Antonella's

MUSIC THEORY

What a student should know when playing an instrument

Volume two

Student edition

Antonella Sotera Caporale

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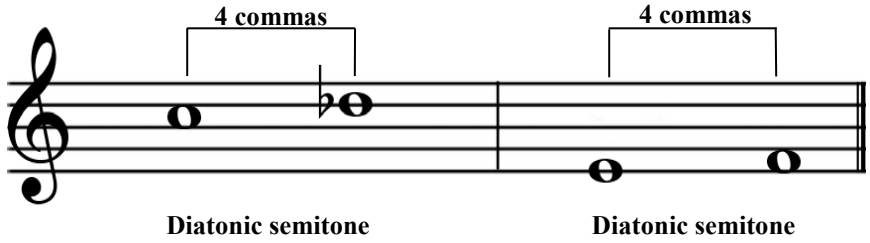
Chapter 1

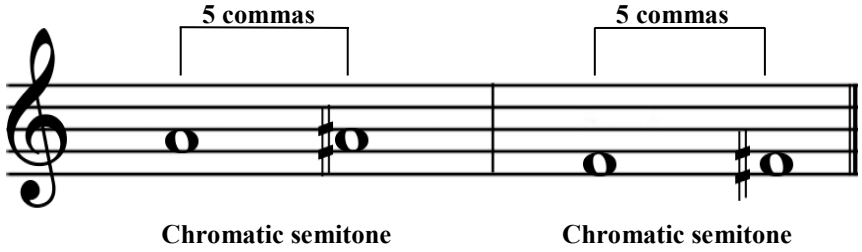
HALF STEP AND WHOLE STEP

A ***Half Step*** is the smallest distance between two notes.
A ***Half Step*** is also called ***Semitone*** and it can be ***Diatonic*** or ***Chromatic***

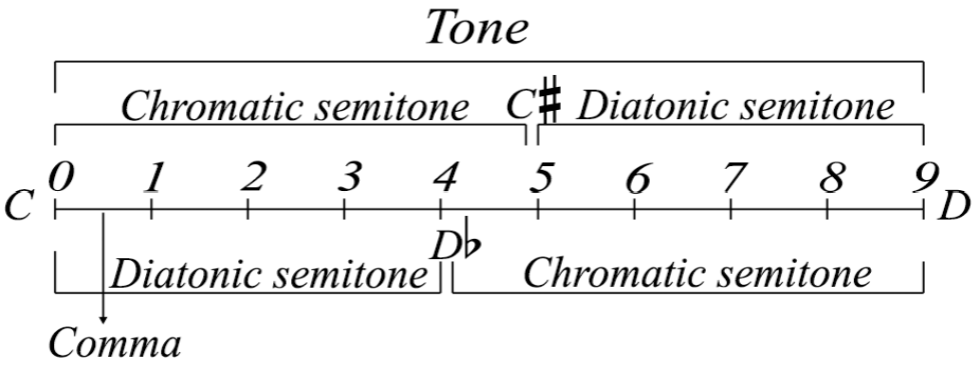
The ***Semitone*** is ***Diatonic*** when the two sounds have different names, such as ***C*** and ***D flat,*** and the theoretic distance is four ***commas***.



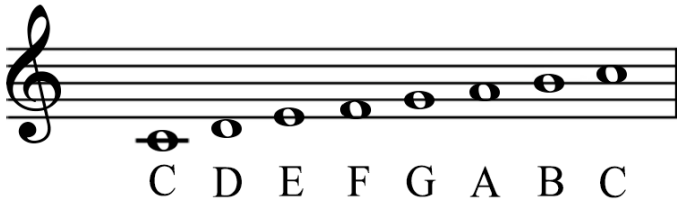
The ***Semitone*** is ***Chromatic*** when the two sounds have the same name, such as ***C*** and ***C#*** and the theoretic distance is five ***commas***.



Whole Step is the union of two half steps, one ***Diatonic*** and the other ***Chromatic.*** For example, ***C - C#*** and ***C#- D*** and the theoretic distance is nine ***commas***.
Whole step is also called ***Tone***.



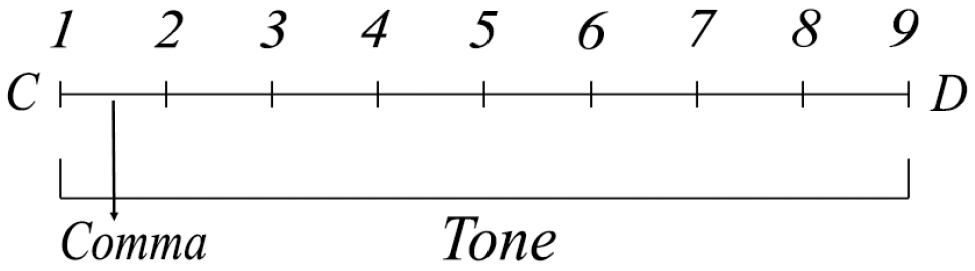
At this point the question is obvious: what is a comma?
Many theorists, together with mathematicians, measured the whole step by the number of vibrations and created the following pattern of sound:



Measuring with special tools the number of vibrations of every single whole step, they discovered that C - D and D - E are both tones. The first one has one more alteration than the second, so the named them:

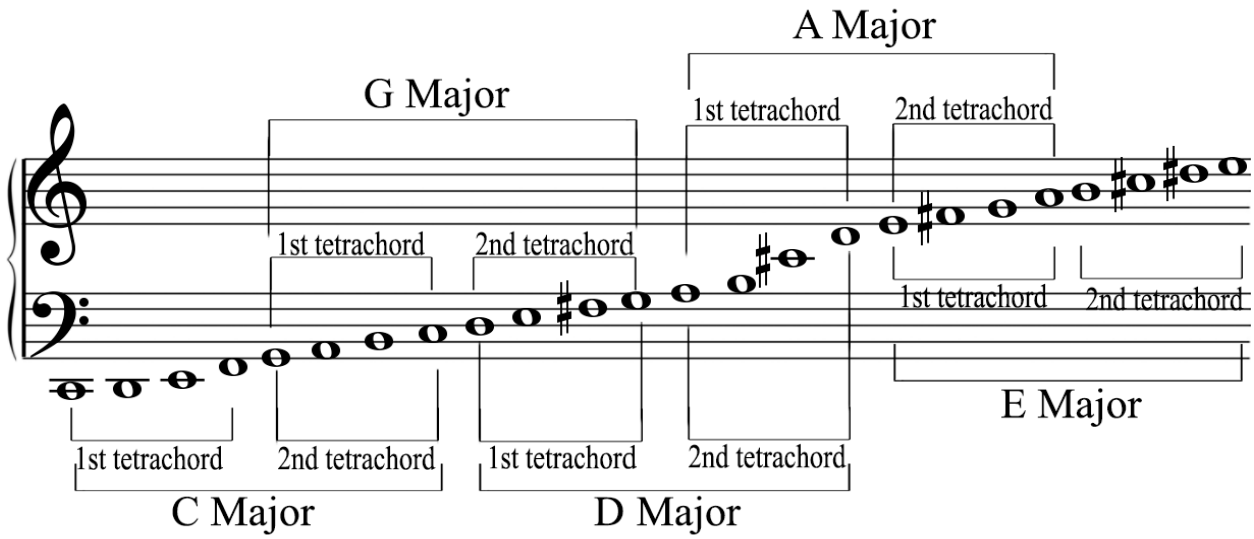
C - D ***Major tone***
D - E ***Minor tone***

They also discovered that the distance between a ***Major tone*** and a ***Minor tone*** is 81/80. They named this very small distance "***Comma***".
Subsequently, while measuring the diatonic semitone, they discovered its theoretic distance is four ***commas*** and the chromatic semitone has a distance of five ***commas.*** Consequently, the tone has a distance of nine ***commas***.

