

LilyPond

Unofficial MusicXML test suite

The music typesetter

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1 Introduction

Why a MusicXML test suite?

This test suite of sample MusicXML (<http://www.musicxml.org/>) files is supposed to fill a severe gap for all developers implementing MusicXML support in their application: There is no complete test suite of MusicXML files available for testing purposes.

License of the test suite

This collection of MusicXML test files is distributed under the MIT license (<https://www.opensource.org/licenses/mit-license.php>), which means that you can use the files for any purpose, as long as you leave the copyright notice (or the LICENSE file) intact.

Connection with LilyPond (<https://lilypond.org/>)

At the same time as providing a generic test suite for MusicXML documents, this test suite also serves as proofs for the `musicxml2ly` script provided with LilyPond. The images shown in this document were generated by running `musicxml2ly` and `lilypond` on the MusicXML files. As `musicxml2ly` does not yet perfectly support every single aspect of MusicXML, the output is not supposed to be used as a definitive reference rendering, but rather as an indication how one particular application supports and interprets each of the test files.

If something does not seem right in the output, it might either be that this feature has not been implemented yet, has been wrongly implemented, or a regression has crept in recently...

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

Structure of this test suite

Each test file (typically hand-crafted from the MusicXML specification) checks one particular aspect of MusicXML. A short description of the particular feature for a file is given inside the file in a comment element of the form

```
<identification><miscellaneous>
  <miscellaneous-field name="description"> .... </miscellaneous-field>
</miscellaneous></identification>
```

The files are categorized by their first two digits with the following meaning:

- 01–03 Basics: pitches, rests, rhythm.
- 11–14 Staff attributes: time signatures, clefs, key signatures, staff details.
- 21–24 Notes: chords, note settings, tuplets, grace notes.
- 31–34 Notations and articulations: dynamics (staff-attached), notations (note-attached), spanners, print-object issues.
- 41–43 Parts: multiple parts, multi-voice parts, multi-staff parts.
- 45–46 Repeat and measure issues.
- 51–52 Page issues: header fields, page layout.
- 55–59 Exact positioning of items, offsets, etc.
- 61 Lyrics.
- 71–75 Instrument-specific: guitar (chord, fretboards), transposing instruments, percussion, figured bass, other instruments.

81–89 MIDI generation (all sound-related issues).

90–99 Various other: compressed MusicXML files, compatibility with broken MusicXML files exported by other applications.

Some of the categories (in particular, the exact item positioning and the MIDI generation) don't have any test cases yet.

2 Test cases

01 ... Pitches

All pitches from G to c'' in ascending steps. First without accidentals, then with a sharp and then with a flat accidental, then with explicit natural accidentals. Double alterations and cautionary accidentals are tested at the end.

01a-Pitches-Pitches.xml

Pitches and accidentals

All pitch intervals in ascending jump size.

01b-Pitches-Intervals.xml

Various pitches and interval sizes

The `<voice>` element of notes is optional in MusicXML (although Dolet always writes it out). Here, there is one note with lyrics, but without a voice assigned. It should still be correctly converted.

01c-Pitches-NoVoiceElement.xml

A

Some microtones: c flat-and-a-half, d half-flat, e half-sharp, f sharp-and-a half. Once in the lower and once in the upper region of the staff.

01d-Pitches-Microtones.xml

Accidentals have the attributes 'cautionary', 'editorial', 'parenthesized', and 'bracketed'. The first two measures each have a cautionary accidental, an editorial, a cautionary with parentheses off, and an editorial and cautionary accidental. The next two measures each have a normal accidental, a bracketed, a parenthesized, and a bracketed and parenthesized accidental.

01e-Pitches-ParenthesizedAccidentals.xml

Microtone accidentals can be cautionary or editorial. Each measure has a normal accidental, an editorial, a cautionary and an editorial and cautionary accidental.

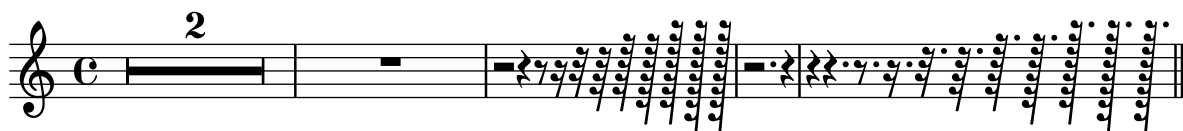
01f-Pitches-ParenthesizedMicrotoneAccidentals.xml

02 ... Rests

All different rest lengths: A two-bar multi-measure rest, a whole rest, a half, etc. until a 1024th-rest, then the same with dotted durations.

02a-Rests-Durations.xml

Rest unit test



Rests can have explicit pitches to position them vertically. The first rest has no explicit pitch and should use the default position, all others are explicitly positioned somewhere else (E4, F5, A3, C6).

02b-Rests-PitchedRests.xml



Five multi-measure rests: 3 measures, 15 measures, 1 measure, 12 measures, and 3 measures with 'use-symbols' set.

02c-Rests-MultiMeasureRests.xml



Multi-Measure rests should always be converted into durations that are a multiple of the time signature.

02d-Rests-Multimeasure-TimeSignatures.xml



In some cases, a rest might not have its type attribute set (this happens, for example, with voices in Finale, where you don't manually insert a rest).

02e-Rests-NoType.xml



03 ... Rhythm

All note durations, from long, brevis, whole, until 1024th. First with their plain values, then dotted, and finally doubly-dotted.

03a-Rhythm-Durations.xml

Three musical staves illustrating rhythmic durations. The first staff (labeled 16) shows a sequence of notes with durations increasing from 16 to 1024. The second staff (labeled 24) shows a sequence of notes with durations increasing from 24 to 28. The third staff (labeled 5) shows a sequence of notes with durations increasing from 5 to 1024.

Two voices with a backup, that does not jump to the beginning for the measure for voice 2, but somewhere in the middle. Voice 2 thus won't have any notes or rests for the first beat of the measures.

