MUSIC THEORY

STUDENT WORKBOOK

LEVEL 5

MUSIC AND ARTS MINISTRIES
CANADA AND BERMUDA

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Review of Level 4

All major scales are built on the same pattern of tones and semitones:

T T S T T T S

A **key signature** tells us the key of the music and which notes to play sharp or flat in the piece.

Here is a summary of the keys we have learned so far:

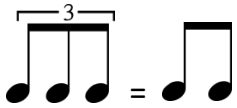
KEY	KEY SIGNATURE
C major	No sharps or flats
G major	One sharp – F#
D major	Two sharps – F# and C#
A major	Three sharps – F#, C#, G#
E major	Four sharps – F#, C#, G#, D#
F major	One flat – Bb
Bb major	Two flats – Bb and Eb
Eb major	Three flats – Bb, Eb, Ab
Ab major	Four flats – Bb, Eb, Ab, Db

The **order** and **position** of sharps and flats is important.
The order of **sharps**: **F# C# G# D# A# E# B#**
(Father Charles Goes Down And Ends Battle)
The order of **flats**: **Bb Eb Ab Db Gb Cb Fb**
(Battle Ends And Down Goes Charles' Father)

To name a key signature:
For sharp keys – find the last sharp and go up one letter name.
For flat kays – the second last flat is the name of the key.
Exception – F major has one flat.

Compound Time Signatures
6/8 time has two compound beats (or six simple beats).
9/8 time has three compound beats (or nine simple beats).
12/8 time has four compound beats (or twelve simple beats).

Triplet eighth notes have the same total length as two ordinary eighth notes.



Rules for Rests

1. A full compound beat is usually represented by a dotted quarter rest.
2. A compound beat is usually completed using two eighth rests instead of a quarter rest.
3. Complete the simple beat first, and then complete the compound beat without combining beats.
4. For any time signature (simple or compound), a whole rest can be used to fill an entire measure with silence.

Repeat signs tell us to repeat a certain section of music, either part of it or all of it. An **end repeat sign** tells us where to repeat from. A **start repeat sign** tells us where to repeat back to.

The **first time ending** is where we play the first time we play a section. The **second time ending** is where we play the second time we are playing a section.

Da Capo (D.C.) means to repeat back to the beginning. **Dal Segno (D.S.)** means to repeat back to the sign.

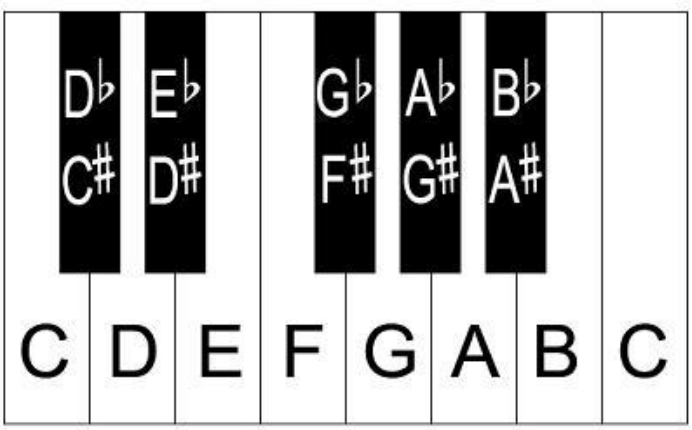
D.C. al Fine means to go back to the beginning until you see the marking **Fine**.

D.C. al Coda means to go back to the beginning until you see the marking **to Coda**, then go to the **Coda**, marked by a **Coda** symbol.

A **fermata** is a note or rest held for longer than its actual value.

Lesson 5.1 - Enharmonic Equivalents

If you look at the keyboard below, you should notice that the black notes have **TWO** names**.** For example, **D**b is the same as **C**#, and **G**b is the same as **F**#. *Notes that are the same pitch but have different names are* ***enharmonically equivalent***. Because Db and C# sound the same but have different letter names, they are *enharmonically equivalent*.

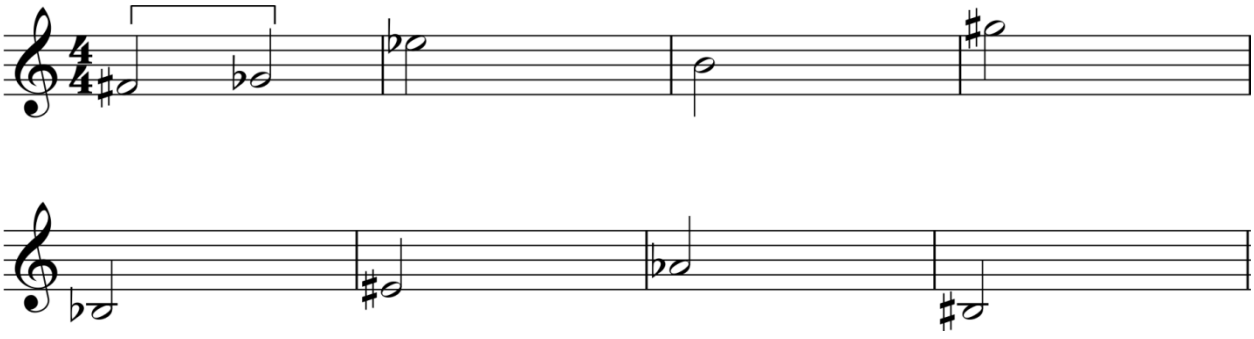


White notes on the keyboard can also be enharmonically equivalent. For example, **C** is the same as **B#**, and **E#** is the same as **F.** Also, **Cb** is the same as **B**, and **Fb** is the same as **E.**

EXERCISE

For each given note, write its **enharmonic equivalent.** The first one is done for you.