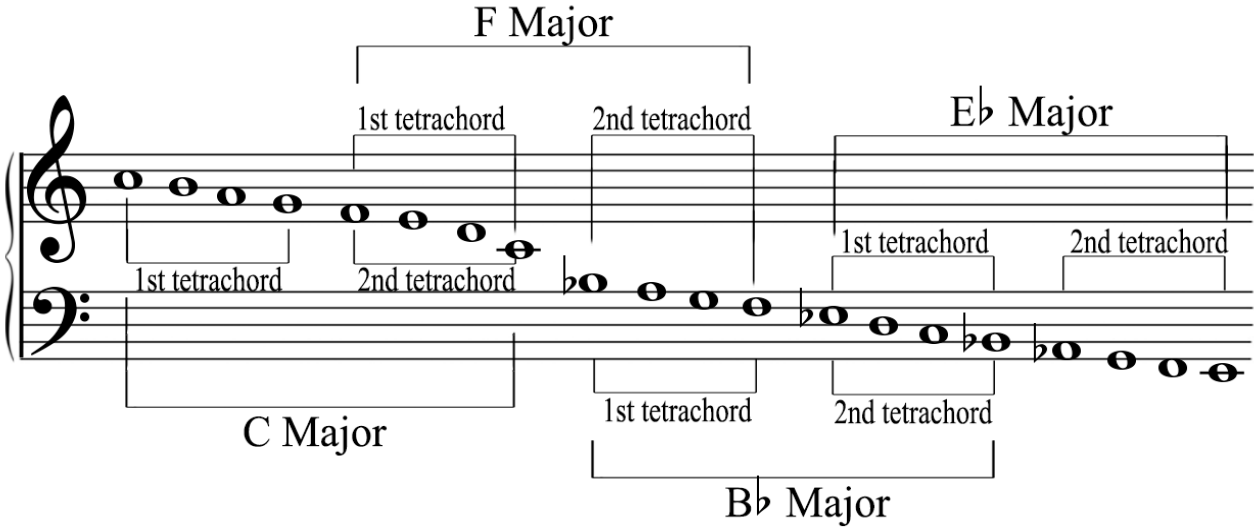


From this rule, we know the tone must have one diatonic semitone and one chromatic semitone, otherwise it doesn't have a distance of nine commas.

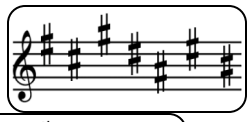
Only with equal temperament can the tone have two of the same semitones.

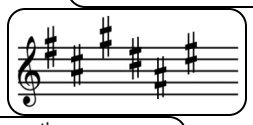


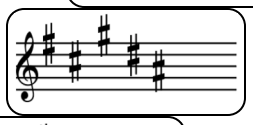
Looking at the above pattern, you learn that all tonalities are linked together and follow each other fifth by fifth in an ascending pattern. In fact, after C major is G major and then D major and so on.
On the other hand, having the scale of C major in a descending order and adding another tetrachord to the second tetrachord of each scale, we create scales with flats.

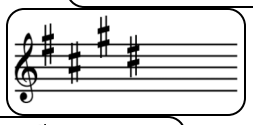


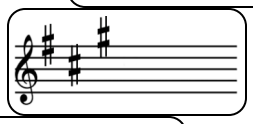
The above sequence shows that the tonality with flats is linked together like the tonalities with sharps, but they follow each other fifth by fifth in a descending order. In fact, after C major is F major and then Bb major followed by Eb major and so on.