03b-Rhythm-Backup.xml

A musical staff showing a backup in a common time signature (C). The first measure contains a quarter note, and the second measure contains a quarter note and a half note.

Although uncommon, the divisions of a quarter note can change somewhere in the middle of a MusicXML file. Here, the first half measure uses a division of 1, which then changes to 8 in the middle of the first measure and to 38 in the middle of the second measure.

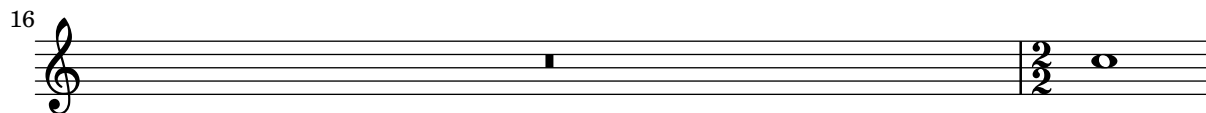
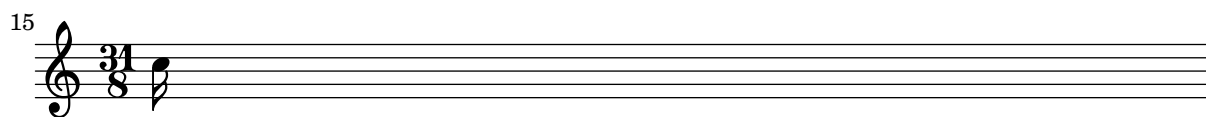
03c-Rhythm-DivisionChange.xml

A musical staff showing a division change in a common time signature (C). The first measure contains a quarter note, and the second measure contains a quarter note and a half note.

Several durations can be written with dots. For multimeasure rests, we can also have durations that cannot be expressed with dotted notes (like 5/8).

03d-Rhythm-DottedDurations-Factors.xml

Two musical staves illustrating dotted durations and multimeasure rests. The first staff (labeled 16) shows a sequence of notes with durations increasing from 16 to 16. The second staff (labeled 9) shows a sequence of notes with durations increasing from 9 to 31.



No divisions attribute

03e-Rhythm-No-Divisions.xml



11 ... Time signatures

Various time signatures: 2/2 (alla breve), 4/4 (C), 2/2, 3/2, 2/4, 3/4, 4/4, 5/4, 3/8, 6/8, 12/8

11a-TimeSignatures.xml



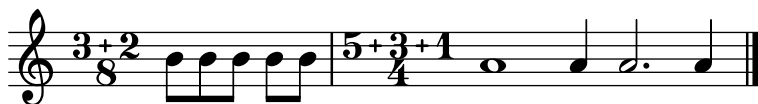
A score without a time signature (but with a key and clefs)

11b-TimeSignatures-NoTime.xml



Compound time signatures with same denominator: $(3+2)/8$ and $(5+3+1)/4$.

11c-TimeSignatures-CompoundSimple.xml



Compound time signatures with separate fractions displayed: $3/8+2/8+3/4$ and $5/2+1/8$.

11d-TimeSignatures-CompoundMultiple.xml



Compound time signatures of mixed type: $(3+2)/8+3/4$.

11e-TimeSignatures-CompoundMixed.xml



A time signature of 3/8 with the symbol="cut" attribute and two symbol="single-number" attributes with compound time signatures. Shall the symbol be ignored in this case?

11f-TimeSignatures-SymbolMeaning.xml



Time signature displayed as a single number.

11g-TimeSignatures-SingleNumber.xml



Senza-misura time signature

11h-TimeSignatures-SenzaMisura.xml



12 ... Clefs

Various clefs: G, C, F, percussion, TAB and none; some are also possible with transposition and on other staff lines than their default (e.g. soprano/alto/tenor/baritone C clefs); Each measure shows a different clef (measure 17 has the "none" clef), only measure 18 has the same treble clef as measure 1.

12a-Clefs.xml

A musical score consisting of two staves. The first staff starts with a treble clef and a 'C' time signature. It contains 18 measures, each with a different clef: G, C, F, percussion, TAB, and none. The second staff starts with a bass clef and a 'C' time signature, and contains 10 measures, each with a different clef: G, C, F, percussion, TAB, and none. The score ends with a double bar line.

A score without any key or clef defined. The default (4/4 in treble clef) should be used.

12b-Clefs-NoKeyOrClef.xml



13 ... Key signatures

Various key signature: from 11 flats to 11 sharps (each one first one measure in major, then one measure in minor)

13a-KeySignatures.xml

Different Key signatures

All different modes: major, minor, ionian, dorian, phrygian, lydian, mixolydian, aeolian, and locrian; All modes are given with 2 sharps.

13b-KeySignatures-ChurchModes.xml

major minor ionian dorian phrygian lydian mixolydian aeolian locrian

Non-traditional key signatures, where each alteration is separately given. Here we have (f sharp, a flat, b flat) and (c flatflat, g sharp sharp, d flat, b sharp, f natural), where in the second case an explicit octave is given for each alteration.

13c-KeySignatures-NonTraditional.xml



Non-traditional key signatures with microtone alterations: (g flat-and-a-half, a flat, b half-flat, c natural, d half-sharp, e sharp, f sharp-and-a-half).

13d-KeySignatures-Microtones.xml



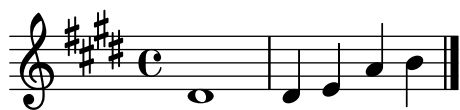
Tests of key signature cancellation: at default location, at right, and before barline, then cancelling a key signature that does not exist.

13e-KeySignatures-Cancel.xml



Test the 'print-object' attribute of key signatures. The signature at the beginning of the second bar is a flat major and should be invisible; the following notes d flat, e flat, a flat, and b flat shouldn't have a flat accidental.

