The tikzmusic package

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Manual for version 0.0
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> **!** This package is still very experimental, uncompleted and lack of many important features. Its syntax can change at any time. Only use it if you have good reasons.

Contents

1 Initialization

1.1 Loading the package

This package currently only supports LaTeX.

There are no options. Hence, to load the package, you just need to include the following line

```
\usepackage{tikzmusic}
```

inside your document preamble.

This package will automatically load the the packages xparse, etoolbox and Ti*k*Z, as well as Ti*k*Z standard libraries `calc`, `intersection`, `decorations.pathreplacing`. The Ti*k*Z library `calligraphy` is also loaded. You don't need to load these packages and libraries again in your document.

1.2 Environments for music lines

Each score line will be drawn separately. Depending on the number of staves you want in each line, you have two options:

```
\begin{tmsinglestaff}
 ⟨music line⟩
\end{tmsinglestaff}
```

If you have only one staff per line, you should use this environment. Every drawing in tikzmusic should be done in this environment.

```
\begin{tmmultiplestaves}[⟨offset⟩]
 ⟨music line⟩
\end{tmmultiplestaves}
```

In case you have more than two staves per line (e.g. when you are writing a piano piece), you should use this environment to contain each of your lines. The staves will not start from the left margin of the paper, but leave a horizontal space of ⟨*offset*⟩ for the braces and brackets. ⟨*offset*⟩ is 2cm by default.

1.3 Creating a staff

A staff can be created using one of the following environments:

```
\begin{tmstaff}{⟨clef name⟩}[⟨staff name⟩]
 ⟨drawing commands⟩
\end{tmstaff}
```

Create a staff, with the starting clef is ⟨*clef name*⟩.

⟨*clef name*⟩ can have three values: `g`, `f` and `c`, which stands for the treble (G) clef, the bass (F) clef and the alto (C) clef, respectively.

⟨*staff name*⟩ will be used to make cross-staff barlines or braces, so even though you can left it empty, you really shouldn't do so.

The starting point of the staff (as demonstrated below) is named as coordinate `(`⟨*staff name*⟩`-start)`, which you can use later with `remember picture,overlay` Ti*k*Z pictures.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[my-staff]
  \end{tmstaff}%
  \tikz[remember picture,overlay] \fill[red] (my-staff-start) circle (1.5pt);%
\end{tmsinglestaff}
```

```
\begin{tmstaff*}[⟨staff name⟩]
 ⟨drawing commands⟩
\end{tmstaff*}
```

Work like `tmstaff`, but no clefs will be drawn.

Essentially, `tmstaff` and `tmstaff*` are extensions of the `tikzpicture` environment.

2 Multiple-staff operations

Because the following commands are multiple-staff commands, they should be used outside `tmstaff` and `tmstaff*` (*except* `\tmbarlineinline`, `\tmdoublebarlineinline`, ...).

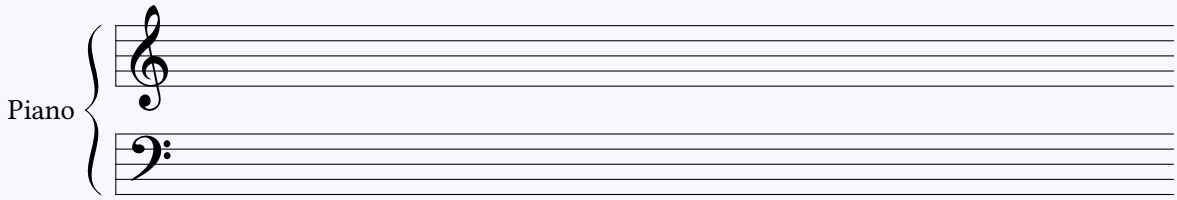
2.1 Ensembling staves

Braces that groups some staves inside a `tmmultiplestaves` can be drawn using the following command:

`\tmbrace{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}{`⟨*middle text*⟩`}`

Draw a brace spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩. ⟨*middle text*⟩ is displayed at the middle of the brace. If you don't want any text to be displayed, you can leave this option empty.

```
\begin{tmmultiplestaves}%
  \begin{tmstaff}{g}[piano-1]
  \end{tmstaff}%
  \begin{tmstaff}{f}[piano-2]
  \end{tmstaff}%
  \tmbrace{piano-1}{piano-2}{Piano}%
\end{tmmultiplestaves}
```



Similarly, brackets can also be drawn:

`\tmbracket{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a bracket spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩. Unlike `\tmbrace`, no text will be displayed.

```
\begin{tmmultiplestaves}%
  \begin{tmstaff}{g}[Violin]
  \end{tmstaff}%
  \begin{tmstaff}{c}[Viola]
  \end{tmstaff}%
  \begin{tmstaff}{f}[Violoncello]
  \end{tmstaff}%
  \foreach \i in {Violin,Viola,Violoncello}%
    {\tikz[remember picture,overlay] \path (\i-start) node[left=2mm] {\i};}%
  \tmbracket{Violin}{Violoncello}%
\end{tmmultiplestaves}
```

2.2 Barlines

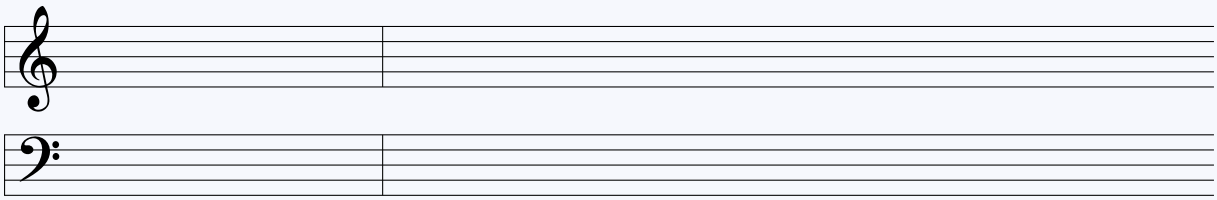
The tikzmusic package supports many different types of barlines.

2.2.1 Normal barlines

`\tmbarline{⟨x-pos⟩}{⟨staff name⟩}`

Draw a normal barline on ⟨*staff name*⟩ at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

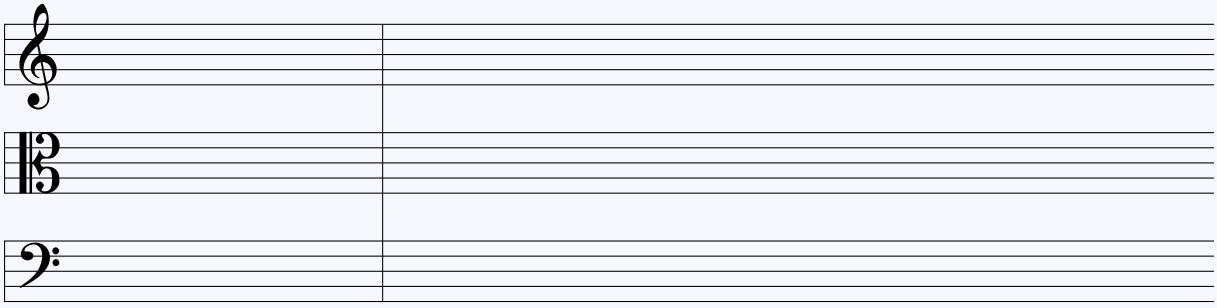
```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-2]
  \end{tmstaff}%
  \tmbarline{5}{staff-1}%
  \tmbarline{5}{staff-2}%
\end{tmmultiplestaves}
```



`\tmbarline*{⟨x-pos⟩}{⟨uppermost staff name⟩}{⟨lowermost staff name⟩}`

Draw a normal barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
  \end{tmstaff}%
  \tmbarline*{5}{staff-1}{staff-3}%
\end{tmmultiplestaves}
```

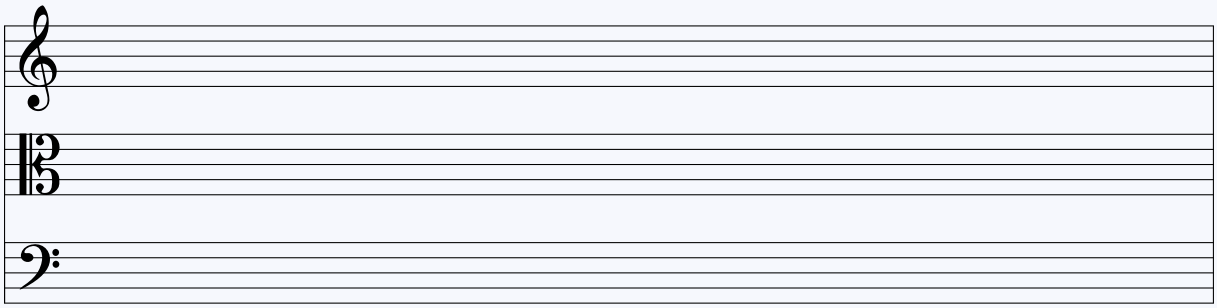


A special case of `\tmbarline*` is implemented in the following command:

`\tmbarlineendline{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a normal barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩ at the end of the line.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmbarlineendline{staff-1}{staff-3}%
\end{tmmultiplestaves}
```

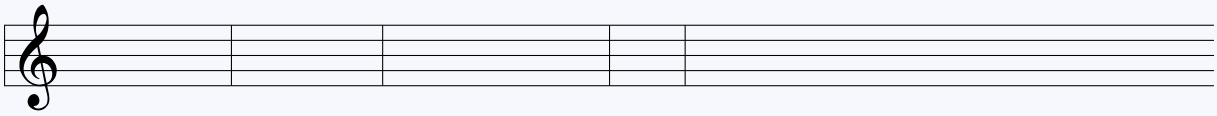


If you want to draw the barline inside `tmstaff` or `tmstaff*`, you can use

`\tmbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a normal barline at each *x*-position specified in `{`⟨*list of x-pos*⟩`}`.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmbarlineinline{3,5,8,9}
  \end{tmstaff}%
\end{tmsinglestaff}
```



2.2.2 Double barlines

Like when drawing normal barlines as described in Section 2.2.1 on page 5, we also have four commands for double barlines.

`\tmdoublebarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw a double barline on ⟨*staff name*⟩ at *x*-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

`\tmdoublebarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a double barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at *x*-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

`\tmdoublebarlineendline{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

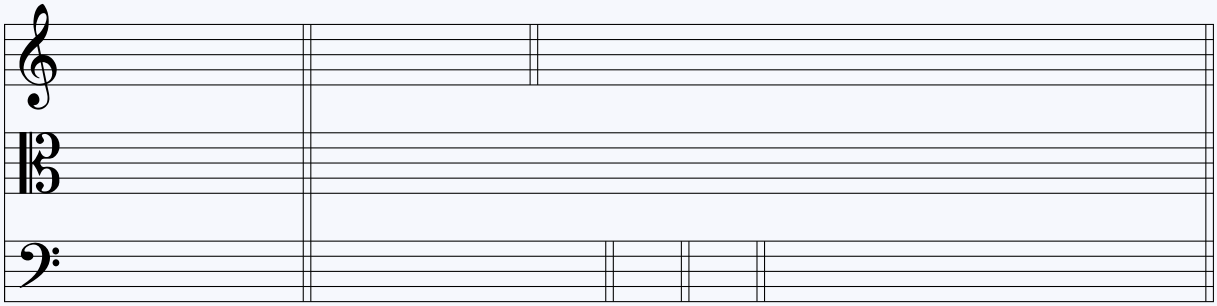
Draw a double barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩ at the end of the line.

`\tmdoublebarlineinline{`⟨*list of x-pos*⟩`}`

Draw a double barline at each *x*-position specified in `{`⟨*list of x-pos*⟩`}`.

