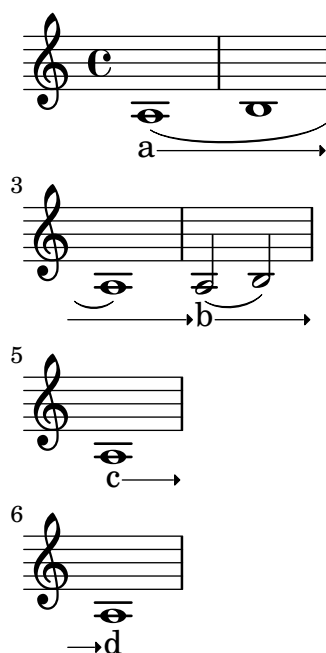
`\volta` can remove arbitrary music from the main body of a repeated section. In each staff, a rest between those marked 1 and 2 has been removed.

`volta-unused.ly`



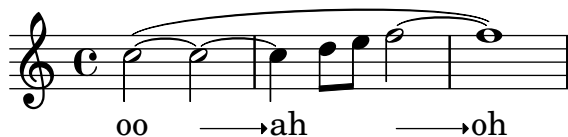
A vowel transition runs to the end of the line if it continues on the next line, or if the next lyric syllable is at the first note on the next line. Transition arrows are printed at the beginning of the line only when they go past the first note, or when property `after-line-breaking` is `#t`.

`vowel-transition-broken.ly`



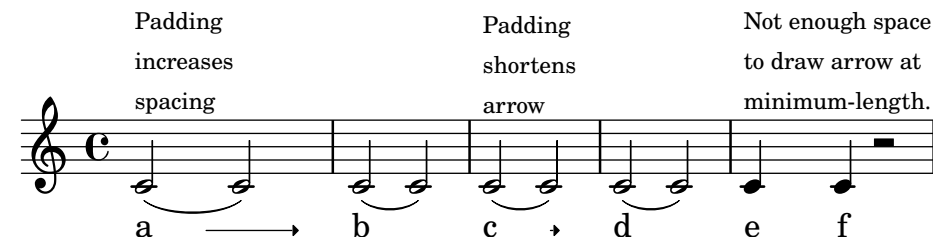
The length of the transition between one syllable and the next is indicated by the length of the arrow, which may not start immediately after a new syllable.

vowel-transition-delayed-start.ly

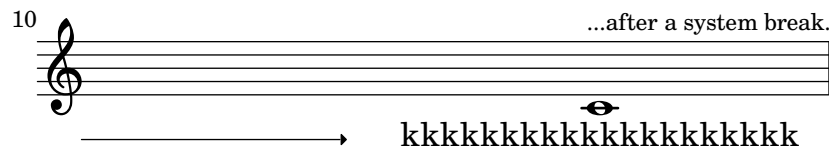
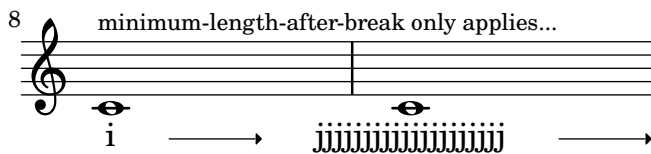
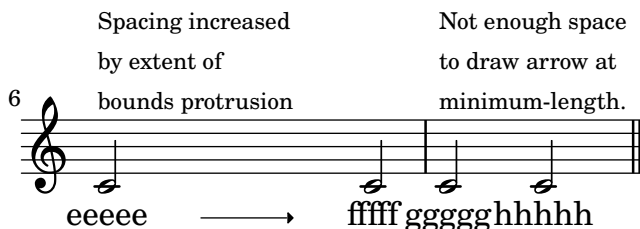


For vowel transitions, `minimum-length` refers to the drawn length of the arrow. The protrusion of the syllables and padding is in effect added to `minimum-length` for spacing. This default behavior can be changed by overriding `springs-and-rods`, which may cause the transition arrow not to be drawn if there is insufficient space (rather than adding the space necessary to draw it at `minimum-length`). `minimum-length-after-break` controls the minimum length of the segment following a system break.

vowel-transition-minimum-length.ly



No space added to compensate for bounds protrusion.