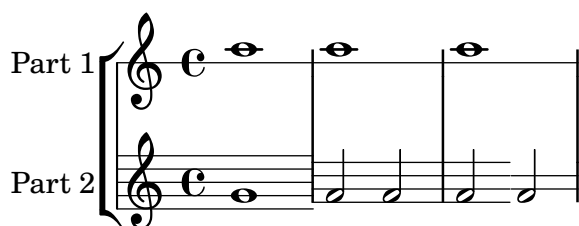
13f-KeySignatures-Visible.xml



14 ... Staff attributes

The number of staff lines can be modified by using the staff-lines child of the staff-details attribute. This can happen globally (the first staff has one line globally) or during the part at the beginning of a measure and even inside a measure (the second part has 5 lines initially, 4 at the beginning of the second measure, and 3 starting in the middle of the third measure).

14a-StaffDetails-LineChanges.xml



21 ... Chorded notes

One simple chord consisting of two notes.

21a-Chord-Basic.xml



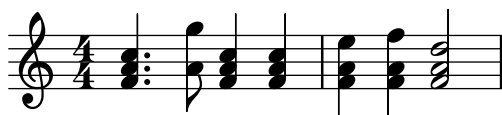
Some subsequent (identical) two-note chords.

21b-Chords-TwoNotes.xml



Some three-note chords, with various durations.

21c-Chords-ThreeNotesDuration.xml



Chords in the second measure, after several ornaments in the first measure and a *p* at the beginning of the second measure.

21d-Chords-SchubertStabatMater.xml



Check for proper chord detection after a pickup measure (i.e. the first beat of the measure is not aligned with multiples of the time signature)!

21e-Chords-PickupMeasures.xml



Between the individual notes of a chord there can be direction or harmony elements, which should be properly assigned to the chord (or the position of the chord).

21f-Chord-ElementInBetween.xml



A chord with normal, cautionary, and editorial accidentals.

21h-Chord-Accidentals.xml



22 ... Note settings, heads, etc.

Different note styles, using the <notehead> element. First, each note head style is printed with four quarter notes, two with filled heads, two with unfilled heads, where first the stem is up and then the stem is down. After that, each note head style is printed with a half note (should have an unfilled head by default). Finally, the Aiken note head styles are tested, once with stem up and once with stem down.

22a-Noteheads.xml

slash triangle diamond square cross

6 x circle-x inverted triangle arrow down arrow up slashed

12 back slashed normal cluster none slash triangle diamond square

18 cross x circle-x inverted triangle arrow down arrow up slashed back slashed

22 normal cluster do re mi fa so

28 la ti do re mi fa so la ti do do re mi fa so la ti do

Staff-connected note styles: slash notation, hidden notes (with and without hidden staff lines)

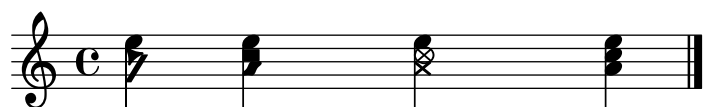
22b-Staff-Notestyles.xml

slash, no stem slash, with stem hidden notes hidden notes, staff lines

3 normal settings restored

Different note styles for individual notes inside a chord, using the <notehead> element.

22c-Noteheads-Chords.xml



normal cross inverted triangle slashed
 triangle square circle-x arrow up
 slash diamond x arrow down

Parenthesized note heads. First, a single parenthesized note is tested, once with a normal and then with a non-standard notehead, then two chords with some/all parenthesized noteheads and finally a parenthesized rest.

22d-Parenthesized-Noteheads.xml



23 ... Triplets, Tuplets

Some tuplets (3:2, 3:2, 3:2, 4:2, 4:1, 7:3, 6:2) with the default tuplet bracket displaying the number of actual notes played. The second tuplet does not have a number attribute set.

23a-Tuplets.xml



Different tuplet styles: default, none, x:y, x:y-note; Each with bracket, slur and none. Finally, non-standard 4:3 and 17:2 tuplets are given.

23b-Tuplets-Styles.xml



Displaying tuplet note types, that might not coincide with the displayed note. The first two tuplets take the type from the note, the second two from the <time-modification> element, the remaining pair of tuplets from the <tuplet> notation element. The tuplets in measure 3 specify both a number of notes and a type inside the <tuplet-actual> and <tuplet-normal> elements, the ones in measure 4 specify only a note type (but no number), and the ones in measure 5 specify only a number of tuplet-notes (but no type, which is deduced from the note's type). The first tuplet of measures 3-5 uses 'display-type="actual"', the second one 'display-type="both"'.
 FIXME: The tuplet-normal should coincide with the real notes!

23c-Tuplet-Display-NonStandard.xml



Tuplets can be nested. Here there is a 5:2 tuplet inside a 3:2 tuple (all consisting of written eighth notes).

23d-Tuplets-Nested.xml



Tremolo tuplets are tuplets on single notes with a tremolo ornament. The application shall correctly import these notes with 2/3 or their time...

23e-Tuplets-Tremolo.xml



Some "triplets" on the end of the first and in the second staff, using only <time-modification>, but not explicit tuplet bracket. Thus, the duration of the notes in the second staff should be scaled properly in comparison to staff 1, but no visual indication about the triplets is given.

23f-Tuplets-DurationButNoBracket.xml



24 ... Grace notes

Different kinds of grace notes: acciaccatura, appoggiatura; beamed grace notes; grace notes with accidentals; different durations of the grace notes.

24a-GraceNotes.xml



Chords as grace notes.

24b-ChordAsGraceNote.xml



A grace note that appears at the measure end (without any steal-from-* attribute set). Some applications need to convert this into an after-grace.

24c-GraceNote-MeasureEnd.xml



Some grace notes and after-graces (indicated by steal-time-previous and steal-time-following).
 24d-AfterGrace.xml



A grace note on a different staff than the actual note.
 24e-GraceNote-StaffChange.xml



A grace note with a slur to the actual note. This can be interpreted as acciaccatura or appoggiatura, depending on the existence of a slash.