Example use of all four commands described in this section:

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmdoublebarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmdoublebarline*{4}{staff-1}{staff-3}%
  \tmdoublebarline{7}{staff-1}%
  \tmdoublebarlineendline{staff-1}{staff-3}%
\end{tmmultiplestaves}
```



2.2.3 Dotted barlines

Now you can see the patterns :).

`\tmdottedbarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw a dotted barline on ⟨*staff name*⟩ at *x*-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

`\tmdottedbarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a dotted barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at *x*-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

`\tmdottedbarlineendline{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

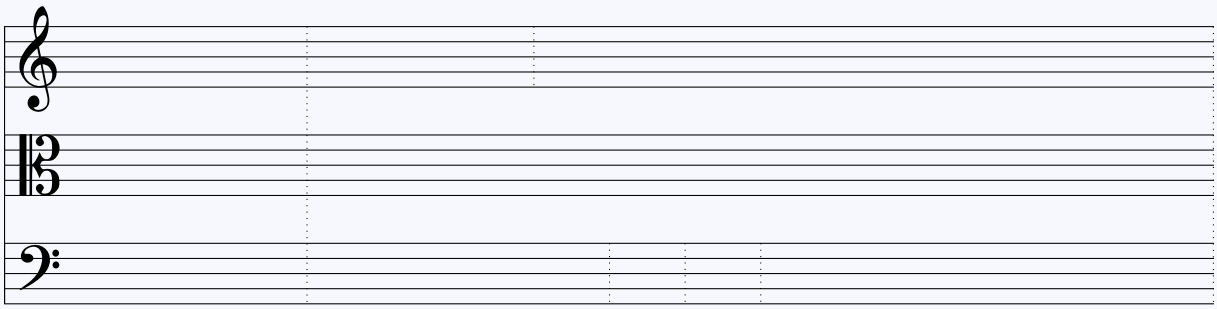
Draw a dotted barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩ at the end of the line.

`\tmdottedbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a double barline at each x-position specified in {⟨*list of x-pos*⟩}.

The commands in use:

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmdottedbarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmdottedbarline*{4}{staff-1}{staff-3}%
  \tmdottedbarline{7}{staff-1}%
  \tmdottedbarlineendline{staff-1}{staff-3}%
\end{tmmultiplestaves}
```



2.2.4 Final barlines

`\tmfinalbarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw a final barline on ⟨*staff name*⟩ at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

`\tmfinalbarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a final barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

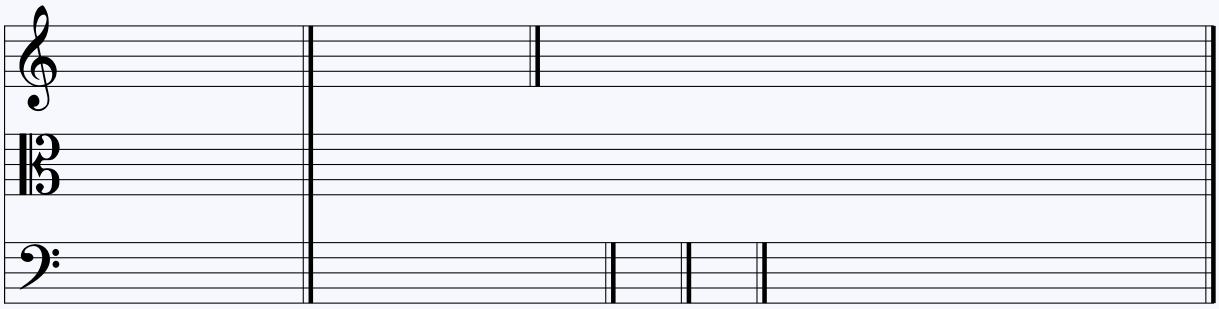
`\tmfinalbarlineendline{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}`

Draw a final barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩ at the end of the line.

`\tmfinalbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a final barline at each x-position specified in {⟨*list of x-pos*⟩}.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmfinalbarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmfinalbarline*{4}{staff-1}{staff-3}%
  \tmfinalbarline{7}{staff-1}%
  \tmfinalbarlineendline{staff-1}{staff-3}%
\end{tmmultiplestaves}
```



2.2.5 Start repeat barlines

`\tmstartrepeatbarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw a start repeat barline on ⟨*staff name*⟩ at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

`\tmstartrepeatbarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}{`⟨*list of staff names*⟩`}`

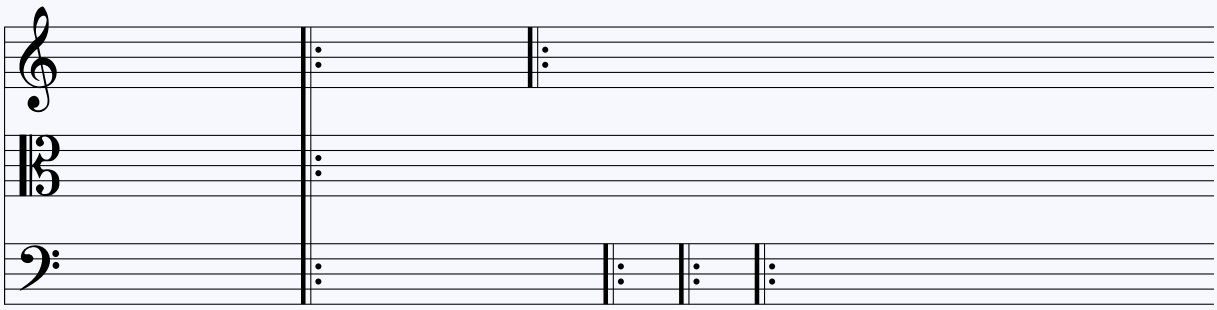
Draw a start repeat barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

Because of some internal problems, you need to specify a full list of the names of the staff that the barline spans over in ⟨*list of staff names*⟩ with a standard comma-separated list.

`\tmstartrepeatbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a start repeat barline at each x-position specified in {⟨*list of x-pos*⟩}.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmstartrepeatbarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmstartrepeatbarline*{4}{staff-1}{staff-3}{staff-1,staff-2,staff-3}%
  \tmstartrepeatbarline{7}{staff-1}%
\end{tmmultiplestaves}
```



! Note that there is no `\tmstartrepeatbarlineendline`, because I am sure you will never put a start repeat barline to the end of a line.

2.2.6 End repeat barlines

`\tmendrepeatbarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw an end repeat barline on ⟨*staff name*⟩ at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

`\tmendrepeatbarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}{`⟨*list of staff names*⟩`}`

Draw an end repeat barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

Similar to `\tmstartrepeatbarline*`, you also need to specify ⟨*list of staff names.*⟩

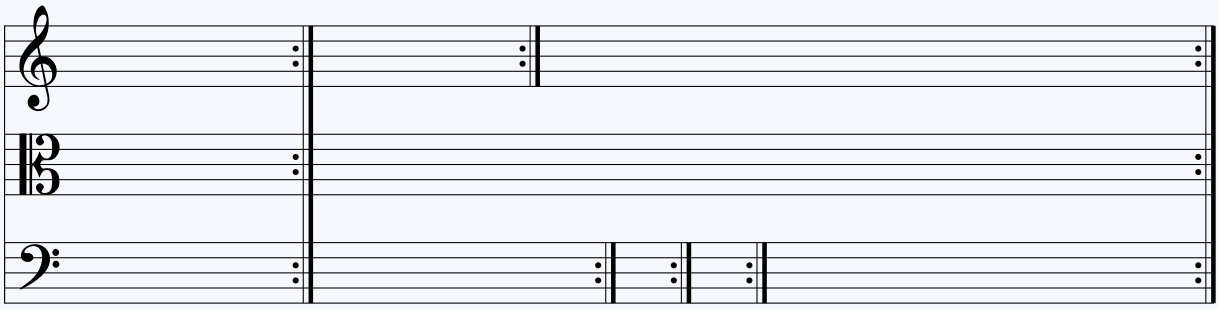
`\tmendrepeatbarlineendline{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}{`⟨*list of staff names*⟩`}`

Draw an end repeat barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩ at the end of the line.

`\tmendrepeatbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a end repeat barline at each x-position specified in `{`⟨*list of x-pos*⟩`}`.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmendrepeatbarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmendrepeatbarline*{4}{staff-1}{staff-3}{staff-1,staff-2,staff-3}%
  \tmendrepeatbarline{7}{staff-1}%
  \tmendrepeatbarlineendline{staff-1}{staff-3}{staff-1,staff-2,staff-3}%
\end{tmmultiplestaves}
```



2.2.7 End-start repeat barlines

Sometimes, you want a barline to be a start repeat barline and an end repeat barline at the same time. You should not use `\tmstartrepeatbarline` (and similar commands) and `\tmendrepeatbarline` (and similar commands) at the same place, because it will look very bad. In those cases, use the following commands:

`\tmendstartrepeatbarline{`⟨*x-pos*⟩`}{`⟨*staff name*⟩`}`

Draw an 'end-start' repeat barline on ⟨*staff name*⟩ at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`).

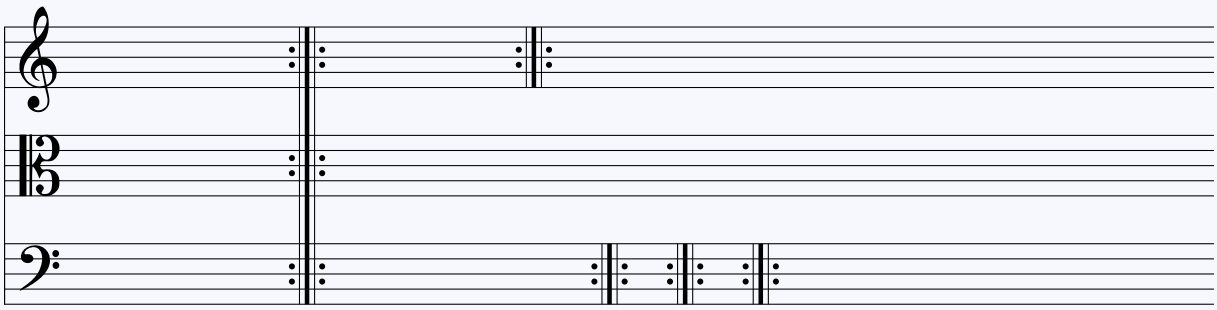
`\tmendstartrepeatbarline*{`⟨*x-pos*⟩`}{`⟨*uppermost staff name*⟩`}{`⟨*lowermost staff name*⟩`}{`⟨*list of staff names*⟩`}`

Draw an 'end-start' repeat barline spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩, at x-position ⟨*x-pos*⟩ in relative to the starting coordinate (⟨*staff name*⟩`-start`) of either staff.

`\tmendstartrepeatbarlineinline{`⟨*list of x-pos*⟩`}`

Draw a end repeat barline at each x-position specified in `{`⟨*list of x-pos*⟩`}`.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
    \tmendstartrepeatbarlineinline{8,9,10}
  \end{tmstaff}%
  \tmbarline*{0}{staff-1}{staff-3}%
  \tmendstartrepeatbarline*{4}{staff-1}{staff-3}{staff-1,staff-2,staff-3}%
  \tmendstartrepeatbarline{7}{staff-1}%
\end{tmmultiplestaves}
```



! Note that there is no `\tmendstartrepeatbarlineendline`.

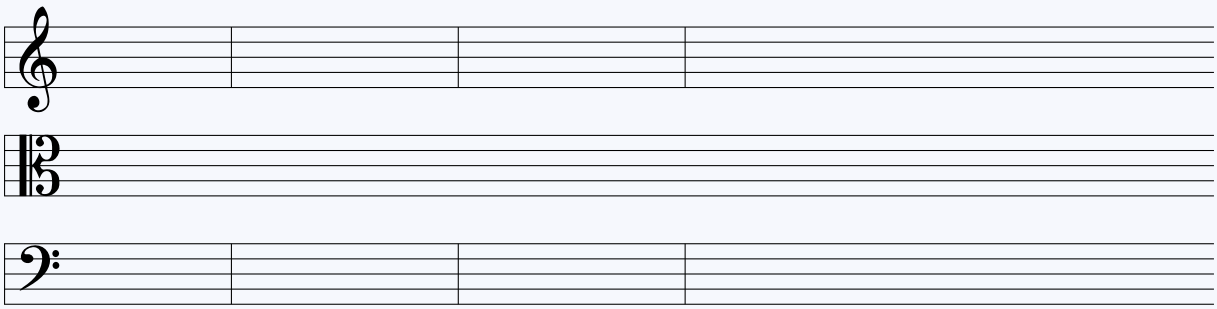
2.2.8 Normal barlines loops

Normally there are many barlines in your line, so using `\tmbarline` for each of them is obviously not convenient. You can use the following commands to make drawing barlines easier and more concise.

`\tmbarlineloop{⟨list of x-pos⟩}{⟨list of staff names⟩}`

Draw a normal barline at each *x*-position in ⟨*list of x-pos*⟩ and at each staff specified in ⟨*list of staff names*⟩.