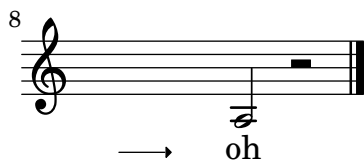
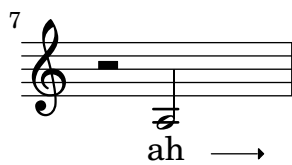
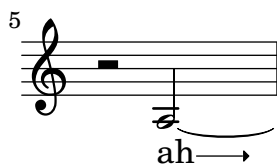
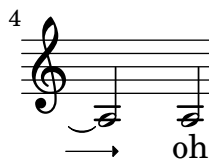
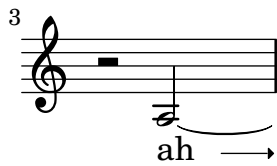
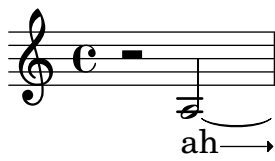
When a syllable is horizontally offset, the arrow should adjust accordingly.

vowel-transition-offset-syllable.ly





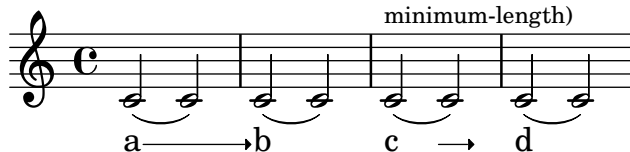
For vowel transitions, left/right padding are independent of left-broken/right-broken padding.
vowel-transition-padding-broken.ly



Padding does not cause `VowelTransitions` to become shorter than `minimum-length`. Instead, space is added if necessary leaving the arrow at `minimum-length`.

`vowel-transition-padding.ly`

Padded, but
spacing is
not changed.
(Arrow is still
longer than
`minimum-length`)



Space is added
to allow for
padding. Arrow
is drawn at



Vowel transition arrows are always drawn, but they do not protrude into the margin. Instead, space is added so that the arrow can be drawn at `minimum-length`.

`vowel-transition-right-margin.ly`



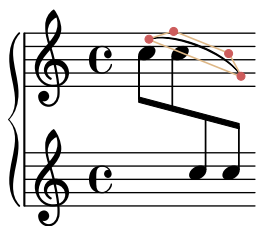
A vowel transition arrow may span several notes. The arrow may extend past a rest, but not past the next lyric syllable.

`vowel-transition.ly`



`\vshape` works on cross-staff slurs.

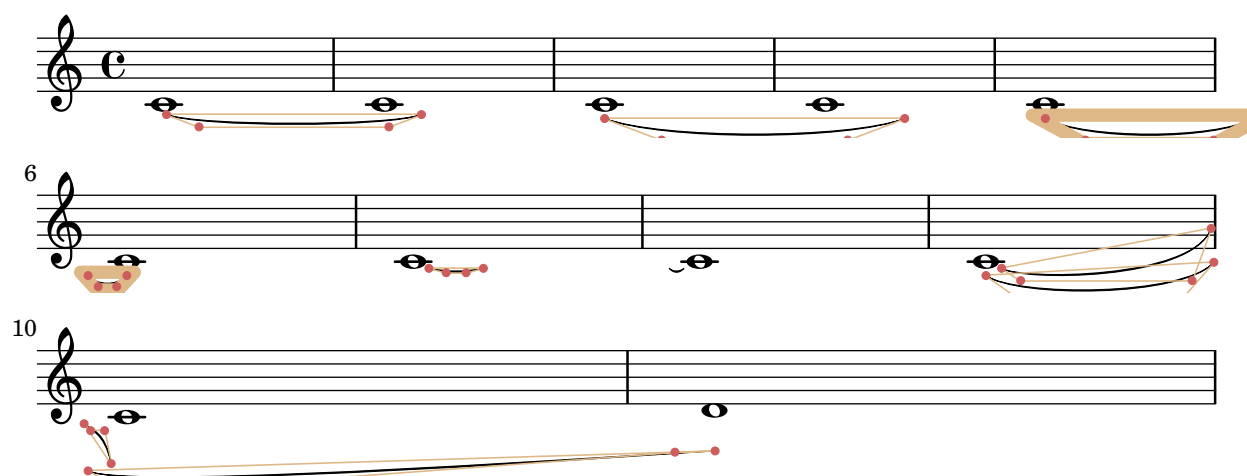
`vshape-cross-staff.ly`



The `\vshape` command acts like the `\shape` command, and additionally displays control points and polygons for easier tweaking of the values.