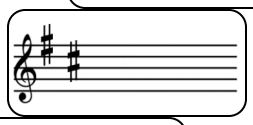
C# Major  A# Minor

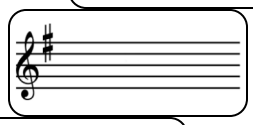
F# Major  D# Minor

B Major  G# Minor

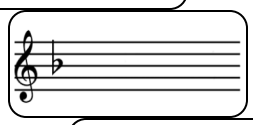
E Major  C# Minor

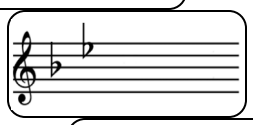
A Major  F# Minor

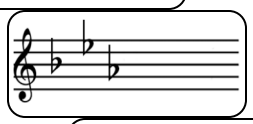
D Major  B Minor

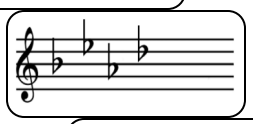
G Major  E Minor

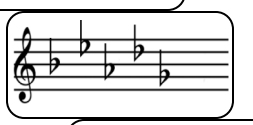
C Major  A Minor

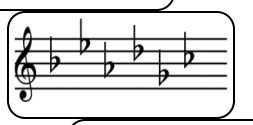
F Major  D Minor

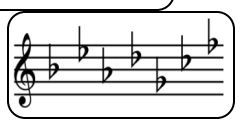
B ♭ Major  G Minor

E♭Major  C Minor

A ♭ Major  F Minor

D ♭ Major  B♭Minor

G ♭ Major  E♭Minor

C♭Major  A♭Minor

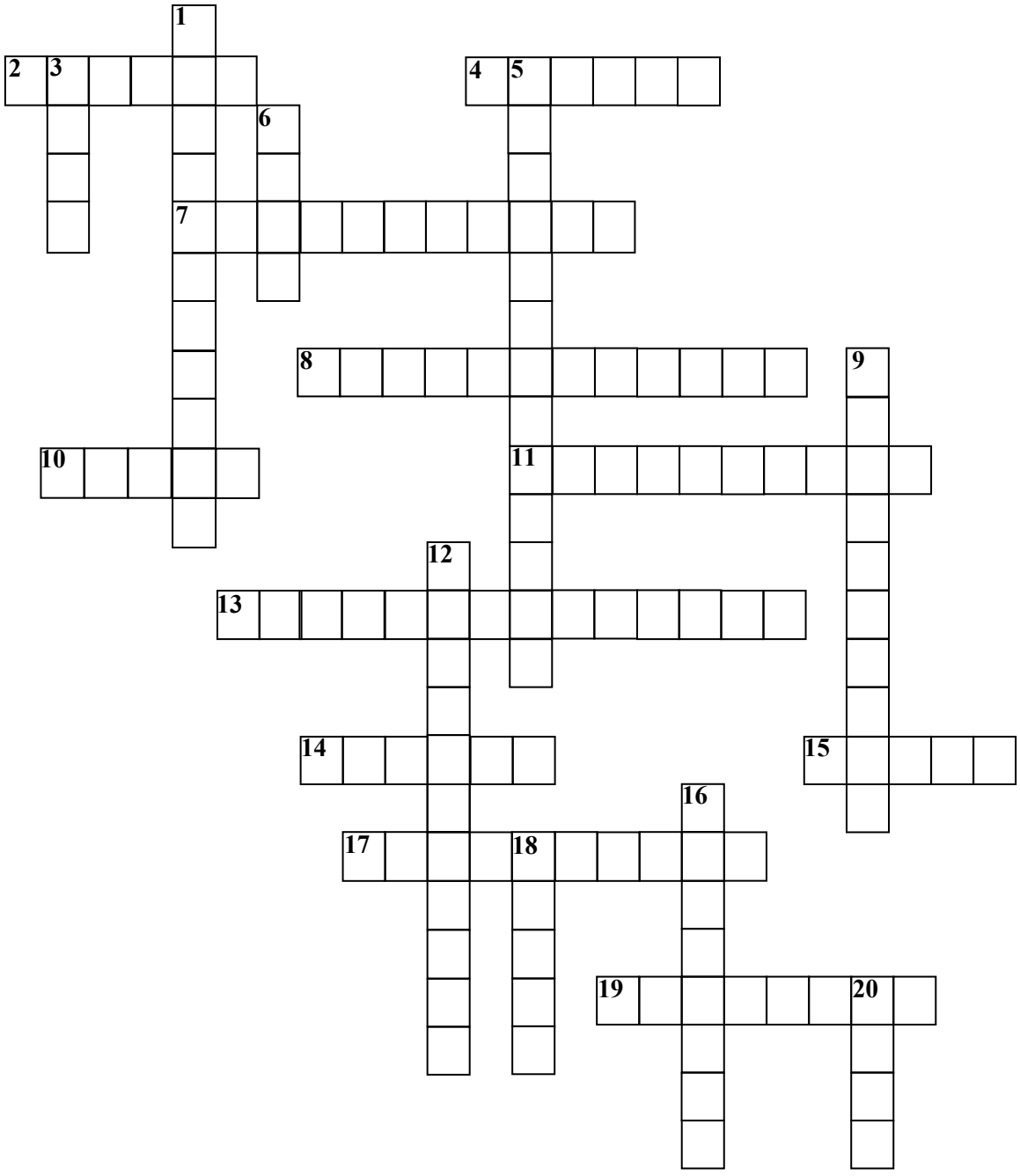
Solve the puzzle

Across

2. This scale has four sharp signs. (two words).
4. This scale has five sharp signs. (two words).
7. Another name for the subtonic. (two words).
8. It has eight degrees. (two words).
10. It raises the note by a semitone.
11. It has the semitones between the third/fourth degree and the seventh/eighth degree. (two words).
13. This scale has a sequence of twelve semitones. (two words).
14. The musical scale step.
15. Another name for the mediant degree.
17. This scale has three flat signs. (two words).
19. The melodic or harmonic relation between sounds of the scale.

Down

1. It raises the note by one tone. (two words).
3. The ordered disposition of tones and semitones on the scale.
5. The scale with three tones and and three semitones. (two words).
6. It lowers the note by a semitone.
9. This scale has six flat signs. (three words).
12. It cancels the flat and the sharp. (two words).
16. The most important degree of the musical scale after the tonic.
18. The first degree of the musical scale.
20. The union of two semitones, one diatonic and one chromatic.


1
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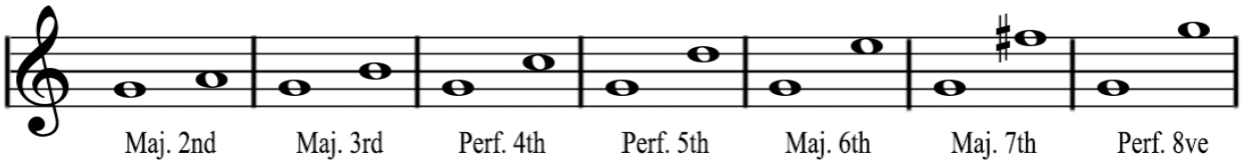
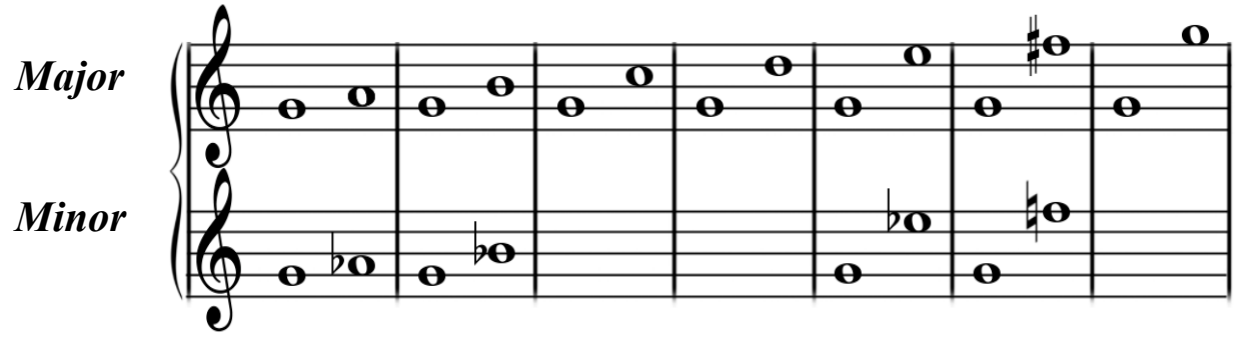
Sometimes it will be very hard to recognize an interval by counting the number of tones and semitones and remembering which interval belongs to it.
There are a few rules that make this process easier.
As you already know, the interval is made by two notes: one lower and one higher.
The lower note, also called tonic, tells us the name of the interval. If it is a C, the interval will be C. If it is a B, the interval will be B and so on.
The higher note of the interval tells us the quality of the interval.
If it belongs to the same scale of the tonic, then we know that it is ***Major*** or ***Perfect.***

Example using G Major scale.



