

Note rhythm-maker

NoteRhythmMaker()

The first system of the musical score consists of two staves. The top staff begins with a treble clef, a key signature of one flat (B-flat), and a common time signature (C). Above the staff, the time signature is written as 11:8. The melody starts with a quarter note G4, followed by a quarter note A4, and then a quarter note B-flat4. The bottom staff begins with a bass clef and a common time signature (C). It starts with a quarter note G3, followed by a quarter note A3, and then a quarter note B-flat3. The system ends with a double bar line.

The first system of the 'Ave Maria' exercise consists of three staves. The first staff has a key signature of one flat (Bb) and a common time signature (C). It contains three measures with the following rhythmic values and ratios: 3/15 (5:4), 3/16 (5:4), and 3/16 (3:2). The second staff has a key signature of one flat (Bb) and a common time signature (C). It contains three measures with the following rhythmic values and ratios: 2/12 (3:2), 2/8 (3:2), and 3/28 (7:4). The third staff has a key signature of one flat (Bb) and a common time signature (C). It contains three measures with the following rhythmic values and ratios: 3/16 (7:4), 3/16 (7:4), and 1/9 (9:8). The system concludes with a double bar line.

```

NoteRhythmMaker(
  tie_specifier=TieSpecifier(
    tie_across_divisions=True,
    tie_split_notes=True,
  ),
)

```

2-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

2-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

2-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

2-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
    beam_specifier=BeamSpecifier(
        beam_each_division=True,
        beam_divisions_together=True,
    ),
)

```

3-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

3-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

3-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

3-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```
NoteRhythmMaker(  
  duration_spelling_specifier=DurationSpellingSpecifier(  
    decrease_durations_monotonically=False,  
  ),  
)
```

4-1

$\frac{4}{16}$

$\frac{5}{16}$

$\frac{1}{2}$

$\frac{2}{12}$

$\frac{1}{2}$

$\frac{4}{16}$

$\frac{5}{16}$

4-2

$\frac{1}{11}$

$\frac{3}{8}$

$\frac{1}{11}$

$\frac{3}{8}$

4-3

$\frac{3}{15}$

$\frac{3}{16}$

$\frac{5}{24}$

$\frac{5}{16}$

$\frac{2}{12}$

$\frac{2}{8}$

$\frac{3}{28}$

$\frac{3}{16}$

$\frac{1}{9}$

$\frac{1}{8}$

4-4

$\frac{9}{16}$

$\frac{1}{5}$

$\frac{9}{16}$

$\frac{1}{5}$

$\frac{9}{16}$

```
NoteRhythmMaker(  
  duration_spelling_specifier=DurationSpellingSpecifier(  
    decrease_durations_monotonically=False,  
  ),  
  tie_specifier=TieSpecifier(  
    tie_across_divisions=True,  
    tie_split_notes=True,  
  ),  
)
```

5-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

5-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

5-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

5-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```
NoteRhythmMaker(  
    beam_specifier=BeamSpecifier(  
        beam_each_division=True,  
        beam_divisions_together=True,  
    ),  
    duration_spelling_specifier=DurationSpellingSpecifier(  
        decrease_durations_monotonically=False,  
    ),  
)
```

6-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

6-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

6-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

6-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
    duration_spelling_specifier=DurationSpellingSpecifier(
        decrease_durations_monotonically=True,
        forbidden_written_duration=durationtools.Duration(1, 4),
    ),
)

```

7-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

7-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

7-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

7-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
    duration_spelling_specifier=DurationSpellingSpecifier(
        decrease_durations_monotonically=True,
        forbidden_written_duration=durationontools.Duration(1, 4),
    ),
    tie_specifier=TieSpecifier(
        tie_across_divisions=True,
        tie_split_notes=True,
    ),
)

```

8-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

8-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

8-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

8-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4


```

NoteRhythmMaker(
    duration_spelling_specifier=DurationSpellingSpecifier(
        decrease_durations_monotonically=False,
        forbidden_written_duration=durationtools.Duration(1, 4),
    ),
)

```

9-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

9-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

9-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

9-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
    duration_spelling_specifier=DurationSpellingSpecifier(
        decrease_durations_monotonically=False,
        forbidden_written_duration=durationontools.Duration(1, 4),
    ),
    tie_specifier=TieSpecifier(
        tie_across_divisions=True,
        tie_split_notes=True,
    ),
)

```

10-1

4/16 5/16 1/2 2/12

3:2

10-2

1/11 3/8

11:8

1/11 3/8

11:8

10-3

3/15 3/16 5/24 5/16

5:4 5:4 3:2 3:2

2/12 2/8 3/28 3/16 1/9

3:2 3:2 7:4 7:4 9:8 9:8

1/8

10-4

9/16 1/5 9/16

5:4

1/5 9/16

5:4

```

NoteRhythmMaker(
  beam_specifier=BeamSpecifier(
    beam_each_division=False,
    beam_divisions_together=False,
  ),
  duration_spelling_specifier=DurationSpellingSpecifier(
    decrease_durations_monotonically=True,
    forbidden_written_duration=durationontools.Duration(1, 4),
  ),
)

```

11-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

11-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

11-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

11-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
  beam_specifier=BeamSpecifier(
    beam_each_division=False,
    beam_divisions_together=False,
  ),
  duration_spelling_specifier=DurationSpellingSpecifier(
    decrease_durations_monotonically=True,
    forbidden_written_duration=durationtools.Duration(1, 4),
  ),
  tie_specifier=TieSpecifier(
    tie_across_divisions=True,
    tie_split_notes=True,
  ),
)

```

12-1

12-2

12-3

12-4