24f-GraceNote-Slur.xml



31 ... Dynamics and other single symbols

All <direction> elements defined in MusicXML. The lyrics for each note describes the direction element assigned to that note.

31a-Directions.xml

MusicXML directions (attached to staff)

A B Test Crc

reh.A (def=sq.) reh.B (none) reh.Test (sq.) reh.Crc (crc.)

2 $\%$ \oplus bc

Segno Coda Words Eyegl. *p* *pp* *ppp* *pppp*

4 *pppppppppppp* *f* *ff* *fff* *ffff* *ffffff* *mp* *mf* *sf* *sfp* *sfpp* *fp* *rf* *rfz*

pppppp *pppppp* *f* *ff* *fff* *ffff* *fffff* *ffffff* *mp* *mf* *sf* *sfp* *sfpp* *fp* *rf* *rfz*

8
sfz sfz sfz ffz *hairpin cresc* *dashes* *bracket* *oct. shift* *pedal* *change* *mark*
8⁻¹ *Red.* **Red.* ***

12 *♩ = 60* *p subito* *ppp* *<* *fff*
 Metr. Harp ped. Damp Damp all Scord. Accordion reg. subpp ppp crescto fff

Tempo Markings: note=bpm, text (note=bpm), note=note, (note=note), (note=bpm)
 31c-MetronomeMarks.xml

♩ = 100 **Adagio** (*♩ = 100*) (*♩ = 77*)

32 ... Notations and Articulations

All <notation> elements defined in MusicXML. The lyrics show the notation assigned to each note.

32a-Notations.xml

MusicXML notations (attached to note)

1 *ferm.* *normal ferm.* *angled ferm.* *square ferm.*

2 *inv.ferm.* *arp.* *non-arp.* *acc.mark* *acc.* *str.-acc.* *stacc.* *ten.*

4 *det.-leg.* *stacc.ss* *spicc.* *scoop* *plop* *doit* *falloff* *breath* *caes.* *stress* *unstr.*

7 *tr.* *turn* *del.turn* *inv.turn* *shake* *wavy* *wavyline* *mord.* *inv.mord.* *schl.* *trem.*

10
turn+acc. turn+acc.(ab.+bel./rel to turn) up-b. down-b. harm. nat.harm.

12
art.harm. nat.h./base nat.h./touching nat.h./sounding

13
open-str. thumb-pos. empty fing. fing.1 fing.2 fing.3 fing.4 fing.5

15
something
fing.sth. mult.fing. empty pluck pluck a dbl.tng. trpl.tng. stopped snp.pizz.

17
empty fret fret0 empty str. str. 5 hammer - on pull - off

19
bend b.3 with-bar pre-b. -0.5 b. release 3.5 tap tap T heel toe

21
fingern. *f* *ppp* *sfp* *sffz*
f ppp sfp Oth.dyn. both above ab./bel./bel.

Text markup with different font sizes, weights, colors, horizontal positions, and vertical positions.

32b-Articulations-Texts.xml

Normal, Large
Normal, Medium Normal, Small
Bold, Medium, Below
Bold, Large, Below
Bold, Small, Below
Normal, Small, Colored, Below

It should not make any difference whether two articulations are given inside two different notation elements, inside two different articulations children of the same notation element or

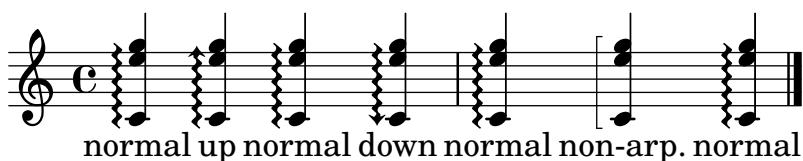
inside the same articulations element. Thus, all three notes should have a staccato and an accent.

32c-MultipleNotationChildren.xml



Different Arpeggio directions (normal, up, down, non-arpeggiate)

32d-Arpeggio.xml



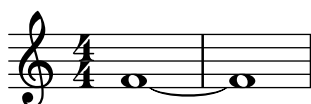
33 ... Spanners

Several spanners defined in MusicXML: tuplet, slur (solid, dashed), tie, wedge (cresc, dim), tr + wavy-line, single-note trill spanner, octave-shift (8va,15mb), bracket (solid down/down, dashed down/down, solid none/down, dashed none/up, solid none/none), dashes, glissando (wavy), bend-alter, slide (solid), grouping, two-note tremolo, hammer-on, pull-off, pedal line (down, change, up), pedal text (down, up).

33a-Spanners.xml

Two simple tied whole notes

33b-Spanners-Tie.xml



A note can be the end of one slur and the start of a new slur. Also, in MusicXML, nested slurs are possible like in the second measure where one slur goes over all four notes, and another slur goes from the second to the third note.

33c-Spanners-Slurs.xml



All types of octave shifts (15ma, 15mb, 8va, 8vb)

33d-Spanners-OctaveShifts.xml



Invalid octave-shifts: 27 down, 11 up.

33e-Spanners-OctaveShifts-InvalidSize.xml



A trill spanner that spans a grace note and ends on an after-grace note at the end of the measure.

33f-Trill-EndingOnGraceNote.xml



Slurs on chorded notes: Only the first note of the chord should get the slur notation. Some applications print out the slur for all notes – these should be ignored.

33g-Slur-ChordedNotes.xml



All different types of glissando defined in MusicXML

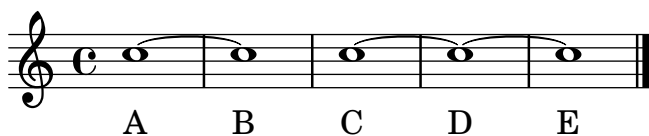
33h-Spanners-Glissando.xml

normal glissando solid (+text) dashed dotted wavy normal slide

solid (+text) dashed dotted wavy

Several ties that have their end tag missing.