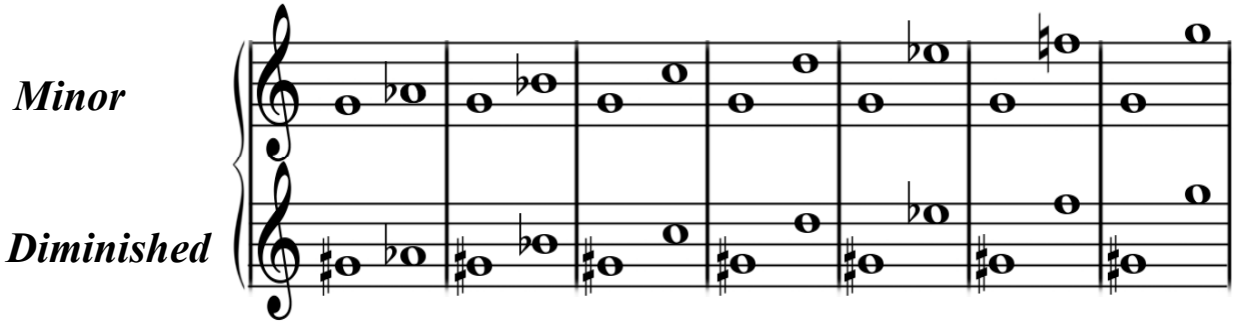
Diminishing the ***Major*** interval by one chromatic semitone, we have the ***Minor*** intervals.

Example using G Major scale.



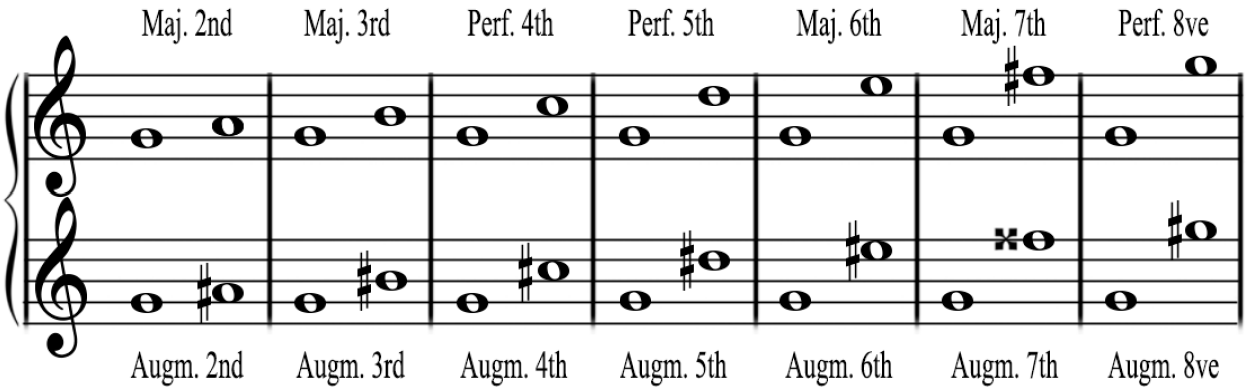
Reducing
the ***Minor*** intervals and the ***Perfect*** intervals by one semitone, we have the ***Diminished*** inter-

Example using G Major scale.

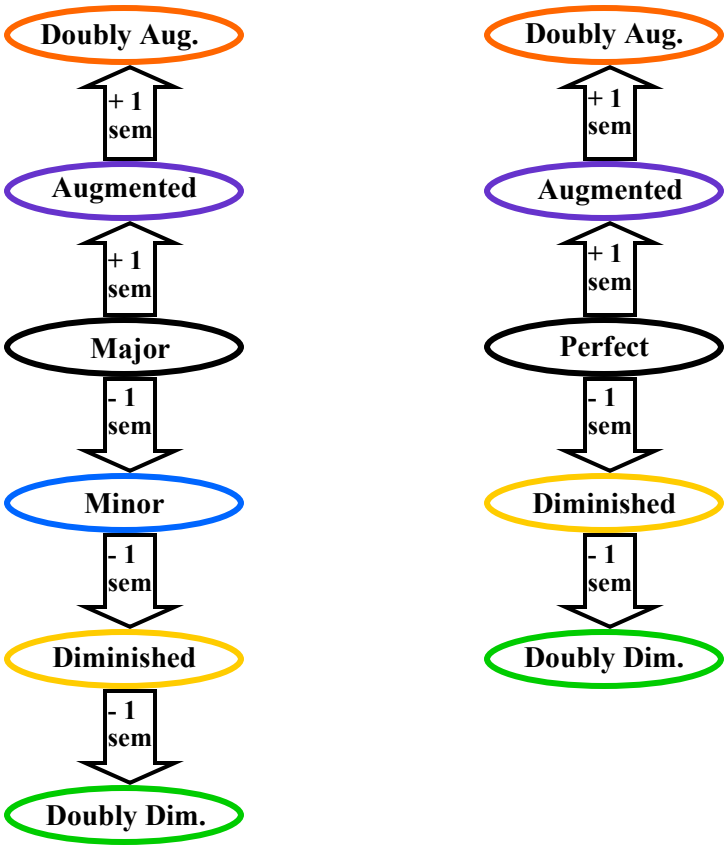


Increasing ***Major*** and ***Perfect*** intervals by one semitone, we have the ***Augmented*** interval.

Example using G Major scale.

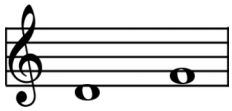


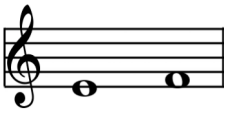
In other words, each ***Major*** or ***Perfect*** interval raised by one semitone becomes ***Augmented*** and ***Doubly Augmented***.
Each ***Major*** interval lowered by one semitone becomes ***Minor***, ***Diminished*** and ***Doubly Diminished***.
Each ***Perfect*** interval lowered by one semitone becomes ***Diminished*** and ***Doubly Diminished.***

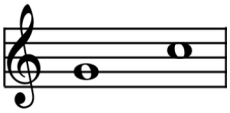


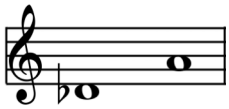
TRUE OR FALSE

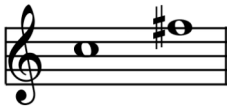
Write T in the box if the answer is true and F if the answer is false.