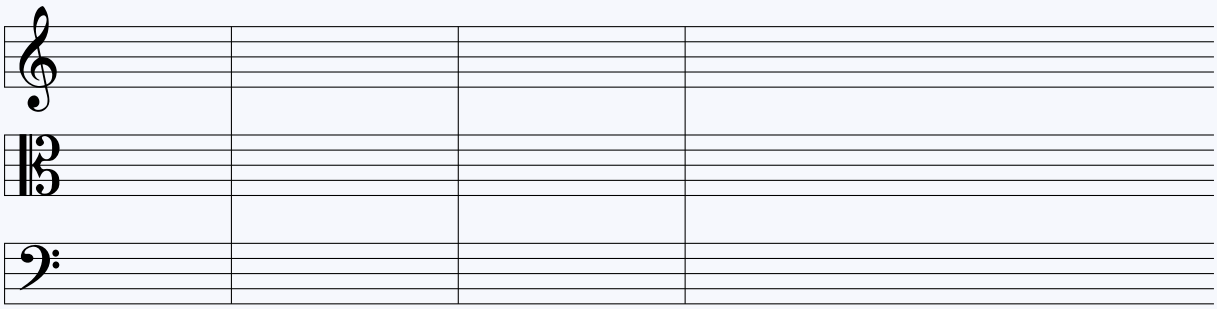
```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
  \end{tmstaff}%
  \tmbarlineloop{3,6,9}{staff-1,staff-3}%
\end{tmmultiplestaves}
```



`\tmbarlineloop*{⟨list of x-pos⟩}{⟨uppermost staff name⟩}{⟨lowermost staff name⟩}`

Draw a normal barline at each x-position in ⟨*list of x-pos*⟩, spanning from ⟨*uppermost staff name*⟩ to ⟨*lowermost staff name*⟩.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}[staff-1]
  \end{tmstaff}%
  \begin{tmstaff}{c}[staff-2]
  \end{tmstaff}%
  \begin{tmstaff}{f}[staff-3]
  \end{tmstaff}%
  \tmbarlineloop*{3,6,9}{staff-1}{staff-3}%
\end{tmmultiplestaves}
```



3 Key signatures and time signatures

3.1 Key signatures

Key signatures are added by the following command:

`\tmkeysignature[⟨shift⟩]{⟨x-pos⟩}{⟨type⟩}{⟨number⟩}`

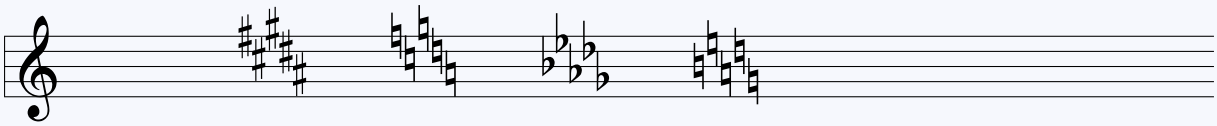
Add a key signature at x-position ⟨*x-pos*⟩. The key signature has type ⟨*type*⟩ and the number of sharps/flats ⟨*number*⟩.

⟨*type*⟩ can be either `sharp`, `flat`, `nsharp` or `nflat`. `sharp` and `flat` will produce a sharp or flat key signature as usual. `nsharp` and `nflat` will produce a 'natural' key signature that has the format of sharp and flat, respectively.

⟨*number*⟩ can be any number from 1 to 7.

The key signature will be added as in a treble clef. You can use ⟨*shift*⟩ to shift the key signature so that it fits other clefs. For example, for the bass clef, ⟨*shift*⟩ is −2.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmkeysignature{3}{sharp}{5}
    \tmkeysignature{5}{nsharp}{5}
    \tmkeysignature{7}{flat}{5}
    \tmkeysignature{9}{nflat}{5}
  \end{tmstaff}
\end{tmsinglestaff}
```



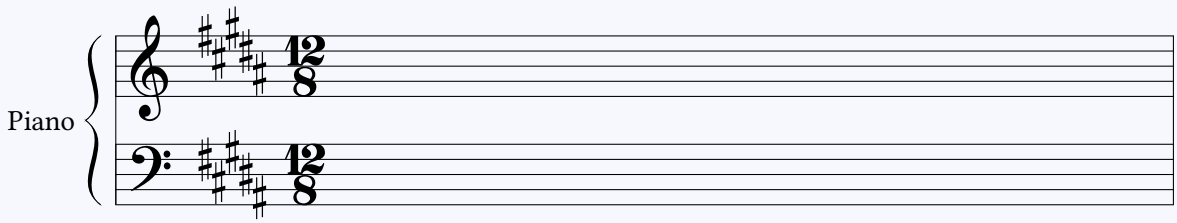
3.2 Time signatures

Normal time signatures can be added using the following command

`\tmtimesignature{⟨x-pos⟩}{⟨upper⟩}{⟨lower⟩}`

Add a time signature to x-position ⟨*x-pos*⟩. The upper part and the lower part of the time signature are ⟨*upper*⟩ and ⟨*lower*⟩ respectively.

```
\begin{tmmultiplestaves}%
  \begin{tmstaff}{g}[piano-1]
    \tmkeysignature{1}{sharp}{5}
    \tmtimesignature{2.5}{12}{8}
  \end{tmstaff}%
  \begin{tmstaff}{f}[piano-2]
    \tmkeysignature[-2]{1}{sharp}{5}
    \tmtimesignature{2.5}{12}{8}
  \end{tmstaff}%
  \tmbrace{piano-1}{piano-2}{Piano}%
  \tmbarline*{0}{piano-1}{piano-2}%
  \tmbarlineendline{piano-1}{piano-2}%
\end{tmmultiplestaves}
```



Special time signatures have their own commands:

`\tmtimesignaturecommon{⟨x-pos⟩}`

Add the common time signature (𝐂) to x-position ⟨*x-pos*⟩.

`\tmtimesignatureallabreve{⟨x-pos⟩}`

Add the alla breve time signature (𝐂) to x-position ⟨*x-pos*⟩.

Figure 1: Note name – the letter part

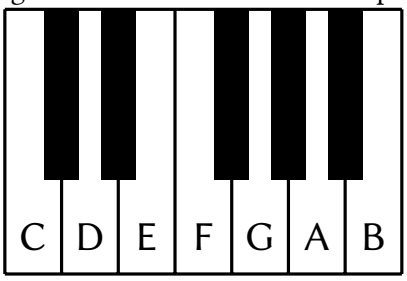
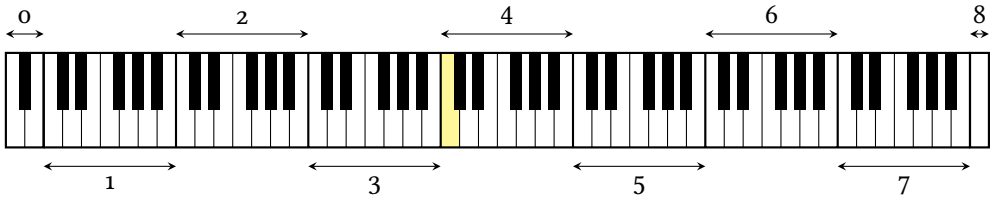


Figure 2: Note name – the number part




```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[helloworld]
    \tmkeysignature{1}{flat}{3}
    \tmtimesignaturecommon{2}
    \tmtimesignatureallabreve{6.5}
  \end{tmstaff}%
  \tmbarline{6}{helloworld}%
  \tmfinalbarlineendline{helloworld}{helloworld}%
\end{tmsinglestaff}
```

4 Adding notes

4.1 Commands for adding a single note

4.1.1 Note values

Every white note is assigned to a 'value', which is the *scientific pitch notation* of that note. These values have two parts: the letter part and the number part:

- The letter part can have seven values: `A`, `B`, `C`, ..., `G`, indicating the name of the note (*do*, *re*, *mi*, ...). (See figure 1).
- The number part is a whole number between 0 to 8, indicating which octave the note is in. (See figure 2).

For example, *Für Elise* by Beethoven starts with an `E5` (a *mi* at the 5th octave).

We will only work with these values. To have black notes in your score, you can use `\tmappendaccidental` to add the accidentals.

The package will automatically detect which staff you are using, when you use these values.

4.1.2 Note names

It is very possible that a note will be refered to later in the staff (to add notations to it, etc.). In this package, to refer to notes, we will use note *names*. Just like Ti*k*Z node names, etc. – you can leave the name empty if you want, but you will not be able to communicate with that unnamed note any time later in the document.

However, because of the algorithm behind the scene, you can only use letters to name the notes. Using numbers and non-letter characters will not result in errors, but it will produce unexpectedly weird output.

4.1.3 Whole notes

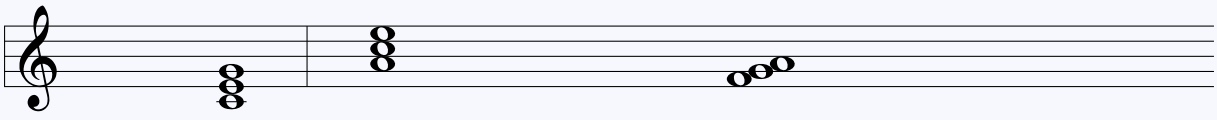
`\tmwhole[`⟨*relative position*⟩`]{`⟨*x-pos*⟩`}{`⟨*note value list*⟩`}{`⟨*name*⟩`}`

> Add a set of whole notes at x-position ⟨*x-pos*⟩. Each value in the comma-separated list ⟨*note value list*⟩ corresponds to a note.
>
> ⟨*name*⟩ can be left empty, but as in the staff naming, I strongly advise you to find some name for each note set.
>
> The center of note with note value x will be marked as coordinate `(`⟨*name*⟩`-`x`)`. For example, note `F5` will be marked as `(`⟨*name*⟩`-F5)`. Also, the point on the middle line of the staff which is at ⟨*x-pos*⟩ will be marked as `(`⟨*name*⟩`-center)`.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmwhole{3}{C4,E4,G4}{c-major}
    \tmwhole{5}{A4,C5,E5}{a-minor}
    \tmbarlineinline{4}
    \tmwhole{10}{G4,A4}{}
  \end{tmstaff}
\end{tmsinglestaff}
```

This might not look good if two adjacent white notes are drawn (see the third note in the above example). One of the notes should be shifted to the right or to the left. In that case, you need to use two different `\tmwhole` commands for each of the 'right' or 'left' side and the center side. To specify on which side you are drawing, use either `left`, `center` or `right` for ⟨*relative position*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmwhole{3}{C4,E4,G4}{c-major}
    \tmwhole{5}{A4,C5,E5}{a-minor}
    \tmbarlineinline{4}
    \tmwhole{10}{G4}{}
    \tmwhole[right]{10}{A4}{}
    \tmwhole[left]{10}{F4}{}
  \end{tmstaff}
\end{tmsinglestaff}
```



4.1.4 Half notes

`\tmhalf`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

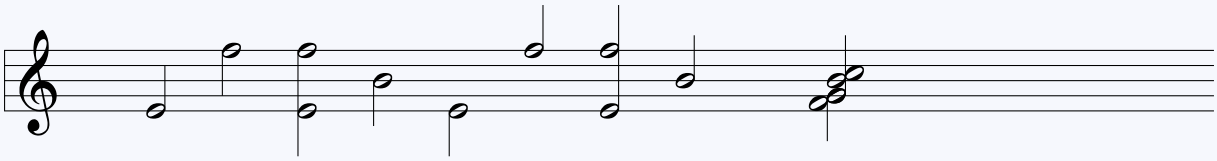
Similar to `\tmwhole`. The stem points upwards if the 'average' note in the list is below the middle line, and downwards otherwise.

`\tmhalf*`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

Identical to `\tmhalf`, only the stem direction is reversed. ⟨*relative position*⟩ works the same way as in `\tmwhole`.

The end of the stem is marked as coordinate (⟨*name*⟩`-tail`). (This also applies to `\tmquarter`, `\tmeighth` and `\tmmorethaneighth`.)

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmhalf {2}{E4}{}\tmhalf {3}{F5}{}\tmhalf {4}{E4,F5}{}\tmhalf {5}{B4}{}
    \tmhalf*{6}{E4}{}\tmhalf*{7}{F5}{}\tmhalf*{8}{E4,F5}{}\tmhalf*{9}{B4}{}
    \tmhalf {11}{B4,G4}{}\tmhalf[right]{11}{C5}{}
    \tmhalf*{11}{G4}{}   \tmhalf*[left]{11}{F4}{}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.1.5 Quarter notes

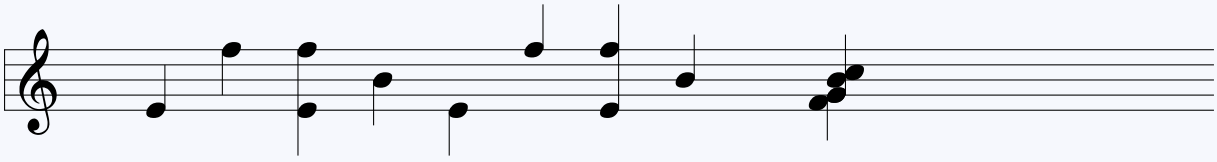
`\tmquarter`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

Similar to `\tmwhole`. The stem points upwards if the 'average' note in the list is below the middle line, and downwards otherwise.