33i-Ties-NotEnded.xml



34 ... Print-object issues

Test various spanner elements (mostly from <notations>) starting from a <note> object with 'print-object' set to 'no', then test spanners ending with such a note object: beam, tuplet, slur, trill + wavy-line, glissando (wavy), slide (solid), two-note tremolo, hammer-on, pull-off. Spanners starting from an invisible object should be suppressed.

34a-Print-Object-Spanners.xml

The image shows two staves of musical notation in 4/4 time. The first staff contains four measures: the first measure has a quarter note followed by a beam; the second measure has a quarter note followed by a triplet of quarter notes; the third measure has a quarter note followed by a slur; the fourth measure has a quarter note followed by a trill with a wavy line. The second staff starts with a measure number '5' and contains five measures: the first measure has a quarter note followed by a glissando; the second measure has a quarter note followed by a slide; the third measure has a quarter note followed by a two-note tremolo; the fourth and fifth measures each have a quarter note followed by a hammer-on.

41 ... Multiple parts (staves)

A piece with four parts (P0, P1, P2, P3; different from what Finale creates!). Are they converted in the correct order?

41a-MultiParts-Partorder.xml

The image shows four staves of musical notation, labeled Part 1, Part 2, Part 3, and Part 4. Each staff is in 4/4 time and contains a single measure with a quarter note followed by a rest. The notes are on different lines of the staves: Part 1 (line 1), Part 2 (line 2), Part 3 (line 3), and Part 4 (line 4).

A piece with 20 parts to check whether an application supports that many parts and whether they are correctly sorted.

41b-MultiParts-MoreThan10.xml

P0
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
P16
P17
P18
P19

A huge orchestra score with 28 parts and different kinds of nested bracketed groups. Each part/group is assigned a name and an abbreviation to be shown before the staff. Also, most of the groups show unbroken barlines, while the barlines are broken between the groups.

Part names and abbreviations can contain line breaks.

41e-StaffGroups-InstrumentNames-Linebroken.xml

Long
Staff
Name

⁶
St.
Nm.

¹⁵
St.
Nm.

MusicXML allows for overlapping part-groups, while many applications do not allow overlapping groups, but require them to be properly nested. In this case, one group (within parenthesis) goes from staff 1 to 4 and another group (also within parenthesis) goes from staff 3 to 5.

41f-StaffGroups-Overlapping.xml

Group 1

Group 2

A part with no id attribute. Since this piece has only one part, it is clear which part is described by the one part element.

41g-PartNoId.xml

This piece has more part elements than the part-list section gives. One can either convert all the parts present, but not listed in the part-list, or simply not import / ignore them.

41h-TooManyParts.xml

MusicXML allows part-name and part-name-display in the score-part element. If part-name-display is given, it overrides the part-name for display. The first staff uses only part-name, while the second one (same part-name) overrides it with a custom text. Similar for the part-abbreviation used in subsequent staves.

41i-PartNameDisplay-Override.xml

Part name

Overridden Part Name

2
abbrv.

Overr.abbrv.

This score has multiple display-text elements in its part-name-display block. This is handled without crashing.

41j-PartNameDisplay-Multiple-DisplayText-Children.xml



42 ... Multiple voices per staff

Two voices share one staff. Each voice is assigned some lyrics.

42a-MultiVoice-TwoVoicesOnStaff-Lyrics.xml



This is the lyrics of Voice1
This is the lyrics of Voice2

A multi-voice / multi-staff part with a clef change in the middle of a measure and a <backward> for voice 2 jumping back beyond that clef change.

42b-MultiVoice-MidMeasureClefChange.xml



43 ... One part on multiple staves

A simple piano staff

43a-PianoStaff.xml



A piano staff with different keys and clefs for each of its staves. The keys and clefs for both staves are given at the very beginning of the measure.

43b-MultiStaff-DifferentKeys.xml



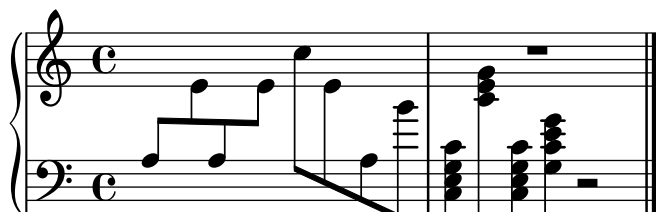
A piano staff with different keys and clefs for each of its staves. The key and clef for the second staff is given only after a backward, just before the first note of the second staff is given, but after the whole measure for staff 1 has been given.

43c-MultiStaff-DifferentKeysAfterBackup.xml



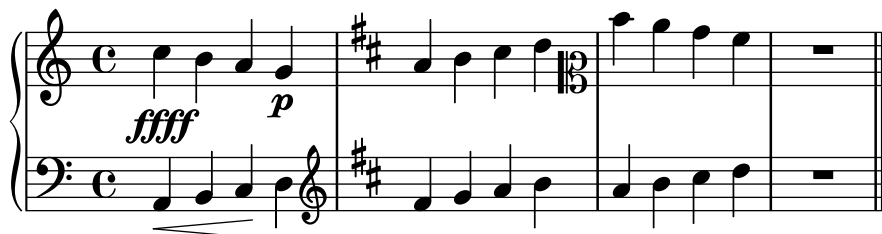
Staff changes in a piano staff. The voice from the second staff has some notes/chords on the first staff. The final two chords have some notes on the first, some on the second staff.

43d-MultiStaff-StaffChange.xml



A piano staff with dynamics and clef changes, where each element (fff, wedge and clef changes) applies only to one voice or one staff, respectively.