The polygons are drawn on top of other notation, and the points on top of the polygons.

`vshape.ly`



If you specify two different key signatures at one point, a warning is printed.

`warn-conflicting-key-signatures.ly`



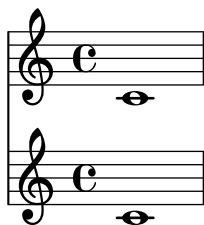
If a warning is expected, but not triggered, print out a warning about this fact. This will be used to detect missing warnings in our regtests.

`warn-expected-warning-missing.ly`



A warning is printed if a dynamic spanner is unterminated.

`warn-unterminated-span-dynamic.ly`





Whole note tremolos that begin on the third line of the staff should have a direction similar to their beamed counterparts.

`whole-note-tremolo-direction.ly`



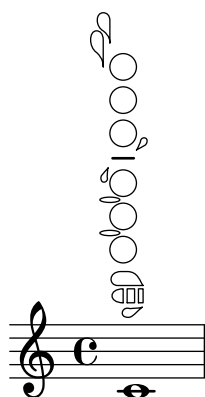
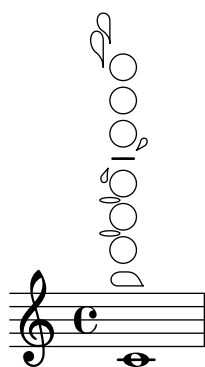
This doesn't produce a warning regarding weird stem size.

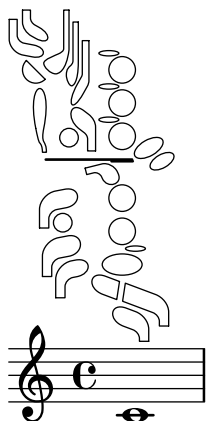
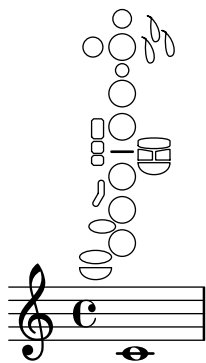
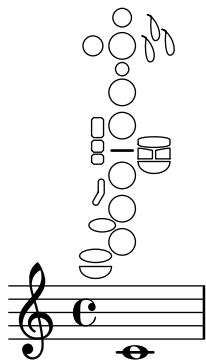
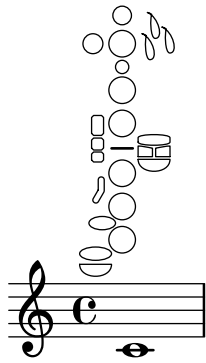
`whole_note_weird_stem.ly`

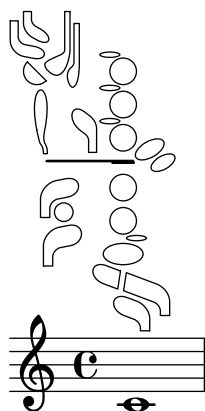


Empty woodwind diagrams for all instruments in `woodwind-diagrams.scm`.