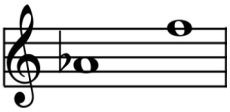
 is an interval of a Major 3rd…… ☐

 is an interval of a Minor 2nd…… ☐

 is an interval of a Perfect 4th…… ☐

 is an interval of a Augmented 5th…… ☐

 is an interval of a Diminished 4th…… ☐

 is an interval of a Major 6th…… ☐

An interval summed to its inversion equal always 8……. ☐

The inversion of C - A is A - B…….. ☐

The inversion of a Major interval is a Minor interval……. ☐

The inversion of a Perfect interval is a Augmented interval…… ☐

The inversion of a Diminished interval is a Augmented interval.. ☐

Chapter 5

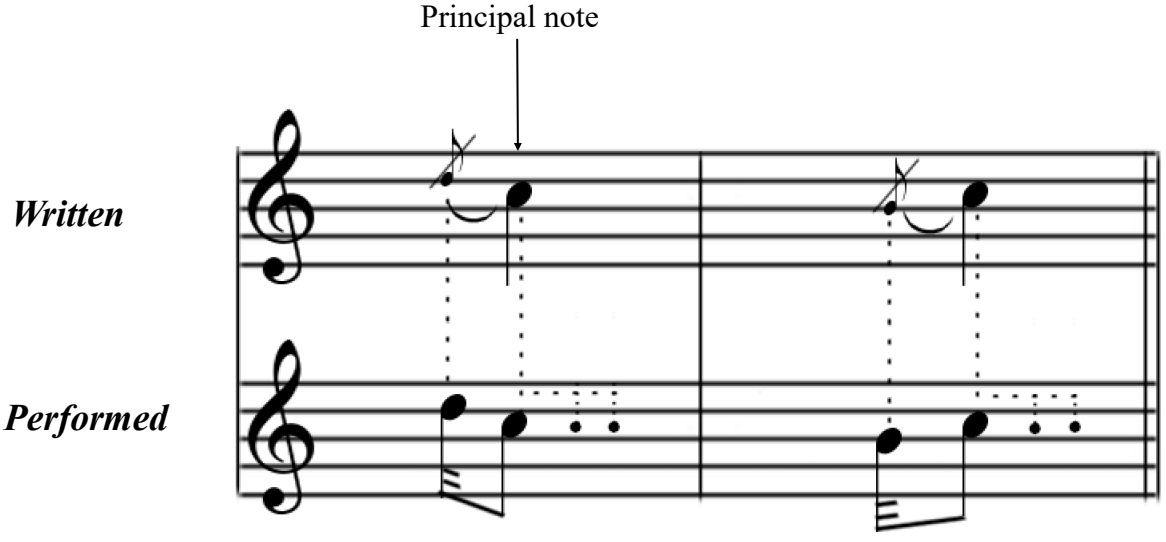
GRACE NOTES.

Grace notes are ornamental notes either written by the composer or introduced by the performer. ***Grace notes*** are used since the XIII Century because many performers like to give variety to the melodic pattern of a musical composition. It amplifies the limited sounds of some instruments, such as the flute and the harpsichord, enriching the melody with little notes in the most varied combinations.
Grace notes are represented by groups of notes, a single note, or special signs. They decorate the principal note of a melody, stealing part of its value.
There are five different types of grace notes: ***Acciaccatura, Appoggiatura, Mordent, Turn*** and ***Trill***.
Only piano and harp use a sixth ornament called ***Arpeggio***.

Acciaccatura

The ***Acciaccatura***, (derived from the Italian verb "acciaccare" meaning "to crush") is represented by a very little note or by a group of little notes placed before the principal note. The little notes take the accent and are played on the beat together with the principal note before being released.
The ***Acciaccatura*** can be: ***Simple, Double*** or ***Triple***.
The ***Simple Acciaccatura*** is distinguished by a little eighth note with a light diagonal line through the note hook. It takes a small part of the value from the principal note, as shown in the following examples.

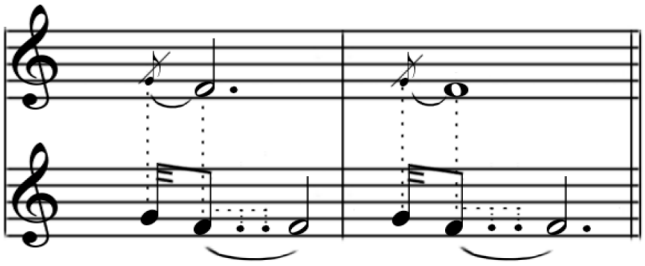
- **When placed before a quarter note, it takes the eighth part of its value.**



- **When placed before a half note or whole note, it is always applied to the first quarter of the note's value and takes the octave part of its value.**

Written

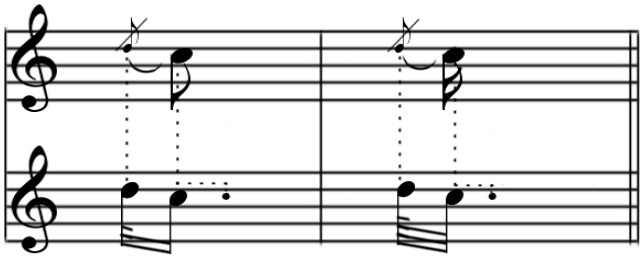
Performed



- **When placed before the eighth note or sixteenth note, it takes the fourth part of its value**:

Written

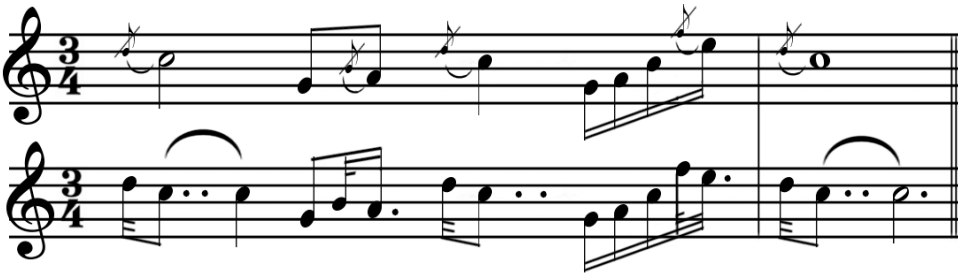
Performed



Example of Acciaccatura in a musical composition.

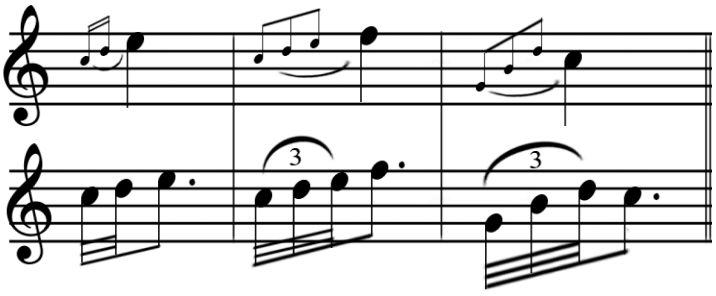
Written

Performed

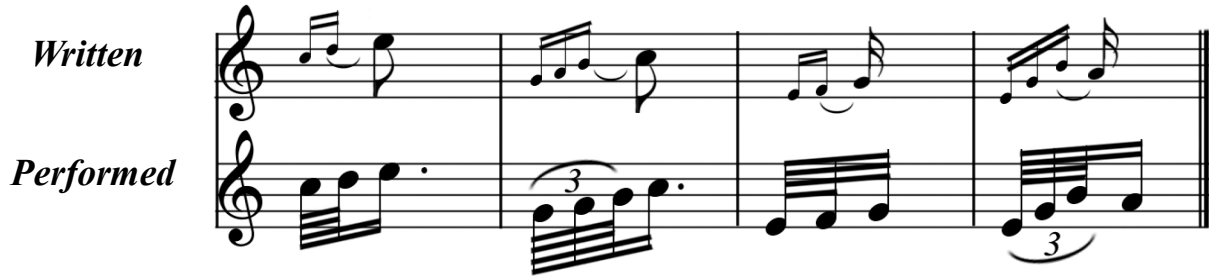


The **Double** and the **Triple** Acciaccatura are represented by two or three notes, which take the following values from the note:

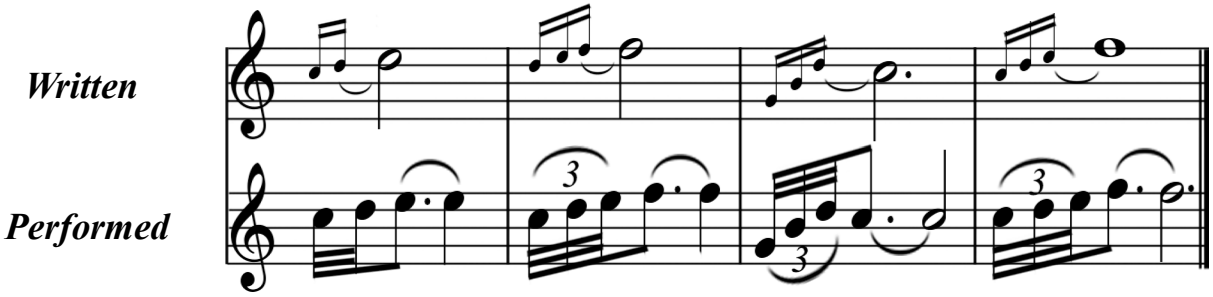
- Before a quarter note, it takes the fourth part of its value.
  The Triple Acciaccatura is performed as a triplet.



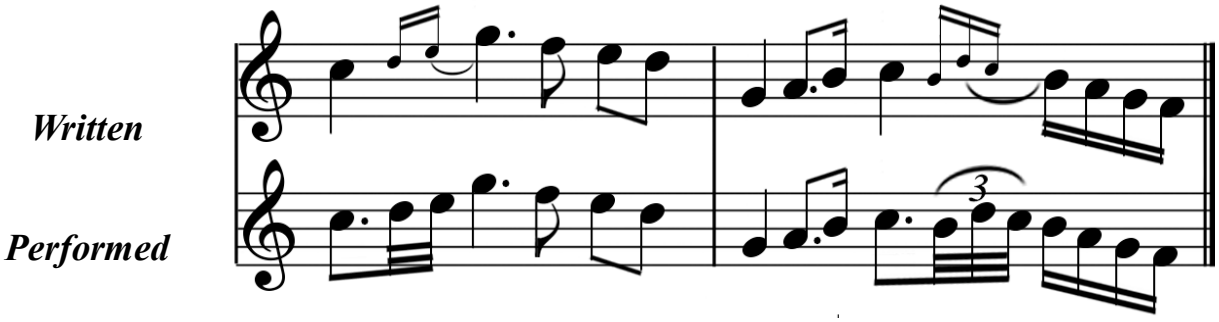
- Before an eighth and a sixteenth note, it takes the fourth part of its value:



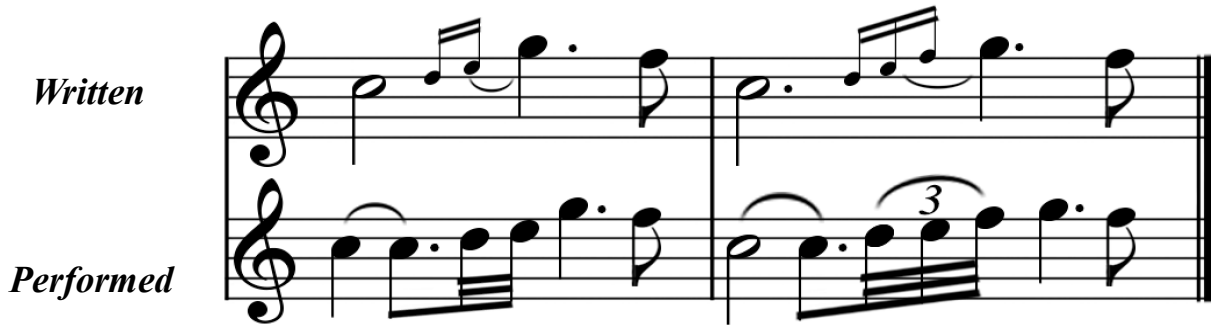
- Before a half note, a dotted half note, or a whole note, it is applied to the first quarter of the note's value and it takes the fourth part of its value.



Sometimes, we find a ***Double*** or ***Triple*** Acciaccatura between two principal notes. They are called ***Intermediate Acciaccatura*** and take the fourth part of the previous note's value.