`\tmquarter*`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

Identical to `\tmquarter`, only the stem direction is reversed. ⟨*relative position*⟩ works the same way as in `\tmwhole`.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmquarter {2}{E4}{}\tmquarter {3}{F5}{}\tmquarter {4}{E4,F5}{}\tmquarter {5}{B4}{}
    \tmquarter*{6}{E4}{}\tmquarter*{7}{F5}{}\tmquarter*{8}{E4,F5}{}\tmquarter*{9}{B4}{}
    \tmquarter {11}{B4,G4}{}\tmquarter[right]{11}{C5}{}
    \tmquarter*{11}{G4}{}   \tmquarter*[left]{11}{F4}{}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.1.6 Eighth notes

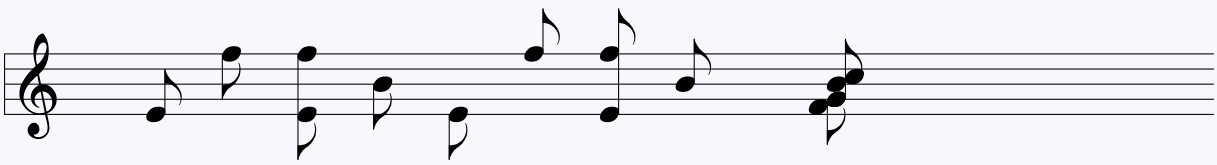
`\tmeighth`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

Similar to `\tmwhole`. The stem points upwards if the 'average' note in the list is below the middle line, and downwards otherwise.

`\tmeighth*`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*name*⟩}

Identical to `\tmeighth`, only the stem direction is reversed. ⟨*relative position*⟩ works the same way as in `\tmwhole`.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmeighth {2}{E4}{}\tmeighth {3}{F5}{}\tmeighth {4}{E4,F5}{}\tmeighth {5}{B4}{}
    \tmeighth*{6}{E4}{}\tmeighth*{7}{F5}{}\tmeighth*{8}{E4,F5}{}\tmeighth*{9}{B4}{}
    \tmeighth {11}{B4,G4}{}\tmeighth[right]{11}{C5}{}
    \tmeighth*{11}{G4}{}   \tmeighth*[left]{11}{F4}{}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.1.7 More than eighth notes

The commands described in this section applies to every notes below the eighth notes, including the sixteenth note (semiquaver), the thirty-second note (demisemiquaver), etc.

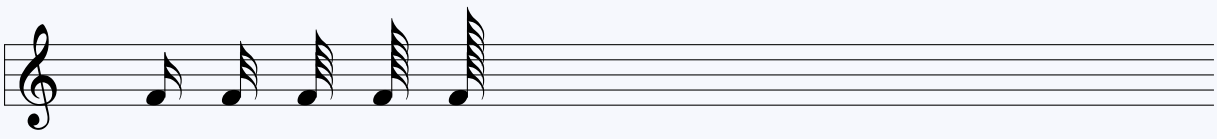
`\tmmorethaneighth`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*number of flags*⟩}{⟨*name*⟩}

Similar to `\tmwhole`. The stem points upwards if the 'average' note in the list is below the middle line, and downwards otherwise.

`\tmmorethaneighth*`[⟨*relative position*⟩]{⟨*x-pos*⟩}{⟨*note value list*⟩}{⟨*number of flags*⟩}{⟨*name*⟩}

Identical to `\tmmorethaneighth`, only the stem direction is reversed. ⟨*relative position*⟩ works the same way as in `\tmwhole`.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmmorethaneighth{2}{F4}{2}{note-2}
    \tmmorethaneighth{3}{F4}{3}{note-3}
    \tmmorethaneighth{4}{F4}{4}{note-4}
    \tmmorethaneighth{5}{F4}{5}{note-5}
    \tmmorethaneighth{6}{F4}{6}{note-6}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.2 Beaming

```
\begin{tmbeam}
 ⟨beaming note commands⟩
\end{tmbeam}
```

Add a beaming note series. All notes inside this environment are 'beamed' together, and all stems point **upwards**.

```
\begin{tmbeam*}
 ⟨beaming note commands⟩
\end{tmbeam*}
```

Identical to `tmbeam`, only all stems point **downwards**.

All notes to be beamed inside these environments need to be added using the following command (`\tmeighth`, ... will simply not work):

`\tmbeamnote[`⟨*relative position*⟩`]{`⟨*x-pos*⟩`}{`⟨*note value*⟩`}{`⟨*number of flags*⟩`}{`⟨*name*⟩`}`

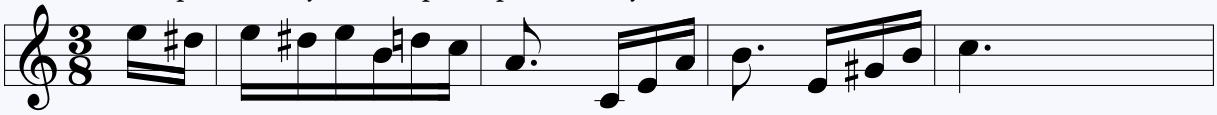
Add a note to the beaming series. If ⟨*number of flags*⟩ is 1, it is an eighth note, if ⟨*number of flags*⟩ is 2, it is a sixteenth note, and so on.

Important note: Because of the algorithm working behind the scene, you *must* give a separate name to each `\tmbeamnote` inside `tmbeam` or `tmbeam*`. Doing otherwise will result in weird output.

```
This is the incipit of a very famous piano piece. Can you name it?

\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[p1]
    \tmtimesignature{1}{3}{8}
    \begin{tmbeam*}
      \tmbeamnote{1.75}{E5}{2}{}\tmbeamnote{2.5}{D5}{2}{a}
      \tmappendaccidental{a}{D5}{sharp}
    \end{tmbeam*}
    \tmbarlineinline{2.8}
    \begin{tmbeam*}
      \tmbeamnote{3.25}{E5}{2}{a}\tmbeamnote{4}{D5}{2}{b}\tmbeamnote{4.5}{E5}{2}{c}
      \tmbeamnote{5}{B4}{2}{d}\tmbeamnote{5.5}{D5}{2}{e}\tmbeamnote{6}{C5}{2}{f}
      \tmappendaccidental{b}{D5}{sharp}\tmappendaccidental{e}{D5}{natural}
    \end{tmbeam*}
    \tmbarlineinline{6.3}\tmeighth{6.75}{A4}{a}\tmadddot{a}{A4}
    \begin{tmbeam}
      \tmbeamnote{8}{C4}{2}{a}\tmbeamnote{8.5}{E4}{2}{b}\tmbeamnote{9}{A4}{2}{c}
    \end{tmbeam}
    \tmbarlineinline{9.3}\tmeighth{9.75}{B4}{a}\tmadddot{a}{B4}
    \begin{tmbeam}
      \tmbeamnote{10.75}{E4}{2}{a}\tmbeamnote{11.5}{G4}{2}{b}\tmbeamnote{12}{B4}{2}{c}
      \tmappendaccidental{b}{G4}{sharp}
    \end{tmbeam}
    \tmbarlineinline{12.3}\tmquarter{12.75}{C5}{a}\tmadddot{a}{C5}
  \end{tmstaff}%
  \tmbarlineendline{p1}{p1}%
\end{tmsinglestaff}
```

This is the incipit of a very famous piano piece. Can you name it?



4.3 Commands for adding rests

This package currently provides support for the following rests:

`\tmwholerest[⟨shift⟩]{⟨x-pos⟩}`

Add a whole rest at x-position ⟨*x-pos*⟩. ⟨*shift*⟩ works just like in `\tmkeysignature`.

`\tmhalfrest[⟨shift⟩]{⟨x-pos⟩}`

Add a half rest at x-position ⟨*x-pos*⟩.

`\tmquarterrest[⟨shift⟩]{⟨x-pos⟩}`

Add a quarter rest at x-position ⟨*x-pos*⟩.

`\tmbelowquarterrest[⟨shift⟩]{⟨x-pos⟩}{⟨number⟩}`

Add a rest at x-position ⟨*x-pos*⟩, whose value is below a quarter rest. The rest has ⟨*number*⟩ 'flags': if ⟨*number*⟩ is 1, it is an eighth rest, if ⟨*number*⟩ is 2, it is a sixteenth rest, and so on... Currently ⟨*number*⟩ must be an integer between 1 and 4.

`\tmeighthrest[⟨shift⟩]{⟨x-pos⟩}`

Identical to `\tmbelowquarterrest` where ⟨*number*⟩ is 1.

`\tmsixteenthrest[⟨shift⟩]{⟨x-pos⟩}`

Identical to `\tmbelowquarterrest` where ⟨*number*⟩ is 2.

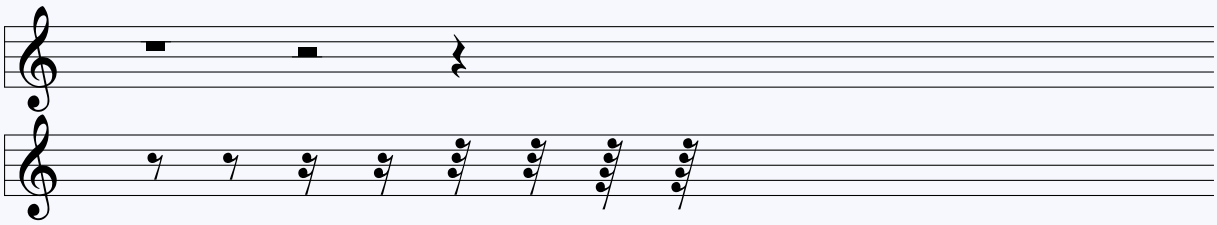
`\tmthirtysecondrest[⟨shift⟩]{⟨x-pos⟩}`

Identical to `\tmbelowquarterrest` where ⟨*number*⟩ is 3.

`\tmsixtyfourthrest[⟨shift⟩]{⟨x-pos⟩}`

Identical to `\tmbelowquarterrest` where ⟨*number*⟩ is 4.

```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}
    \tmwholerest{2}\tmhalfrest{4}\tmquarterrest{6}
  \end{tmstaff}%
  \begin{tmstaff}{g}
    \tmbelowquarterrest{2}{1}\tmeighthrest{3}
    \tmbelowquarterrest{4}{2}\tmsixteenthrest{5}
    \tmbelowquarterrest{6}{3}\tmthirtysecondrest{7}
    \tmbelowquarterrest{8}{4}\tmsixtyfourthrest{9}
  \end{tmstaff}%
\end{tmmultiplestaves}
```



```
\begin{tmsinglestaff}
  \begin{tmstaff*}
    \tmeighthrest[4]{3}\tmeighthrest[-4]{3}
    \tmwholerest[4]{6}\tmwholerest[-4]{6}
  \end{tmstaff*}
\end{tmsinglestaff}
```

4.4 Miscellaneous

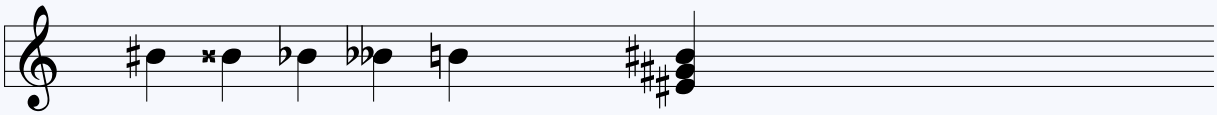
4.4.1 Accidentals

`\tmappendaccidental[⟨x-shift⟩]{⟨note name⟩}{⟨note value⟩}{⟨type⟩}`

Add accidental ⟨*type*⟩ to note of value ⟨*note value*⟩ in ⟨*note name*⟩. The accidental can be shifted in relative to it default position using ⟨*x-shift*⟩.