`woodwind-diagrams-empty.ly`







Woodwind diagram with partial fill and trills.

woodwind-diagrams-fill-and-trill.ly

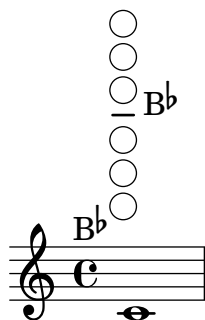
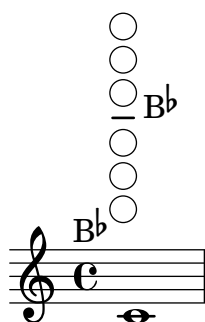
- ○ one1q
- ◐ ◑ two1h
- ◑ ◑ three3q
- ○ four1qT
- ◐ ◑ five1qT3q
- ◑ ◑ sixT

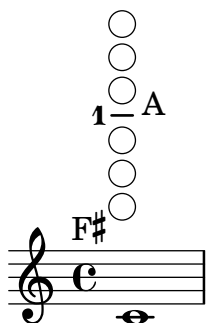
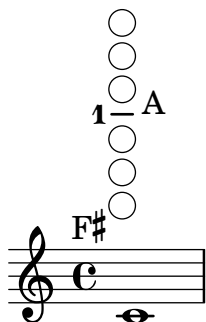
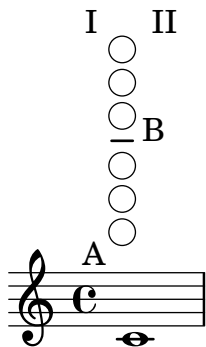
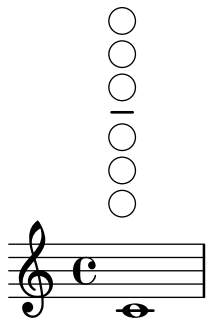
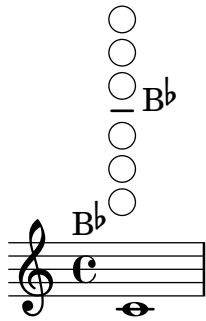
Lists all possible keys for all instruments in woodwind-diagrams.scm

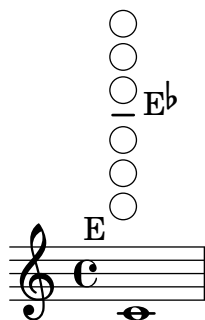
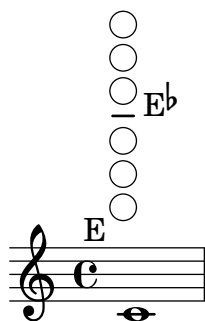
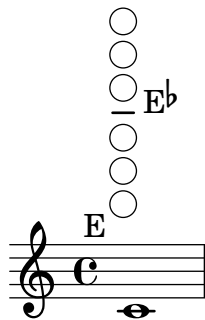
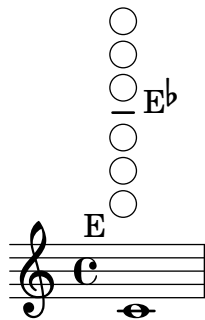
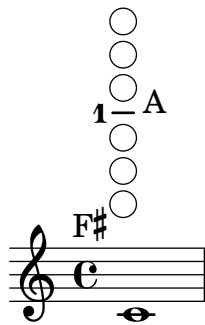
woodwind-diagrams-key-lists.ly

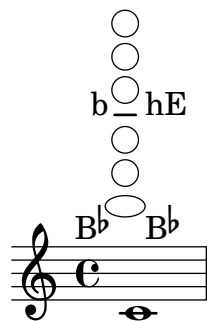
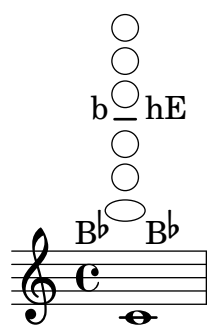
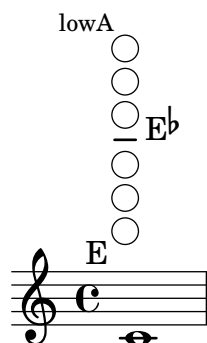
Woodwind diagrams for all instruments in woodwind-diagrams.scm with key names, one pressed per text stencil.

woodwind-diagrams-key-names.ly



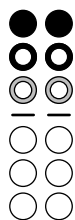






Woodwind diagram with ring key and ring trill.

`woodwind-diagrams-ring-keys.ly`



Woodwind diagrams with text.

`woodwind-diagrams-text.ly`