```

NoteRhythmMaker(
  beam_specifier=BeamSpecifier(
    beam_each_division=False,
    beam_divisions_together=False,
  ),
  duration_spelling_specifier=DurationSpellingSpecifier(
    decrease_durations_monotonically=False,
    forbidden_written_duration=durationontools.Duration(1, 4),
  ),
)

```

13-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

13-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

13-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

5:4 5:4 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$

3:2 3:2 7:4 7:4 9:8 9:8

$\frac{1}{8}$

13-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

```

NoteRhythmMaker(
  beam_specifier=BeamSpecifier(
    beam_each_division=False,
    beam_divisions_together=False,
  ),
  duration_spelling_specifier=DurationSpellingSpecifier(
    decrease_durations_monotonically=False,
    forbidden_written_duration=durationtools.Duration(1, 4),
  ),
  tie_specifier=TieSpecifier(
    tie_across_divisions=True,
    tie_split_notes=True,
  ),
)

```

14-1

14-2

14-3

14-4

Even-run rhythm-maker

EvenRunRhythmMaker()

[illegible]

```
EvenRunRhythmMaker(
    beam_specifier=BeamSpecifier(
        beam_each_division=True,
        beam_divisions_together=True,
    ),
)
```

2-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

2-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

2-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

15:8 15:8 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$ $\frac{1}{8}$

3:2 3:2 7:4 7:4 9:8 9:8

2-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4


```
EvenRunRhythmMaker(  
    beam_specifier=BeamSpecifier(  
        beam_each_division=False,  
        beam_divisions_together=False,  
    ),  
)
```

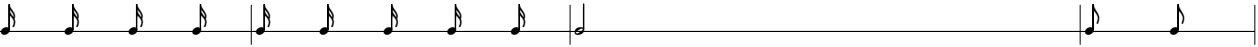
3-1

$\frac{4}{16}$

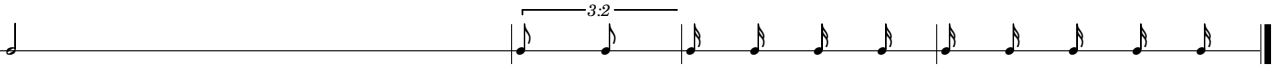
$\frac{5}{16}$

$\frac{1}{2}$

$\frac{2}{12}$

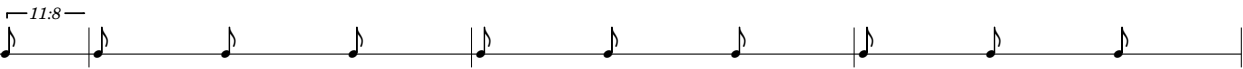


$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

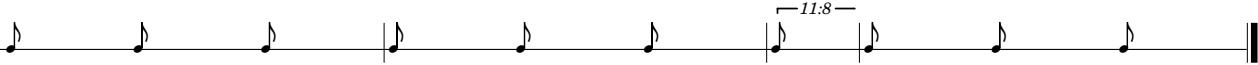


3-2

$\frac{1}{11}$ $\frac{3}{8}$




$\frac{1}{11}$ $\frac{3}{8}$

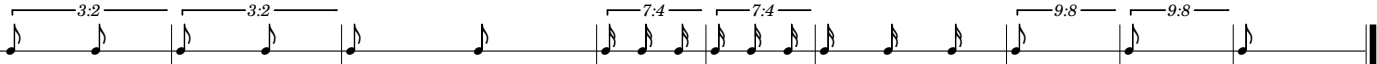


3-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

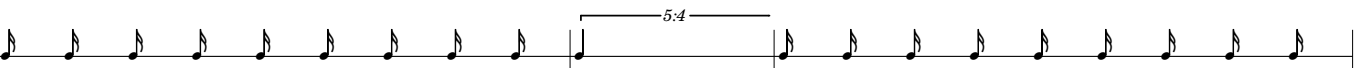


$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$ $\frac{1}{8}$




3-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$



$\frac{1}{5}$ $\frac{9}{16}$



```
EvenRunRhythmMaker(
    tie_specifier=TieSpecifier(
        tie_across_divisions=True,
        tie_split_notes=True,
    ),
)
```

4-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

4-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

4-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

15:8 15:8 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$ $\frac{1}{8}$

3:2 3:2 7:4 7:4 9:8 9:8

4-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4 5:4

```
EvenRunRhythmMaker(
    duration_spelling_specifier=DurationSpellingSpecfier(
        decrease_durations_monotonically=True,
        forbidden_written_duration=durationtools.Duration(1, 4),
    ),
)
```

5-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

3:2

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

3:2

5-2

$\frac{1}{11}$ $\frac{3}{8}$

11:8

$\frac{1}{11}$ $\frac{3}{8}$

11:8

5-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

15:8 15:8 3:2 3:2

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$ $\frac{1}{8}$

3:2 3:2 7:4 7:4 9:8 9:8

5-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

5:4

$\frac{1}{5}$ $\frac{9}{16}$

5:4

EvenRunRhythmMaker(
exponent=1,
)

6-1

$\frac{4}{16}$ $\frac{5}{16}$ $\frac{1}{2}$ $\frac{2}{12}$

$\frac{1}{2}$ $\frac{2}{12}$ $\frac{4}{16}$ $\frac{5}{16}$

6-2

$\frac{1}{11}$ $\frac{3}{8}$

$\frac{1}{11}$ $\frac{3}{8}$

6-3

$\frac{3}{15}$ $\frac{3}{16}$ $\frac{5}{24}$ $\frac{5}{16}$

$\frac{2}{12}$ $\frac{2}{8}$ $\frac{3}{28}$ $\frac{3}{16}$ $\frac{1}{9}$ $\frac{1}{8}$

6-4

$\frac{9}{16}$ $\frac{1}{5}$ $\frac{9}{16}$

$\frac{1}{5}$ $\frac{9}{16}$