⟨*type*⟩ can have five values: `sharp`, `flat`, `double-sharp`, `double-flat` and `natural`.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmquarter{2}{B4}{a}\tmquarter{3}{B4}{b}\tmquarter{4}{B4}{c}
    \tmquarter{5}{B4}{d}\tmquarter{6}{B4}{e}\tmquarter{9}{E4,G4,B4}{f}
    \tmappendaccidental{a}{B4}{sharp}
    \tmappendaccidental{b}{B4}{double-sharp}
    \tmappendaccidental{c}{B4}{flat}
    \tmappendaccidental{d}{B4}{double-flat}
    \tmappendaccidental{e}{B4}{natural}
    \tmappendaccidental{f}{E4}{sharp}
    \tmappendaccidental[-2mm]{f}{G4}{sharp}
    \tmappendaccidental[-4mm]{f}{B4}{sharp}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.4.2 Dots

`\tmadddot[⟨x-shift⟩]{⟨note name⟩}{⟨note value⟩}`

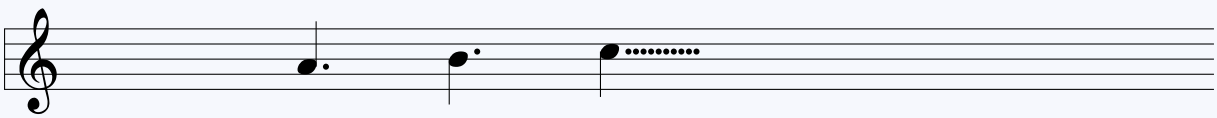
Add a dot to note in ⟨*note name*⟩ having ⟨*note value*⟩. You can use ⟨*x-shift*⟩ to shift it from the default position if necessary.

`\tmadddot*[⟨x-shift⟩]{⟨note name⟩}{⟨note value⟩}{⟨number of dots⟩}`

Add ⟨*number of dots*⟩ dot to note in ⟨*note name*⟩ having ⟨*note value*⟩. You can use ⟨*x-shift*⟩ to shift it from the default position if necessary.

Basically `\tmadddot` is identical to `\tmadddot*` when ⟨*number of dots*⟩ is 1.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}[]
    \tmquarter{4}{A4}{a}\tmquarter{6}{B4}{b}\tmquarter{8}{C5}{c}
    \tmadddot{a}{A4}\tmadddot{b}{B4}\tmadddot*{c}{C5}{10}
  \end{tmstaff}%
\end{tmsinglestaff}
```



4.4.3 Articulations

`\tmstaccato[⟨shift⟩]{⟨note name⟩}`

Add *staccato* to note ⟨*note name*⟩.

`\tmtenuto[⟨shift⟩]{⟨note name⟩}`

Add *tenuto* to note ⟨*note name*⟩.

`\tmaccentabove[⟨shift⟩]{⟨note name⟩}`

Add an accent to note ⟨*note name*⟩ (one form of *marcato*).

`\tmstaccatissimo[⟨shift⟩]{⟨note name⟩}`

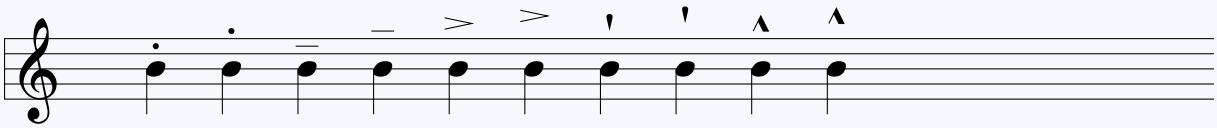
Add *staccatissimo* to note ⟨*note name*⟩.

`\tmmarcato[⟨shift⟩]{⟨note name⟩}`

Add *marcato* to note ⟨*note name*⟩.

⟨*shift*⟩ works just like in `\tmkeysignature`.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmquarter{2}{B4}{x}\tmstaccato{x}
    \tmquarter{3}{B4}{x}\tmstaccato[2]{x}
    \tmquarter{4}{B4}{x}\tmtenuto{x}
    \tmquarter{5}{B4}{x}\tmtenuto[2]{x}
    \tmquarter{6}{B4}{x}\tmaccentabove{x}
    \tmquarter{7}{B4}{x}\tmaccentabove[1]{x}
    \tmquarter{8}{B4}{x}\tmstaccatissimo{x}
    \tmquarter{9}{B4}{x}\tmstaccatissimo[1]{x}
    \tmquarter{10}{B4}{x}\tmmarcato{x}
    \tmquarter{11}{B4}{x}\tmmarcato[1]{x}
  \end{tmstaff}
\end{tmsinglestaff}
```



You can also draw fermata:

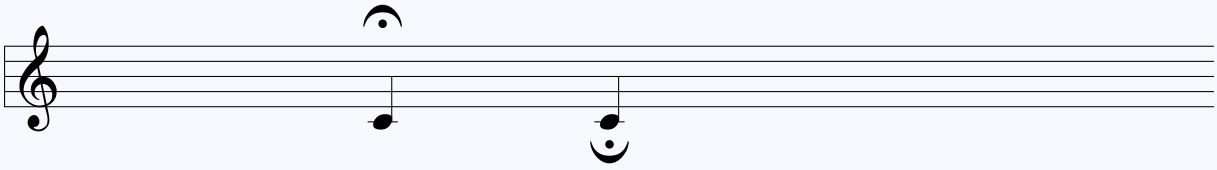
`\tmfermata[⟨shift⟩]{⟨note name⟩}`

Add an ‘above-fermata’ to ⟨*note name*⟩.

`\tmfermata*[⟨shift⟩]{⟨note name⟩}`

Add a ‘below-fermata’ to ⟨*note name*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmquarter{5}{C4}{x}\tmfermata{x}
    \tmquarter{8}{C4}{x}\tmfermata*{x}
  \end{tmstaff}
\end{tmsinglestaff}
```



4.4.4 Ornaments

`\tmtrill[⟨shift⟩]{⟨note name⟩}`

Add a trill to note ⟨*note name*⟩.

`\tmturn[⟨shift⟩]{⟨note name⟩}`

Add a turn to note ⟨*note name*⟩.

`\tmmordent[⟨shift⟩]{⟨note name⟩}`

Add a 'upper' mordent to note ⟨*note name*⟩.

`\tmmordent*[⟨shift⟩]{⟨note name⟩}`

Add an 'lower' mordent to note ⟨*note name*⟩.

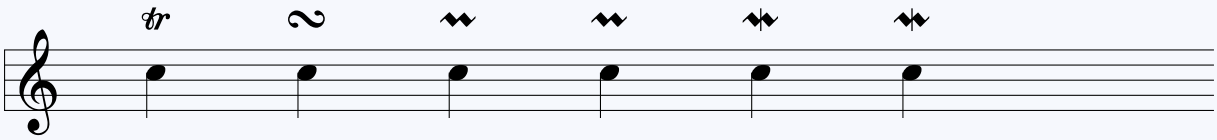
`\tmuppermordent[⟨shift⟩]{⟨note name⟩}`

Alias of `\tmmordent`.

`\tmlowermordent[⟨shift⟩]{⟨note name⟩}`

Alias of `\tmmordent*`.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{2}{C5}{a} \tmquarter{4}{C5}{b} \tmquarter{6}{C5}{c}
    \tmquarter{8}{C5}{d} \tmquarter{10}{C5}{e}\tmquarter{12}{C5}{f}
    \tmtrill{a}\tmturn{b}\tmmordent{c}
    \tmuppermordent{d}\tmmordent*{e}\tmlowermordent{f}
  \end{tmstaff}
\end{tmsinglestaff}
```



5 Lines

5.1 Slur

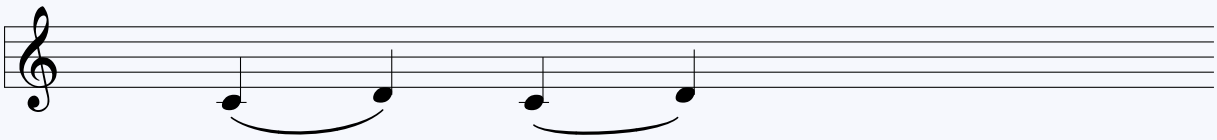
`\tmslur[⟨amplitude⟩][⟨shift 1⟩]{⟨note 1⟩}[⟨shift 2⟩]{⟨note 2⟩}`

Draw a slur joining ⟨*note 1*⟩ and ⟨*note 2*⟩. The slur will join the *lowest* notes of the two note set.

The starting and ending coordinates will be automatically calculated, but you can shift it by using ⟨*shift 1*⟩ and ⟨*shift 2*⟩, which are Ti*k*Z coordinates without parentheses, i.e. `1,2` or `2mm,-1mm`, etc.

⟨*amplitude*⟩ is the "amplitude" of the curve. It is set to `2.5mm` by default.

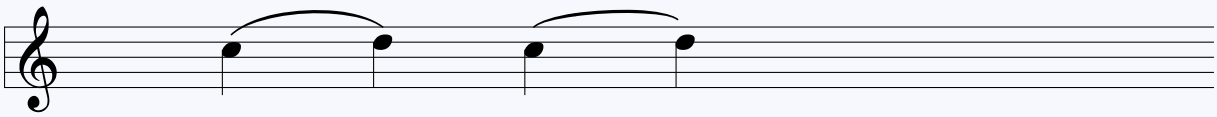
```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{3}{C4}{a}\tmquarter{5}{D4}{b}\tmslur{a}{b}
    \tmquarter{7}{C4}{a}\tmquarter{9}{D4}{b}\tmslur[1.5mm][0,-1mm]{a}[-1mm,-1mm]{b}
  \end{tmstaff}
\end{tmsinglestaff}
```



`\tmslur*[⟨amplitude⟩][⟨shift 1⟩]{⟨note 1⟩}[⟨shift 2⟩]{⟨note 2⟩}`

Identical to `\tmslur`, only the slur will join the *highest* notes.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{3}{C5}{a}\tmquarter{5}{D5}{b}\tmslur*{a}{b}
    \tmquarter{7}{C5}{a}\tmquarter{9}{D5}{b}\tmslur*[1.5mm][0,1mm]{a}[-1mm,1mm]{b}
  \end{tmstaff}
\end{tmsinglestaff}
```



`\tmslurline[⟨amplitude⟩]{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

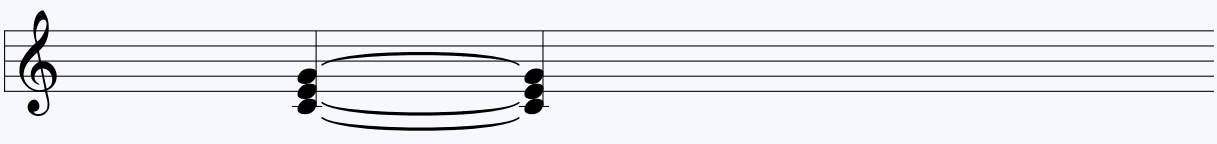
Draw a slur from ⟨*coordinate 1*⟩ to ⟨*coordinate 2*⟩. The slur will go down and then go up.

`\tmslurline*[⟨amplitude⟩]{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

Draw a slur from ⟨*coordinate 1*⟩ to ⟨*coordinate 2*⟩. The slur will go up and then go down.[1]

You can use these two commands to tie two notes. It is still quite a pain, though. TODO.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{4}{C4,E4,G4}{a}\tmquarter{7}{C4,E4,G4}{b}
    \tmslurline[1.5mm] {[shift={(2mm,-1.5mm)}]a-C4}{[shift={(-2mm,-1.5mm)}]b-C4}
    \tmslurline[1.5mm] {[shift={(2mm,-1.5mm)}]a-E4}{[shift={(-2mm,-1.5mm)}]b-E4}
    \tmslurline*[1.5mm]{[shift={(2mm, 1.5mm)}]a-G4}{[shift={(-2mm, 1.5mm)}]b-G4}
  \end{tmstaff}
\end{tmsinglestaff}
```



[1] Not being a native speaker, I can't find an appropriate English word for this :).

5.2 Crescendo and Diminuendo

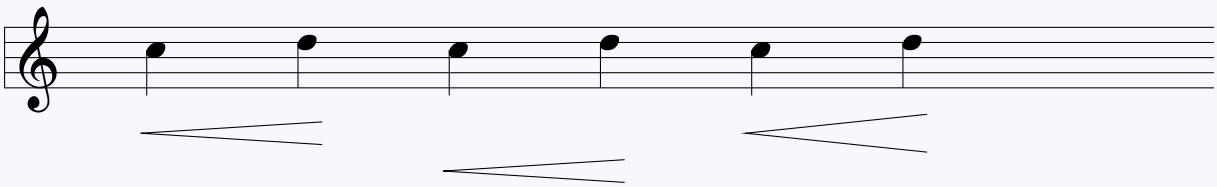
5.2.1 Crescendo

`\tmcrescendo`[⟨*shift*⟩][⟨*spacing*⟩]{⟨*note 1*⟩}{⟨*note 2*⟩}

Draw a crescendo hairpin between ⟨*note 1*⟩ and ⟨*note 2*⟩. ⟨*shift*⟩ and ⟨*spacing*⟩ work as illustrated in the following example.