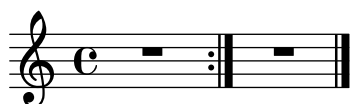
43e-Multistaff-ClefDynamics.xml



45 ... Repeats

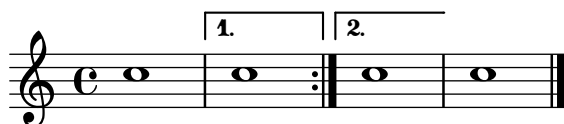
A simple, repeated measure (repeated 5 times)

45a-SimpleRepeat.xml



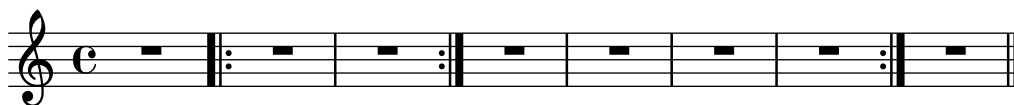
A simple repeat with two alternative endings (volta brackets).

45b-RepeatWithAlternatives.xml



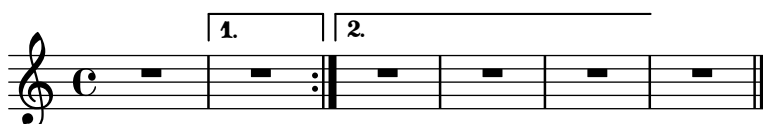
Repeats can also be nested.

45c-RepeatMultipleTimes.xml



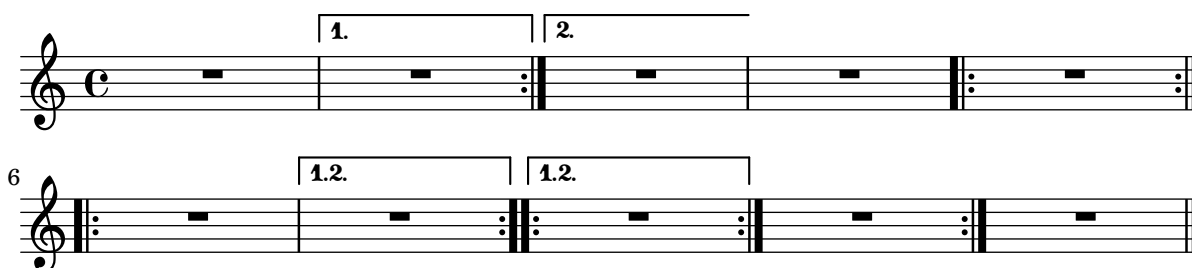
Nested repeats, each with alternative endings.

45d-Repeats-Nested-Alternatives.xml



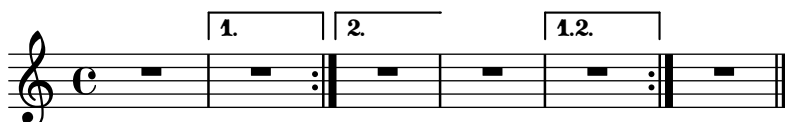
Some more nested repeats with alternatives. The barline between measure 7 and 8 will probably be messed up! (Should be a repeat on both sides!)

45e-Repeats-Nested-Alternatives.xml



Some more nested repeats with alternatives, where the MusicXML file does not make sense in the first place. How well are applications able to cope with improper repeats and alternatives?

45f-Repeats-InvalidEndings.xml



A forward-repeating bar line without an ending repeat bar.

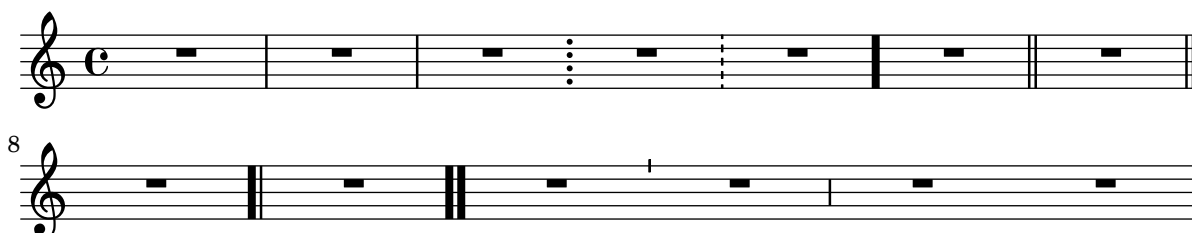
45g-Repeats-NotEnded.xml



46 ... Barlines, Measures

Different types of (non-repeat) barlines: default (no setting), regular, dotted, dashed, heavy, light-light, light-heavy, heavy-light, heavy-heavy, tick, short, none.

46a-Barlines.xml



Barlines can appear at mid-measure positions, without using an implicit measure!

46b-MidmeasureBarline.xml



A clef change in the middle of a measure, using either an implicit measure or simply placing the attributes in the middle of the measure.

46c-Midmeasure-Clef.xml



A 3/8 pickup measure, a measure that is split into one (incomplete, only 2/4) measure and an implicit measure, and an incomplete measure (containing 3/4).

46d-PickupMeasure-ImplicitMeasures.xml



Voice 2 should start at 2nd beat of first full measure.

46e-PickupMeasure-SecondVoiceStartsLater.xml



Measures can contain less notes than the time signature says. Here, the first and third measures contain only two quarters instead of four.

46f-IncompleteMeasures.xml



Pickup measure with chord names and figured bass.

46g-PickupMeasure-Chordnames-FiguredBass.xml



51 ... Header information

Several header fields and part names can contain quotes ("). This test checks whether they are converted/imported without problems (i.e. whether they are correctly escaped when converting).

51b-Header-Quotes.xml

"Quotes" in header fields

Some "Tester" Name



There can be multiple <rights> tags in the identification element of the score. The conversion shall still work, ideally using both of them.

51c-MultipleRights.xml

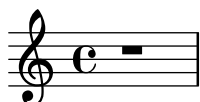


A piece with an empty (but existing) work-title, but a non-empty movement-title. In this case the movement-title should be chosen, even though the work-title exists.