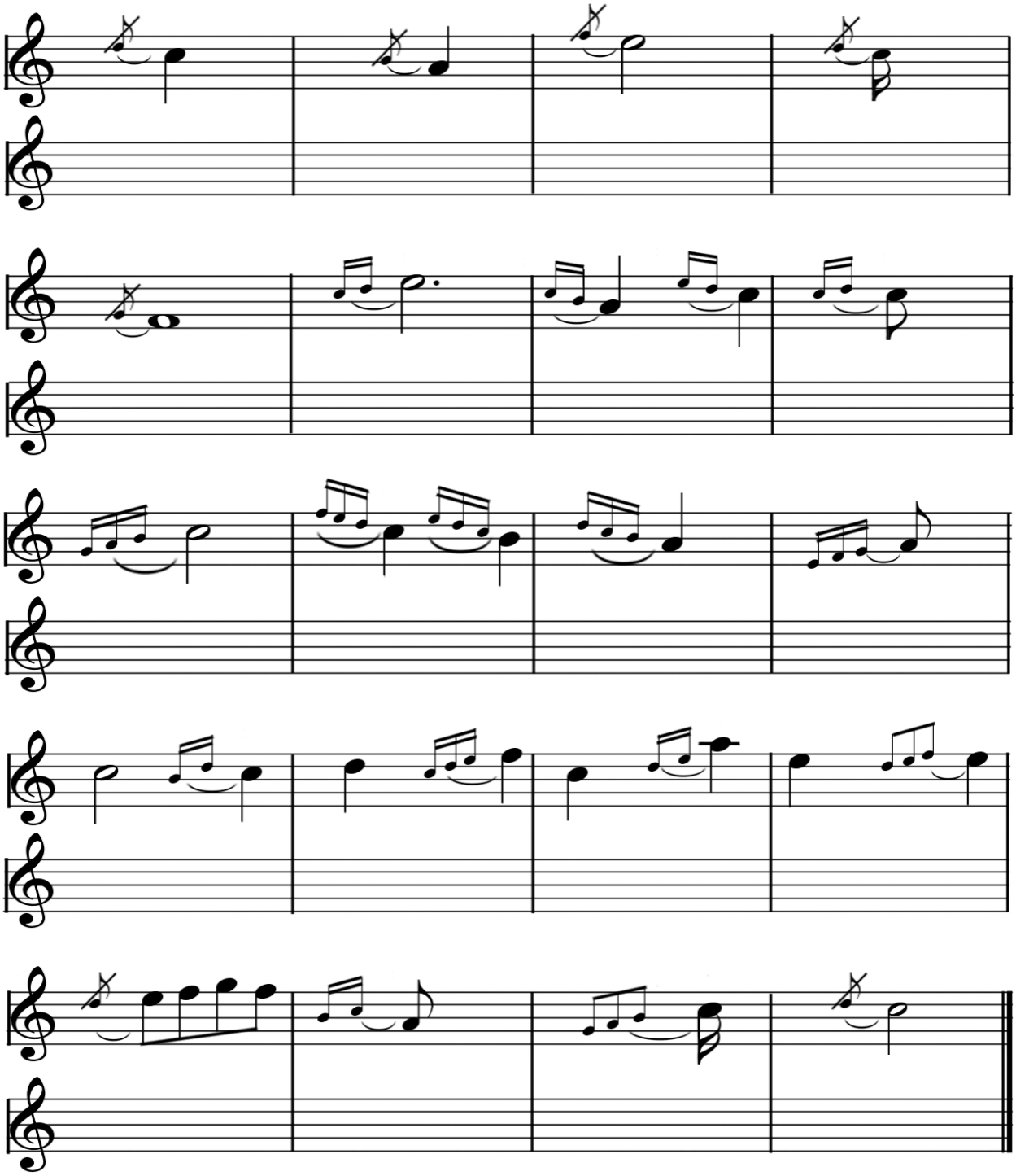


If the previous note is a whole note, half note or a dotted note, it is applied to the last quarter of its value and takes the fourth part of it.



PRACTICE

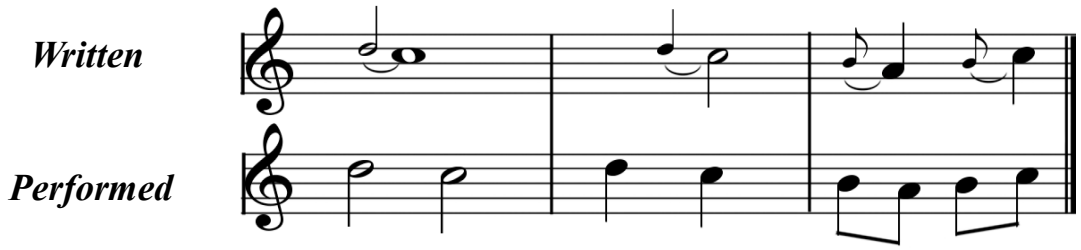
Write on the empty staff how each Acciaccatura will be played.



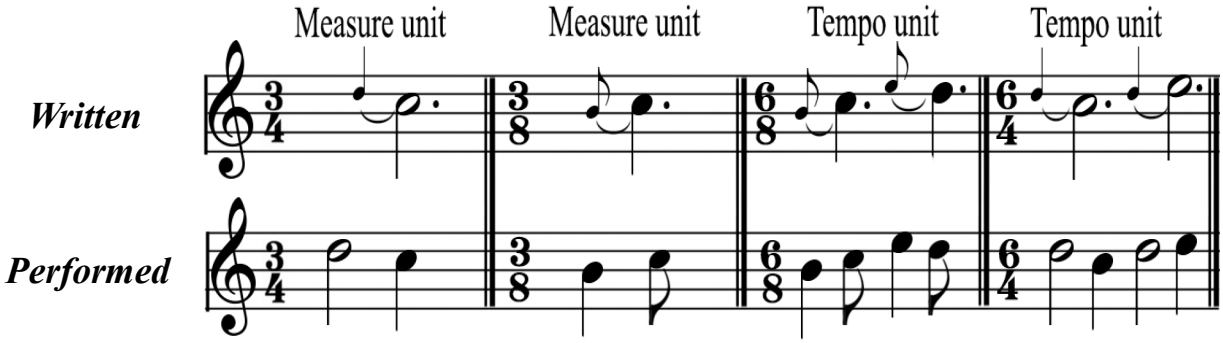
Appoggiatura

Appoggiatura (derived from the Italian word " Appoggiare" meaning " to lean") is a grace note represented by a little note placed on the left side of the principal note. The interval between the little note and the principal note must be a tone or a semitone. This means the note must be the next note below or above the principal note.

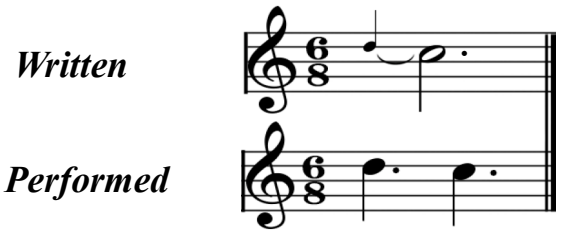
- The Appoggiatura takes the same value of the note that represents itself.



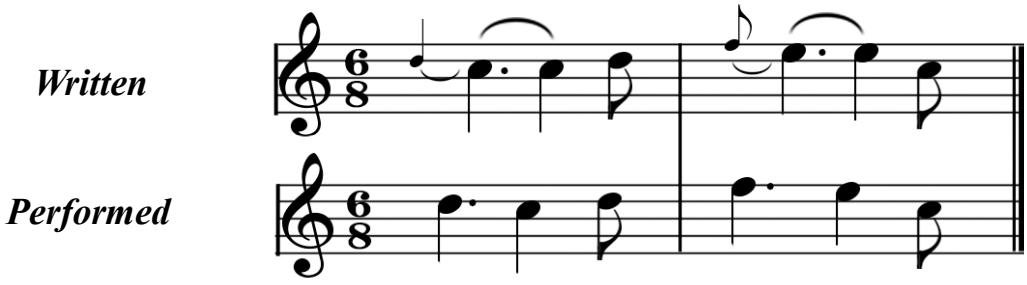
- The Appoggiatura takes 2/3 of the principal note's value when the principal note is dotted and part of the measure or tempo unit. In other words, the appoggiatura takes the value of the principal note and the principal note takes the value of the dot.