⟨*spacing*⟩ is set to `3mm` by default.

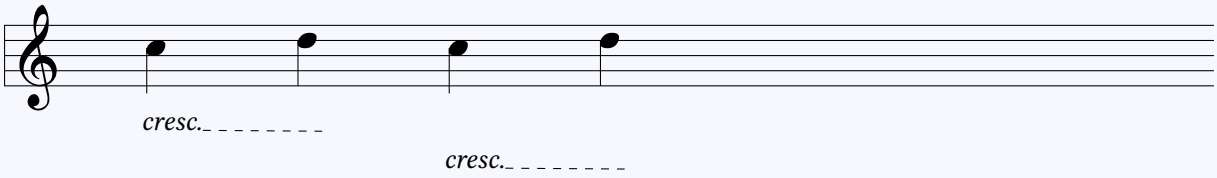
```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{2}{C5}{a} \tmquarter{4}{D5}{b} \tmcrescendo{a}{b}
    \tmquarter{6}{C5}{a} \tmquarter{8}{D5}{b} \tmcrescendo[-5mm]{a}{b}
    \tmquarter{10}{C5}{a}\tmquarter{12}{D5}{b}\tmcrescendo[0mm][5mm]{a}{b}
  \end{tmstaff}
\end{tmsinglestaff}
```



`\tmcrescendo*`[⟨*shift*⟩]{⟨*note 1*⟩}{⟨*note 2*⟩}

Draw a crescendo line between ⟨*note 1*⟩ and ⟨*note 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{2}{C5}{a} \tmquarter{4}{D5}{b} \tmcrescendo*{a}{b}
    \tmquarter{6}{C5}{a} \tmquarter{8}{D5}{b} \tmcrescendo*[-5mm]{a}{b}
  \end{tmstaff}
\end{tmsinglestaff}
```



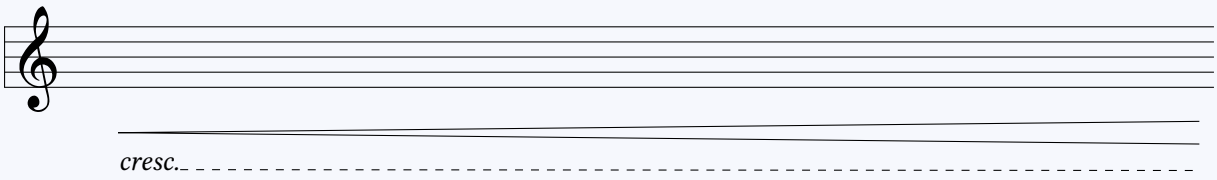
`\tmcrescendoline`[⟨*spacing*⟩]{⟨*coordinate 1*⟩}{⟨*coordinate 2*⟩}

Draw a crescendo hairpin between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩. The coordinates do *not* include parentheses. As in `\tmcrescendo`, ⟨*spacing*⟩ is set to `3mm` by default.

`\tmcrescendoline*`{⟨*coordinate 1*⟩}{⟨*coordinate 2*⟩}

Draw a crescendo line between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmcrescendoline{1.5,-1}{\linewidth-2mm,-1}
    \tmcrescendoline*{1.5,-1.5}{\linewidth-2mm,-1.5}
  \end{tmstaff}
\end{tmsinglestaff}
```



5.2.2 Diminuendo

All commands are just like in crescendo (section 5.2.1).

`\tmdiminuendo[⟨shift⟩][⟨spacing⟩]{⟨note 1⟩}{⟨note 2⟩}`

Add a diminuendo hairpin between ⟨*note 1*⟩ and ⟨*note 2*⟩.

`\tmdiminuendo*[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}`

Add a diminuendo line between ⟨*note 1*⟩ and ⟨*note 2*⟩.

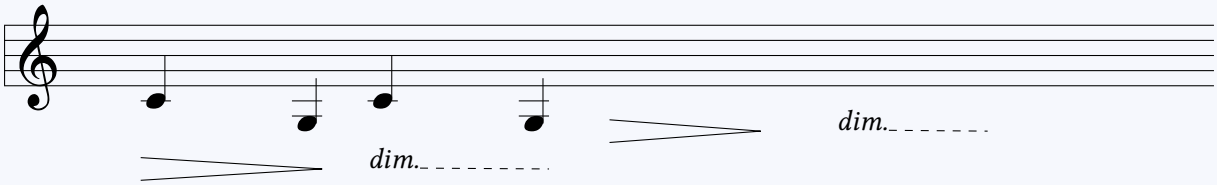
`\tmdiminuendoline[⟨spacing⟩]{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

Add a diminuendo hairpin between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

`\tmdiminuendoline*{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

Add a diminuendo line between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{2}{C4}{a}\tmquarter{4}{G3}{b}\tmdiminuendo{a}{b}
    \tmquarter{5}{C4}{a}\tmquarter{7}{G3}{b}\tmdiminuendo*{a}{b}
    \tmdiminuendoline{8,-1}{10,-1}\tmdiminuendoline*{11,-1}{13,-1}
  \end{tmstaff}
\end{tmsinglestaff}
```



5.3 Volta

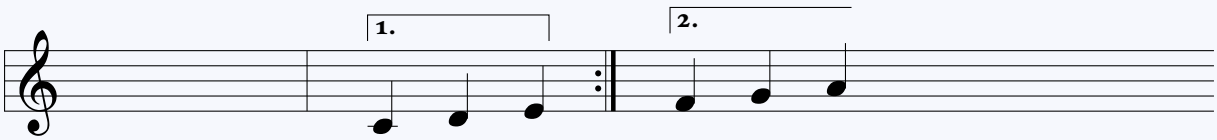
`\tmvolta[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}{⟨number⟩}`

Draw a *closed* volta line between ⟨*note 1*⟩ and ⟨*note 2*⟩.

`\tmvolta*[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}{⟨number⟩}`

Draw an *unclosed* volta line between ⟨*note 1*⟩ and ⟨*note 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmbarlineinline{4}
    \tmquarter{5}{C4}{a}\tmquarter{6}{D4}{}\tmquarter{7}{E4}{b}
    \tmendrepeatbarlineinline{8}
    \tmquarter{9}{F4}{c}\tmquarter{10}{G4}{}\tmquarter{11}{A4}{d}
    \tmvolta{a}{b}{1}\tmvolta*{c}{d}{2}
  \end{tmstaff}
\end{tmsinglestaff}
```



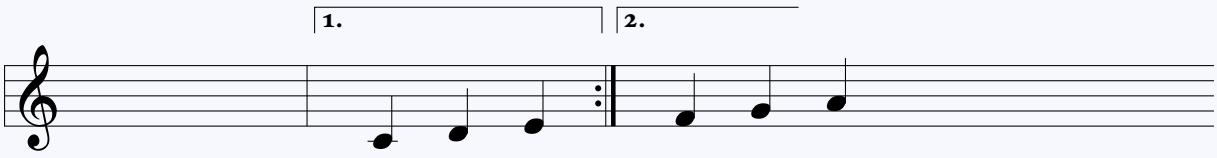
`\tmvoltaline{⟨y-coordinate⟩}{⟨x-coordinate 1⟩}{⟨x-coordinate 2⟩}{⟨number⟩}`

Draw a *closed* volta line between coordinate (⟨*x-coordinate 1*⟩,⟨*y-coordinate*⟩) and coordinate (⟨*x-coordinate 2*⟩,⟨*y-coordinate*⟩).

`\tmvoltaline*{⟨y-coordinate⟩}{⟨x-coordinate 1⟩}{⟨x-coordinate 2⟩}{⟨number⟩}`

Identical to `\tmvoltaline`, only the line is unclosed.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmbarlineinline{4}
    \tmquarter{5}{C4}{}\tmquarter{6}{D4}{}\tmquarter{7}{E4}{}
    \tmendrepeatbarlineinline{8}
    \tmquarter{9}{F4}{}\tmquarter{10}{G4}{}\tmquarter{11}{A4}{}
    \tmvoltaline{1}{4.1}{7.9}{1}\tmvoltaline*{1}{8.1}{10.5}{2}
  \end{tmstaff}
\end{tmsinglestaff}
```

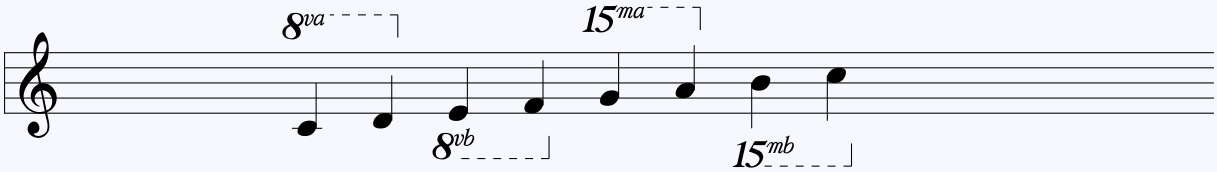


5.4 Octave lines

`\tmoctave[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}{⟨type⟩}`

Draw an octave line between ⟨*note 1*⟩ and ⟨*note 2*⟩. ⟨*type*⟩ can be one of the following values: `8va`, `8vb`, `15ma`, `15mb`.

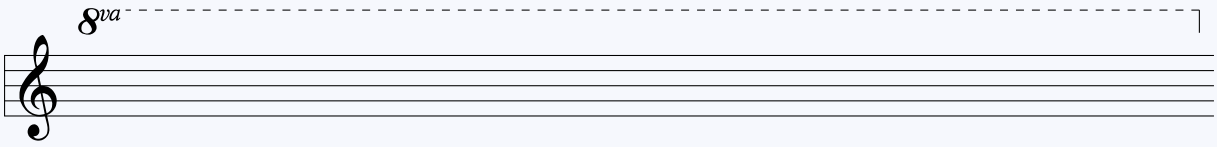
```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{4}{C4}{a} \tmquarter{5}{D4}{b} \tmoctave{a}{b}{8va}
    \tmquarter{6}{E4}{a} \tmquarter{7}{F4}{b} \tmoctave{a}{b}{8vb}
    \tmquarter{8}{G4}{a} \tmquarter{9}{A4}{b} \tmoctave{a}{b}{15ma}
    \tmquarter{10}{B4}{a}\tmquarter{11}{C5}{b}\tmoctave{a}{b}{15mb}
  \end{tmstaff}
\end{tmsinglestaff}
```



`\tmoctaveline{⟨coordinate 1⟩}{⟨coordinate 2⟩}{⟨type⟩}`

Draw an octave line between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmoctaveline{1,1}{\linewidth-2mm,1}{8va}
  \end{tmstaff}
\end{tmsinglestaff}
```



5.5 Pedal lines

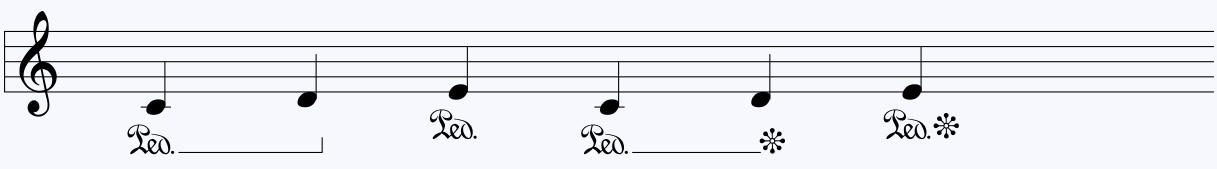
`\tmpedal[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}`

Draw a pedal line not ended with a star (❊) between ⟨*note 1*⟩ and ⟨*note 2*⟩.