51d-EmptyTitle.xml

Empty work-title, non-empty movement-title

Empty work-title, non-empty movement-title

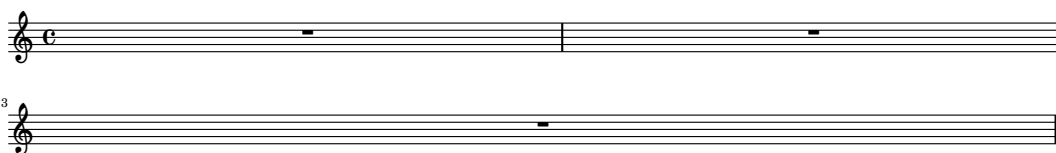


52 ... Page layout

Several page layout settings: paper size, margins, system margins and distances, different fonts, etc.

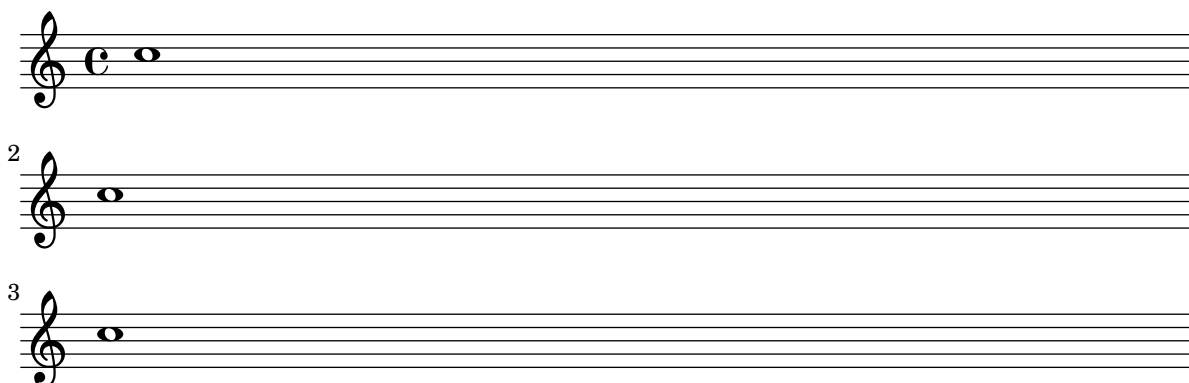
52a-PageLayout.xml

Layout options



System and page breaks, given in a <print> element

52b-Breaks.xml



61 ... Lyrics

Some notes with simple lyrics: Syllables, notes without a syllable, syllable spanners.

61a-Lyrics.xml



Multiple (simple) lyrics. The order of the exported stanzas is relevant (identified by the number attribute in this test case)

61b-MultipleLyrics.xml



Lyrics assigned to the voices of a piano staff containing two simple staves. Each staff is assigned exactly one lyrics line.

61c-Lyrics-Pianostaff.xml



How to treat lyrics and slurred notes. Normally, a slurred group of notes is assigned only one lyrics syllable.

61d-Lyrics-Melisma.xml



Assigning lyrics to chorded notes.

61e-Lyrics-Chords.xml



Grace notes shall not mess up the lyrics, and they shall not be assigned a syllable.

61f-Lyrics-GracedNotes.xml



A lyrics syllable can have both a number and a name attribute. The question is: What should be used to put syllables of the same voice together. This example uses different number/name combinations to check how different applications handle this unspecified case (The advice on the MusicXML mailing list was "there is no correct way, each application can do what it thinks is best").

61g-Lyrics-NameNumber.xml



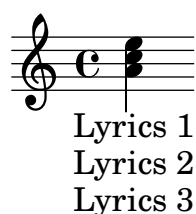
Beaming or slurs can indicate melismata for lyrics. Also make sure that notes without an explicit syllable are treated as if they were part of a melisma.

61h-Lyrics-BeamsMelismata.xml



Each note of a chord can have some lyrics attached. In this case, each note of the chord has lyrics of the form "Lyrics [123]" attached, where each lyrics has a different number attribute to distinguish them. These syllables should be imported into three different stanzas and the timing should be correct.

61i-Lyrics-Chords.xml



Multiple lyrics syllables assigned to a single note are implemented either using a space in the lyrics or by using the <elision> lyrics element. This testcase checks both of them. First, a note with one syllable is given, then a note with two syllables separated by a space and finally a note with two and one with three syllables implemented using <elision> is given.

61j-Lyrics-Elisions.xml



Lyrics spanners: continued syllables and extenders, possibly spanning multiple notes. The intermediate notes do not have any <lyric> element.

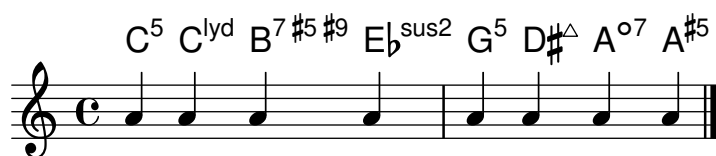
61k-Lyrics-SpannersExtenders.xml



71 ... Guitar notation

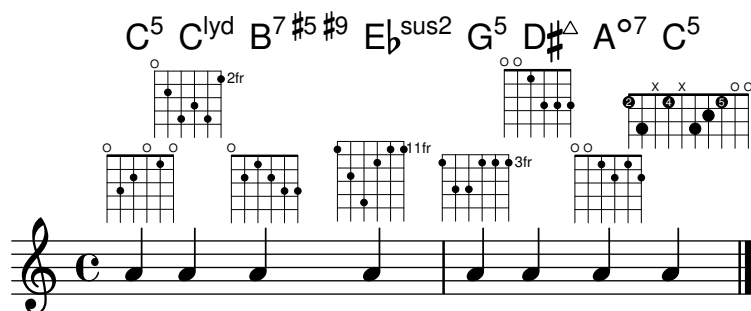
A normal staff with several (complex) chord names displayed.