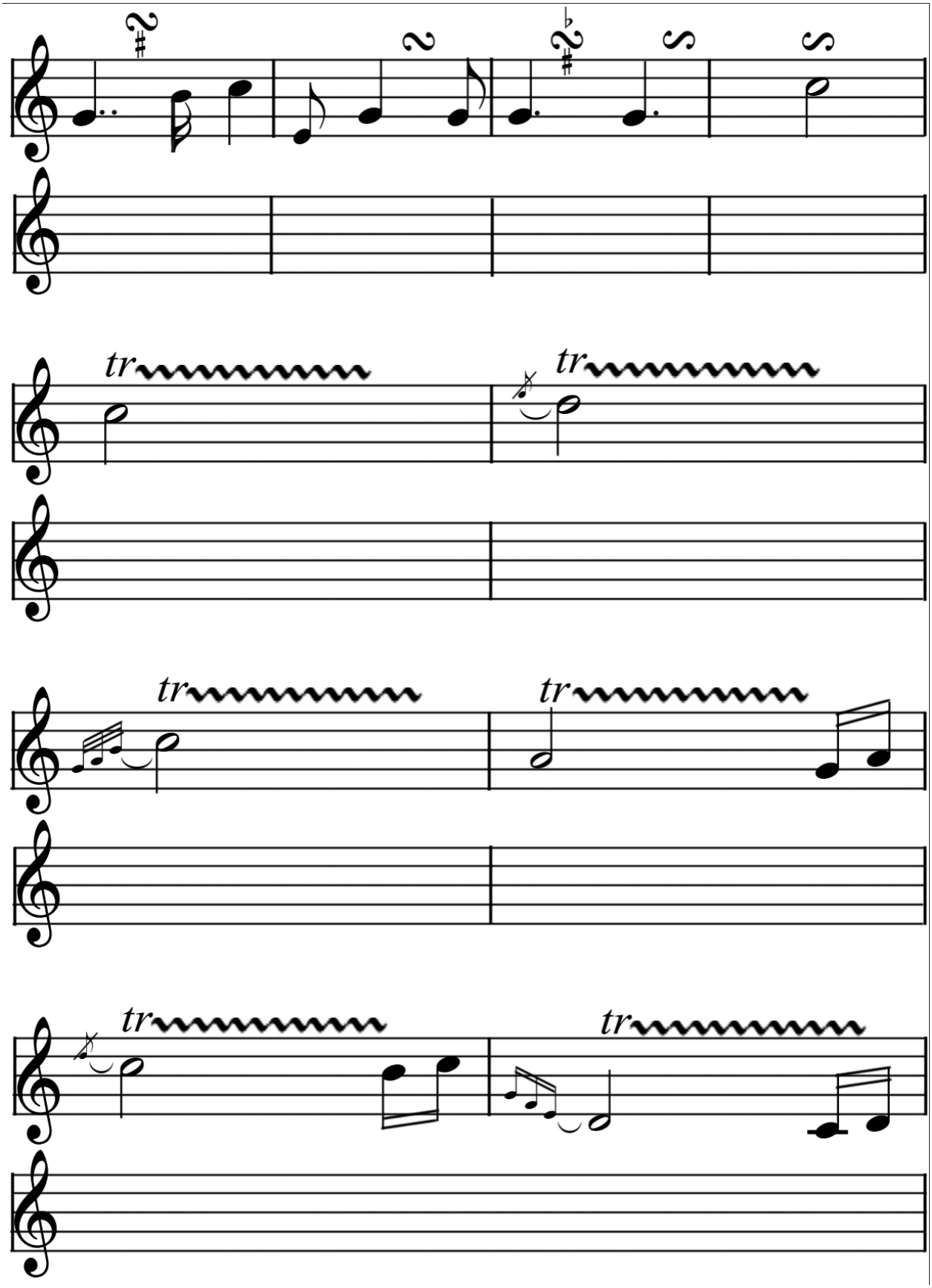


- When the Appoggiatura is followed by a dotted half note that belongs to a compound measure, the Appoggiatura takes half the value of the principal note.



- The Appoggiatura takes the whole value of the real note when the real note is dotted and has a slur.

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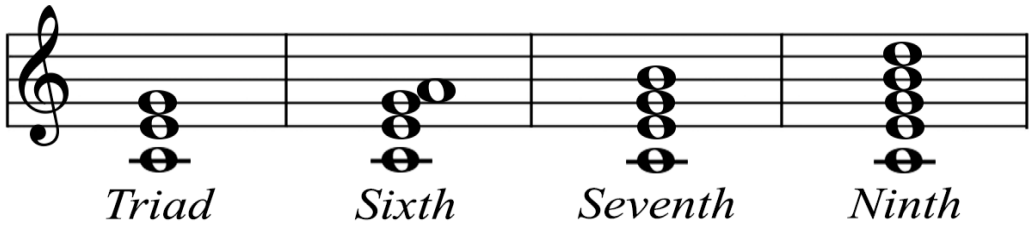
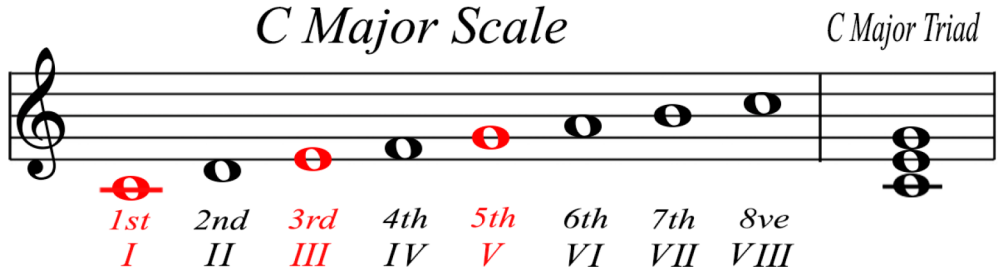
Chapter 6

Chord

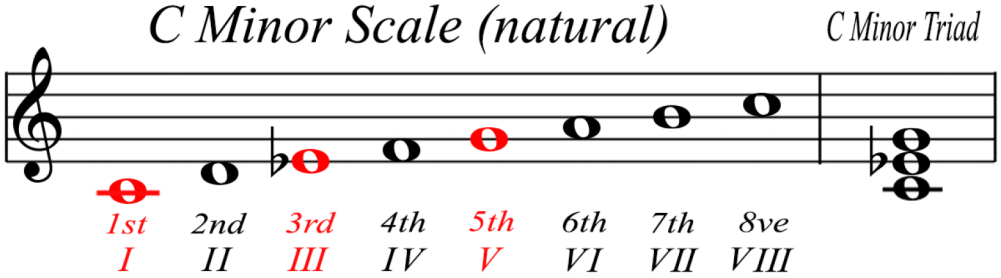
A group of notes played simultaneously is called a ***Chord***.
Chords are made by overlapping thirds.
If the chord has three notes, it is called ***Triad***.
If the chord has four notes, it is called ***Seventh or Sixth***.
If the chord has five notes, it is called ***Ninth***.



Looking at the above examples, we notice that the chords are derived from scales; in fact, the ***Triad*** (also called ***Triadic)***, is built by taking the first, third and fifth degree of the scale.
The chords and the degree of the scale are identified by ***Roman Numerals***.
If we take the first, third and fifth degree of a ***Major Scale,*** we create a ***Major Triad***.



By taking the first, third and fifth note from a ***Minor Scale,*** we create a ***Minor Triad.***



The first note of the chord is called the ***Root***. This is the most important note of the chord because it gives its name to the chord.
The Triad consists of a ***first (root)*** with a ***third*** and ***fifth*** degree.
The triad is in **root position** when the root of the triad is written on the bottom of the chord.