`\tmpedal*[⟨shift⟩]{⟨note 1⟩}{⟨note 2⟩}`

Draw a pedal line ended with a star between ⟨*note 1*⟩ and ⟨*note 2*⟩

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmquarter{2}{C4}{a}\tmquarter{4}{D4}{b}\tmpedal{a}{b}
    \tmquarter{6}{E4}{a}\tmpedal{a}{a}
    \tmquarter{8}{C4}{a}\tmquarter{10}{D4}{b}\tmpedal*{a}{b}
    \tmquarter{12}{E4}{a}\tmpedal*{a}{a}
  \end{tmstaff}
\end{tmsinglestaff}
```



`\tmpedalline{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

Draw a pedal line not ended with a star between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

`\tmpedalline*{⟨coordinate 1⟩}{⟨coordinate 2⟩}`

Draw a pedal line ended with a star between ⟨*coordinate 1*⟩ and ⟨*coordinate 2*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmpedalline{2,-1}{4,-1}\tmpedalline{6,-1}{6,-1}
    \tmpedalline*{8,-1}{10,-1}\tmpedalline*{12,-1}{12,-1}
  \end{tmstaff}
\end{tmsinglestaff}
```

6 Other in-line stuffs

6.1 Clefs

You can add a clef in-line using the following commands:

`\tmgclef[⟨shift⟩]{⟨x-pos⟩}`

Add a treble clef at position ⟨*x-pos*⟩. The clef will be scaled down a bit as per standards. ⟨*shift*⟩ works like in `\tmkeysignature`.

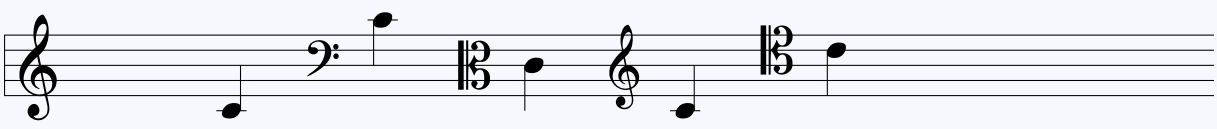
`\tmcclef[⟨shift⟩]{⟨x-pos⟩}`

Work like `\tmgclef`, but the clef is the alto clef.

`\tmfclef[⟨shift⟩]{⟨x-pos⟩}`

Work like `\tmgclef`, but the clef is the bass clef.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmquarter{3}{C4}{}
    \tmfclef{4}\tmquarter{5}{C4}{}
    \tmcclef{6}\tmquarter{7}{C4}{}
    \tmgclef{8}\tmquarter{9}{C4}{}
    \tmcclef[2]{10}\tmquarter{11}{C4}{}
  \end{tmstaff}
\end{tmsinglestaff}
```



However, sometimes you don't want these clefs to be scaled. You can use the starred version of the mentioned commands.

`\tmgclef*[⟨shift⟩]{⟨x-pos⟩}`

Work like `\tmgclef`, but the clef is not scaled.

`\tmcclef*[⟨shift⟩]{⟨x-pos⟩}`

Work like `\tmcclef`, but the clef is not scaled.

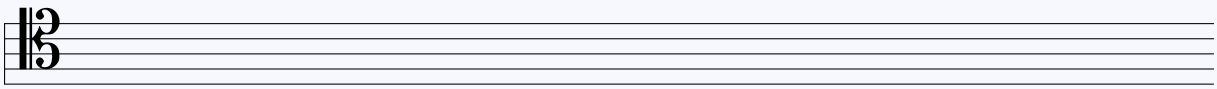
`\tmfclef*[⟨shift⟩]{⟨x-pos⟩}`

Work like `\tmfclef`, but the clef is not scaled.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmfclef*{4}\tmcclef*{6}\tmgclef*{8}\tmcclef*[2]{10}
  \end{tmstaff}%
\end{tmsinglestaff}
```

Using ⟨*shift*⟩, we can have different versions of the three clefs. For example, we can have a tenor clef like this (the default distance from the starting point of a staff to its main clef is 2mm):

```
\begin{tmsinglestaff}
  \begin{tmstaff*}[]
    \tmcclef*[2]{.2}
  \end{tmstaff*}
\end{tmsinglestaff}
```



6.2 Breaths

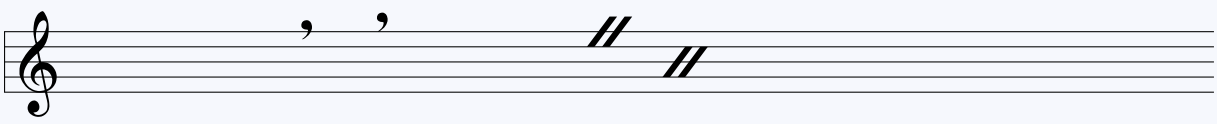
`\tmbreath[⟨shift⟩]{⟨x-pos⟩}`

Add a breath mark (a comma) to position ⟨*x-pos*⟩.

`\tmcaesura[⟨shift⟩]{⟨x-pos⟩}`

Add a caesura to position ⟨*x-pos*⟩.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}
    \tmbreath{4}\tmbreath[1]{5}\tmcaesura{8}\tmcaesura[-4]{9}
  \end{tmstaff}
\end{tmsinglestaff}
```

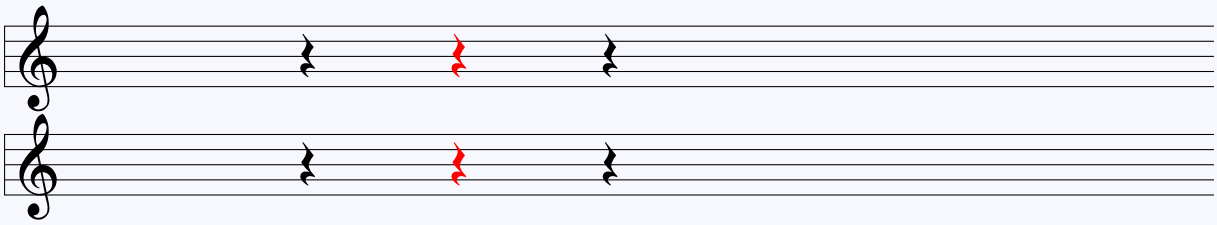


7 Customizations

\tmcolor

Set the color of everything. This is a predefined command with an initial value `black`. You can redefine this command anywhere in your document to change color of everything after that place.

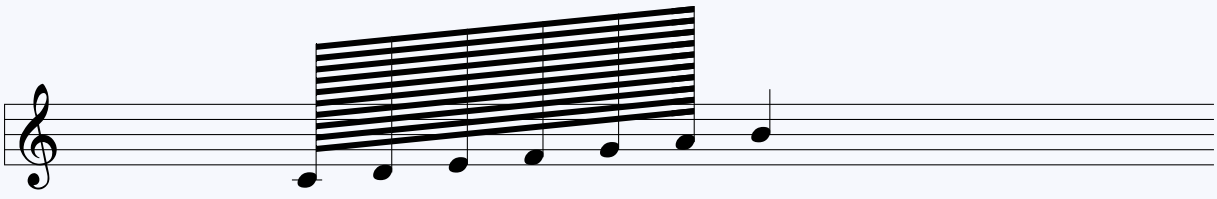
```
\begin{tmmultiplestaves}[0pt]%
  \begin{tmstaff}{g}
    \tmquarterrest{4}
    \renewcommand\tmcolor{red}
    \tmquarterrest{6}
    \renewcommand\tmcolor{black}
    \tmquarterrest{8}
  \end{tmstaff}%
  \begin{tmstaff}{g}
    \tmquarterrest{4}
    \begingroup
      \renewcommand\tmcolor{red}
      \tmquarterrest{6}
    \endgroup
    \tmquarterrest{8}
  \end{tmstaff}%
\end{tmmultiplestaves}
```



\tmnotelength

Set the length of the note stem of everything. This is a predefined command with an initial value `6mm`. You can redefine this command anywhere in your document to change the setting.

```
\begin{tmsinglestaff}%
  \begin{tmstaff}{g}
    \begin{tmbeam}
      \renewcommand\tmnotelength{1.8cm}
      \tmbeamnote{4}{C4}{10}{a}\tmbeamnote{5}{D4}{10}{b}\tmbeamnote{6}{E4}{10}{c}
      \tmbeamnote{7}{F4}{10}{d}\tmbeamnote{8}{G4}{10}{e}\tmbeamnote{9}{A4}{10}{f}
    \end{tmbeam}
    \tmquarter*{10}{B4}{}
  \end{tmstaff}%
\end{tmsinglestaff}
```



8 TikZ section

The above sections don't require any prior knowledge about TikZ. However, this package is based on TikZ, and this section is dedicated to explain the TikZ things that this package defines, so that you can use them more than just inside `tmsinglestaff` or `tmmultiplestaves`.

8.1 Defined coordinates

8.1.1 Staves

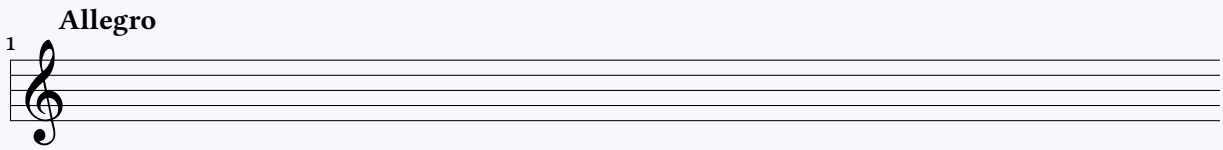
When a staff is created, the middle line is the x-axis of the staff (i.e. every point on the middle line has y-coordinate 0). The y-axis of the staff is the leftmost barline.

If the staff is named ⟨*name*⟩, three coordinates will be marked:

- Coordinate (⟨*name*⟩`-start`): the leftmost point of the middle line.
- Coordinate (⟨*name*⟩`-nw`): the leftmost point of the top line.
- Coordinate (⟨*name*⟩`-sw`): the leftmost point of the bottom line.

The staves are all `remember picture` TikZ pictures, so you can use these coordinates later in the document.

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[my-staff]
    \path (my-staff-nw) node[above] {1} ++ (.5,.5) node[right] {\bfseries Allegro};
  \end{tmstaff}%
\end{tmsinglestaff}
```

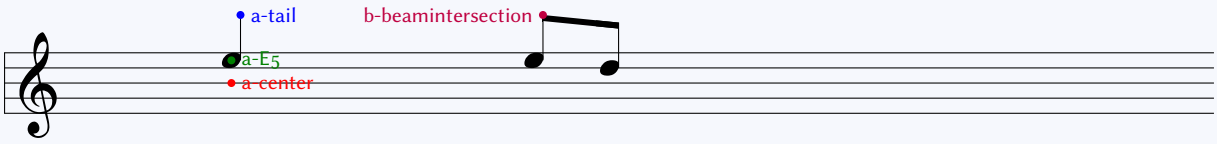


8.1.2 Notes

When a note set is drawn with name ⟨*name*⟩, the following coordinates are marked:

- Coordinate (⟨*name*⟩`-center`): The point at the same x-position that lies on the middle line of the staff.
- For each note having value ⟨*note value*⟩, the middle point of the note is marked as coordinate (⟨*name*⟩`-`⟨*note value*⟩).
- If the note has a stem, the ending point of that stem is marked as (⟨*name*⟩`-tail`).
- In a beam, the coordinate at which the note stem intersects the beam line is marked as coordinate (⟨*name*⟩`-beamintersection`).

```
\begin{tmsinglestaff}
  \begin{tmstaff}{g}[]
    \tmquarter*{3}{E5}{a}
    \begin{tmbeam}
      \tmbeamnote{7}{E5}{1}{b}\tmbeamnote{8}{D5}{1}{c}
    \end{tmbeam}
  \end{tmstaff}%
  \begin{tikzpicture}[remember picture,overlay,font=\sffamily\scriptsize]
    \fill[red] (a-center) circle (1.5pt) node[right] {a-center};
    \fill[green!50!black] (a-E5) circle (1.5pt) node[right] {a-E5};
    \fill[blue] (a-tail) circle (1.5pt) node[right] {a-tail};
    \fill[purple] (b-beamintersection) circle (1.5pt) node[left] {b-beamintersection};
  \end{tikzpicture}%
\end{tmsinglestaff}
```

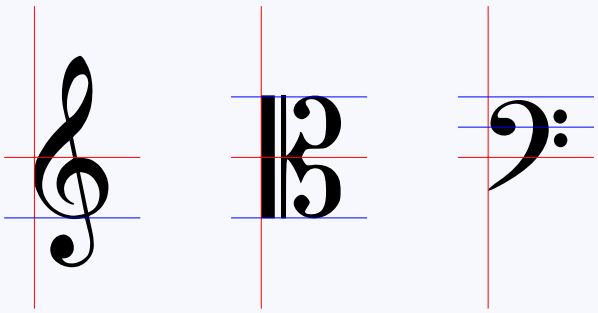


8.2 Defined pics

8.2.1 Clefs

Three pics are defined: `tm-g-clef` for the treble clef, `tm-c-clef` for the alto clef and `tm-f-clef` for the bass clef.

```
\begin{tikzpicture}[scale=2,transform shape]
  \begin{scope}
    \pic {tm-g-clef};
    \draw[red,ultra thin] (-.2,0) -- (.7,0) (0,1) -- (0,-1);
    \draw[blue,ultra thin] (-.2,-.4) -- (.7,-.4);
  \end{scope}
  \begin{scope}[xshift=1.5cm]
    \pic {tm-c-clef};
    \draw[red,ultra thin] (-.2,0) -- (.7,0) (0,1) -- (0,-1);
    \draw[blue,ultra thin] (-.2,-.4) -- (.7,-.4) (-.2,.4) -- (.7,.4);
  \end{scope}
  \begin{scope}[xshift=3cm]
    \pic {tm-f-clef};
    \draw[red,ultra thin] (-.2,0) -- (.7,0) (0,1) -- (0,-1);
    \draw[blue,ultra thin] (-.2,.2) -- (.7,.2) (-.2,.4) -- (.7,.4);
  \end{scope}
\end{tikzpicture}
```



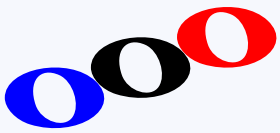
The bounding boxes of `tm-c-clef` and `tm-f-clef` is set to the same height of `tm-g-clef` so that the distances between staves of different clefs can be equally positioned.