71a-Chordnames.xml



A staff with chord names and some fretboards shown. The fretboards can have an arbitrary number of frets/strings, can start at an arbitrary fret and can even contain fingering information.

71c-ChordsFrets.xml



Chords and fretboards assigned to the voices in a multi-voice, multi-staff part. There should be fret diagrams above each of the two staves.

71d-ChordsFrets-Multistaff.xml

A musical staff in treble clef with a common time signature (C). The notes are: C4, D4, E4, F4, G4, A4, B4, C5. Above the staff, the notes are labeled with chord names and fretboard diagrams: E^b ^m ⁹, C⁵, D⁷ (x), C^m ⁷ ¹¹ (4fr).

Some tablature staves, with explicit fingering information and different string tunings given in the MusicXML file.

71e-TabStaves.xml

The image shows a musical score for five instruments: four guitars and one bass guitar. Each instrument is represented by two staves, labeled 'A' and 'B'. The score is divided into two measures. The first measure contains a complex sequence of notes and fret numbers, while the second measure is simpler, often consisting of open strings (0) and a few fretted notes. The instruments are: Guitar (top four), Bass Guitar, Banjo, Lute, and Ukulele (bottom).

All chord types defined in MusicXML. The staff will only contain one c' note (NO chord) for all of them, but the chord names should be properly printed.

71f-AllChordTypes.xml

All MusicXML chord names/types with <root>

The image shows 12 different chord types on a single staff, each represented by a single note on a C-clef staff. The chord names are: C⁵ (major), C⁵ (minor), C^{#5} (augmented), C^{b5} (diminished), C⁷ (dominant), C^Δ (major-seventh), Cm⁷ (minor-seventh), C^{o7} (diminished-seventh), C^{7#5} (augmented-seventh), C^{7b5} (half-diminished), Cm^Δ (major-minor), and C⁶ (major-sixth).

4 Cm^6 C^9 $C^{\Delta 9}$ Cm^9
 minor-sixth dominant-ninth major-ninth minor-ninth

5 C^{11} $C^{\Delta 11}$ Cm^{11} C^{13}
 dominant-11th major-11th minor-11th dominant-13th

6 $C^{\Delta 13}$ Cm^{13} C^{sus2} C^{sus4}
 major-13th minor-13th suspended-second suspended-fourth

7 Neapolitan Italians French German pedal power Tristan other
 C^5 C

9 $F\#^5$ $F\flat^5/C$ $G\#^5/D\#$ C^5 C^{b5} G^{sus2}
 Inversion $F\flat/C$ $G\#/D\#$ $C-3+5b$ $C-1+6b$

There can be multiple subsequent harmony elements, indicating a harmony change during a note

71g-MultipleChordnames.xml

C^5 $F\#m^6$ Dm^7 G^7

72 ... Transposing instruments

Transposing instruments: Trumpet in B \flat , Horn in E \flat , Piano; All of them show the C major scale (the trumpet with 2 sharp, the horn with 3 sharp).

72a-TransposingInstruments.xml

Trumpet in B \flat

Horn in E \flat

Piano

Various transposition. Each part plays a c', just displayed in different display pitches. The second-to-last staff uses a transposition where the displayed c' is an actual f''' concert pitch. The final staff is an untransposed instrument.

72b-TransposingInstruments-Full.xml

Clarinet in Eb

Clarinet in Bb

Clarinet in A

Horn in F

Horn in Eb

Piccolo Trumpet in A

Trumpet in Bb

Trumpet in C

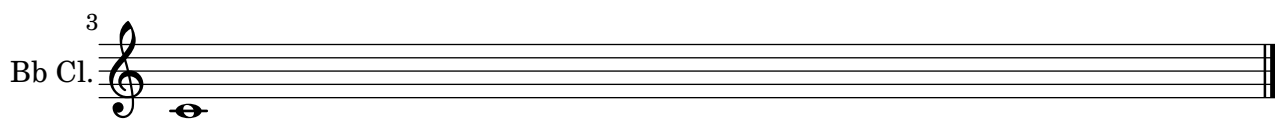
Trumpet in D

displayed c'=fis'''

An instrument change from one transposition (Clarinet in Eb) to another transposing instrument (Clarinet in Bb). The displayed instrument name should also be updated. The whole piece is in Bb major (sounding), so first the key signature should be one flat, after the change it should have no accidentals.

72c-TransposingInstruments-Change.xml

Clarinet in Eb



73 ... Percussion

Three types of percussion staves: A five-line staff with bass clef for Timpani, a five-line staff with percussion clef, and a one-line percussion staff with only unpitched notes.

73a-Percussion.xml

74 ... Figured bass

Some figured bass containing altered figures, bracketed figures and slashed figures. The last note contains an empty <figured-bass> element, which is invalid MusicXML, to check how well applications cope with malformed files. Note that this file does not contain any extenders!

74a-FiguredBass.xml

75 ... Other instrumental notation

All possible accordion registrations.

75a-AccordionRegistrations.xml

90 ... Compressed MusicXML files

A compressed MusicXML file, containing a simple MusicXML score and the corresponding .pdf output for reference.

90a-Compressed-MusicXML.mxl

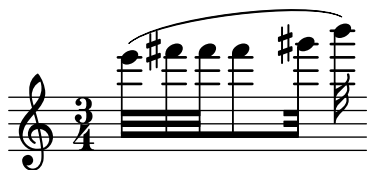
Compressed MusicXML file



99 ... Compatibility with broken MusicXML

Dolet 3 for Sibelius (5.1) did not print out any closing beam tags, only starting and continuing beam tags. For such files, one either needs to ignore all beaming information or close all beams

99a-Sibelius5-IgnoreBeaming.xml



If we properly ignore all beaming information from the Dolet 3 for Sibelius export file, make sure that the lyrics syllables are still assigned to the correct notes.

99b-Lyrics-BeamsMelismata-IgnoreBeams.xml

Me - lisma__ Me - lisma__ Me - lisma__ Me - lisma__