8.2.2 Note heads and flags

There are three types of note heads:

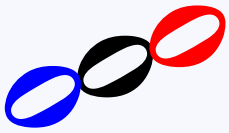
- Whole note heads: there are three pics differing each other by the relative position to the origin: `tm-whole-note-center`, `tm-whole-note-left`, `tm-whole-note-right`:

```
\begin{tikzpicture}[scale=4,transform shape]
  \path (0,0)   pic       {tm-whole-note-center}
        (0,.1)  pic[red]  {tm-whole-note-right}
        (0,-.1) pic[blue] {tm-whole-note-left};
\end{tikzpicture}
```



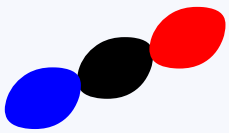
- Half note heads: we also have three pics for each relative position:

```
\begin{tikzpicture}[scale=4,transform shape]
  \path (0,0)   pic       {tm-half-note-head-center}
        (0,.1)  pic[red]  {tm-half-note-head-right}
        (0,-.1) pic[blue] {tm-half-note-head-left};
\end{tikzpicture}
```



- Quarter note heads:

```
\begin{tikzpicture}[scale=4,transform shape]
  \path (0,0)   pic       {tm-quarter-note-head-center}
        (0,.1)  pic[red]  {tm-quarter-note-head-right}
        (0,-.1) pic[blue] {tm-quarter-note-head-left};
\end{tikzpicture}
```



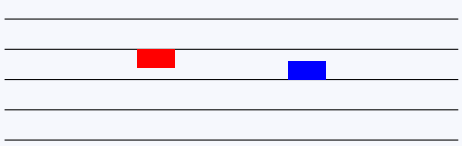
There are two pics about note flags: the one for notes with stem heading up (`tm-note-flag-up`) and the one for notes with stem heading down (`tm-note-flag-down`).

```
\begin{tikzpicture}[scale=4,transform shape]
  \draw[red] (0,-.5) -- (0,0);
  \pic at (0,0) {tm-note-flag-up};
  \draw[red] (1,0) -- (1,-.5);
  \pic at (1,-.5) {tm-note-flag-down};
\end{tikzpicture}
```

8.2.3 Rests

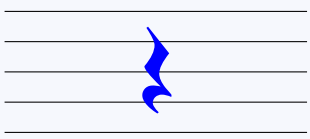
Whole rest and half rest can be easily drawn with a simple rectangle, so there are no pics for them. Internally this is how they are drawn when `\tmwholerest` and `\tmhalfrest` are executed:

```
\begin{tikzpicture}[scale=2,transform shape]
  \foreach \i in {-.4,-.2,0,.2,.4} \draw (0,\i) -- (3,\i);
  \fill[red] (.875,.08) rectangle ++ (.25,.12);
  \fill[blue] (1.875,0) rectangle ++ (.25,.12);
\end{tikzpicture}
```



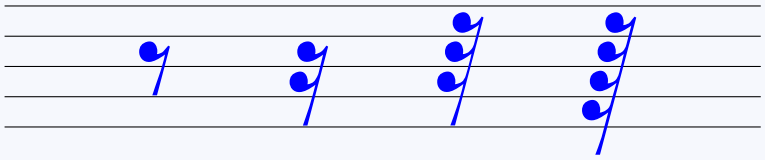
Quarter rest is drawn using pic `tm-quarter-note-rest`:

```
\begin{tikzpicture}[scale=2,transform shape]
  \foreach \i in {-.4,-.2,0,.2,.4} \draw (0,\i) -- (2,\i);
  \pic[blue] at (1,0) {tm-quarter-note-rest};
\end{tikzpicture}
```



For eighth rest and below, the pic name is `tm-`⟨*number*⟩`-note-rest`, where ⟨*number*⟩ is the number of 'flags' in the rest notation. So `tm-1-note-rest` is the eighth rest, and so on. Currently ⟨*number*⟩ must be either 1, 2, 3 or 4.

```
\begin{tikzpicture}[scale=2,transform shape]
  \foreach \i in {-.4,-.2,0,.2,.4} \draw (0,\i) -- (5,\i);
  \foreach \i in {1,2,3,4} \pic[blue] at (\i,0) {tm-\i-note-rest};
\end{tikzpicture}
```



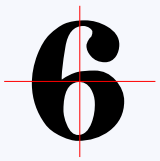
8.2.4 Numbers

The pics draw musical numbers, taken from the music font *Maestro*. Digit ⟨*x*⟩ has a pic named `tm-number-`⟨*x*⟩. By default, these pics are 4mm high.

```
\foreach \i in {0,...,9} {\tikz\pic {tm-number-\i};\quad}
```

Position in relative to the origin:

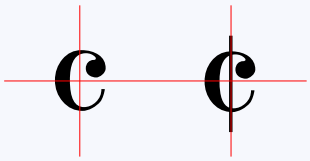
```
\begin{tikzpicture}
  \pic[scale=4] at (0,0) {tm-number-6};
  \draw[ultra thin,red] (0,1) -- (0,-1) (-1,0) -- (1,0);
\end{tikzpicture}
```



8.2.5 Other time signature notations

You can also use pics `tm-common-time` and `tm-alla-breve-time`:

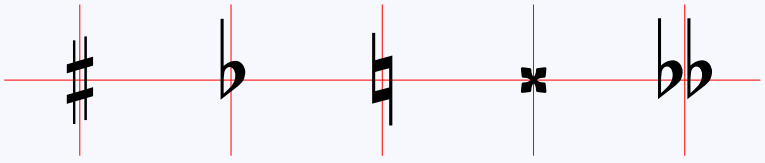
```
\begin{tikzpicture}[scale=2,transform shape]
  \path (0,0) pic {tm-common-time} (1,0) pic {tm-alla-breve-time};
  \draw[ultra thin,red] (-.5,0) -- (1.5,0);
  \foreach \i in {0,1} \draw[ultra thin,red] (\i,.5) -- (\i,-.5);
\end{tikzpicture}
```



8.2.6 Accidentals

The pic name is the same with the name of the accidental: `tm-sharp`, `tm-flat`, `tm-natural`, `tm-double-sharp` and `tm-double-flat`.

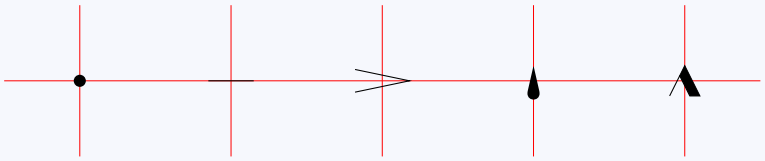
```
\begin{tikzpicture}[scale=2,transform shape]
  \foreach \i in {0,1,2,3,4} \draw[ultra thin,red] (\i,-.5) -- (\i,.5);
  \draw[ultra thin,red] (-.5,0) -- (4.5,0);
  \path (0,0) pic {tm-sharp} (1,0) pic {tm-flat} (2,0) pic {tm-natural}
        (3,0) pic {tm-double-sharp} (4,0) pic {tm-double-flat};
\end{tikzpicture}
```



8.2.7 Articulations

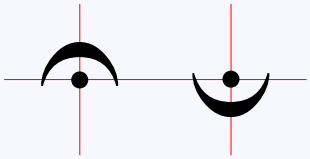
Only fermata notations are drawn using pics. Other articulations are all drawn using normal Ti*k*Z commands. This is how those articulations are drawn internally:

```
\begin{tikzpicture}[scale=2,transform shape]
  \draw[line width=.1pt,red] (-.5,0) -- (4.5,0);
  \foreach \i in {0,1,2,3,4} \draw[line width=.1pt,red] (\i,.5) -- (\i,-.5);
  \fill[shift={(0,0)}] (0,0) circle (.4mm);%staccato
  \draw[shift={(1,0)}] (-.15,0) -- (.15,0);%tenuto
  \draw[shift={(2,0)}] (-.18,.075) -- (.18,0) -- (-.18,-.075);%accent above
  \fill[shift={(3,0)},rounded corners=.5pt]
    (0,.1) -- (-.04,-.075) to[out=-90,in=-90,looseness=2] (.04,-.075) -- cycle;%staccatissimo
  \draw[shift={(4,0)},fill]
    (-.1,-.1) -- (0,.1) -- (.1,-.1) -- (.033333,-.1) -- (-.033333,.0333333);%marcato
\end{tikzpicture}
```



For the fermatas, we have `tm-fermata-above` and `tm-fermata-below`:

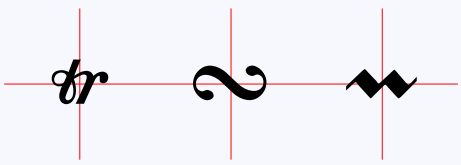
```
\begin{tikzpicture}[scale=2,transform shape]
  \draw[line width=.1pt,red] (-.5,0) -- (1.5,0) (0,-.5) -- (0,.5) (1,-.5) -- (1,.5);
  \path (0,0) pic {tm-fermata-above} (1,0) pic {tm-fermata-below};
\end{tikzpicture}
```



8.2.8 Ornaments

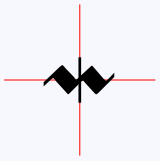
There are three pics to choose from: `tm-trill`, `tm-turn` and `tm-mordent`.

```
\begin{tikzpicture}[scale=2,transform shape]
  \draw[line width=.1pt,red] (-.5,0) -- (2.5,0);
  \foreach \i in {0,1,2} \draw[line width=.1pt,red] (\i,.5) -- (\i,-.5);
  \path (0,0) pic {tm-trill} (1,0) pic {tm-turn} (2,0) pic {tm-mordent};
\end{tikzpicture}
```



That `tm-mordent` is the 'upper' mordent. To have the 'lower' version, this is how the package is drawing internally:

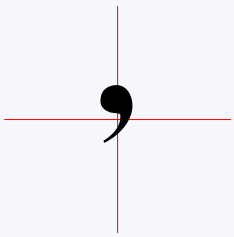
```
\begin{tikzpicture}[scale=2,transform shape]
  \draw[line width=.1pt,red] (-.5,0) -- (.5,0) (0,-.5) -- (0,.5);
  \path (0,0) pic {tm-mordent};
  \draw[line width=1pt] (0,-.15) -- (0,.15);
\end{tikzpicture}
```



8.2.9 Breath mark

The comma is drawn using pic `tm-breath-mark`:

```
\begin{tikzpicture}[scale=3,transform shape]
  \draw[ultra thin,red] (-.5,0) -- (.5,0) (0,-.5) -- (0,.5);
  \pic at (0,0) {tm-breath-mark};
\end{tikzpicture}
```



The caesura is not drawn using a pic, instead it is drawn using normal Ti*k*Z commands:

```
\begin{tikzpicture}[scale=2,transform shape]
  \foreach \i in {-.4,-.2,0,.2,.4} \draw (-.5,\i) -- (.5,\i);
  \fill[purple]
    (-.3,.2) -- (-.2,.2) -- (.1,.6) -- (0,.6) -- cycle
    (-.1,.2) -- (0,.2) -- (.3,.6) -- (.2,.6) -- cycle;
\end{tikzpicture}
```

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