(a)



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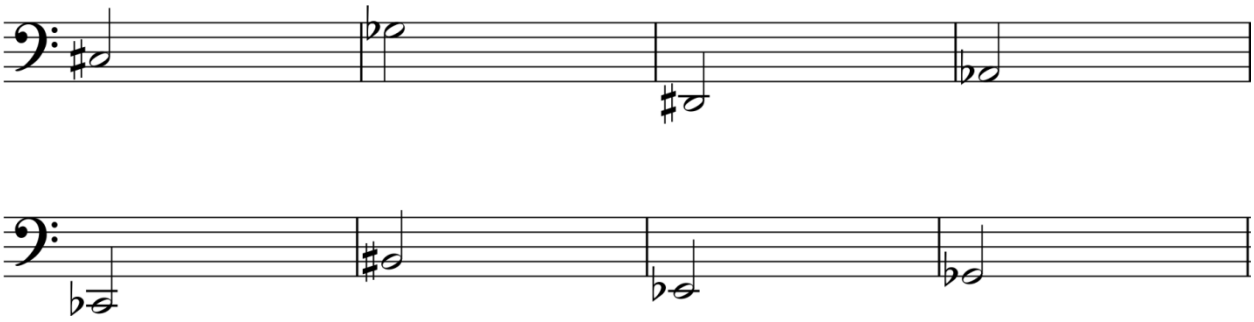


The Chromatic Scale

You have already learned the major scale. Another type of scale is the **Chromatic Scale**. The Chromatic Scale is built entirely on semitones. On the keyboard, a **semitone** is the distance from one key to the next key with no key in between. Ex: C – C#, E – F.

If we start a chromatic scale on **C**, we move up by semitones as follows:

C C# D D# E F F# G G# A A# B C

And on the way down:

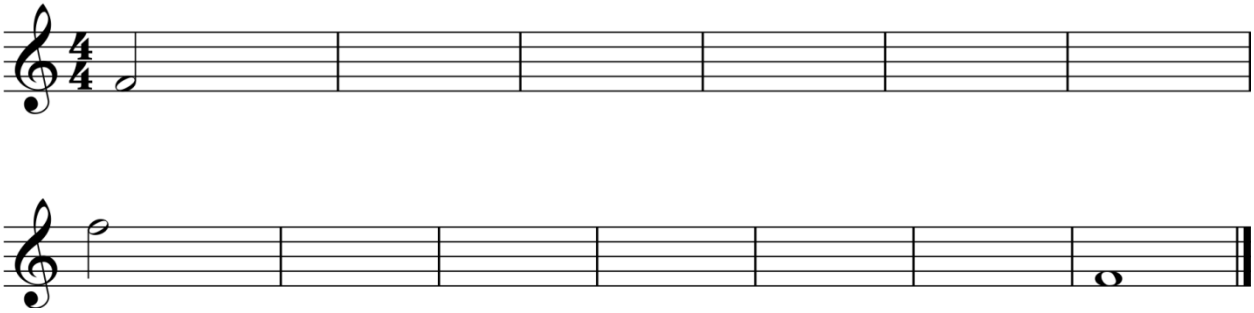
C B Bb A Ab G Gb F E Eb D Db C

*Notice that on the way **up** we use **sharps** and on the way **down** we use **flats**.*
This is true for all chromatic scales that begin on natural notes.

EXERCISE

Write **chromatic** scales using half notes, ascending and descending.

(a)



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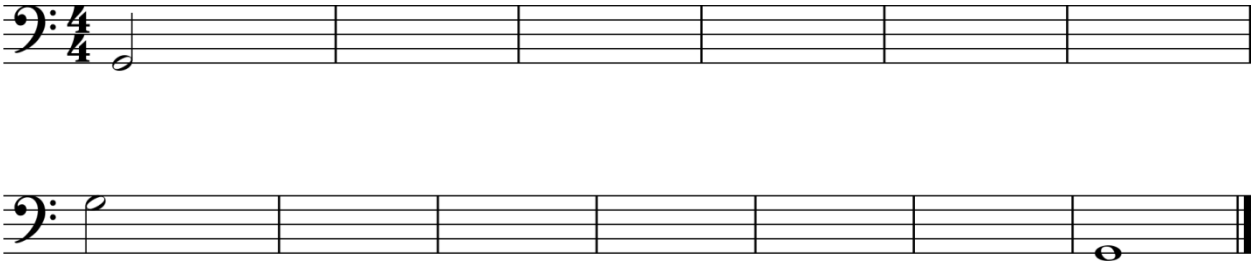

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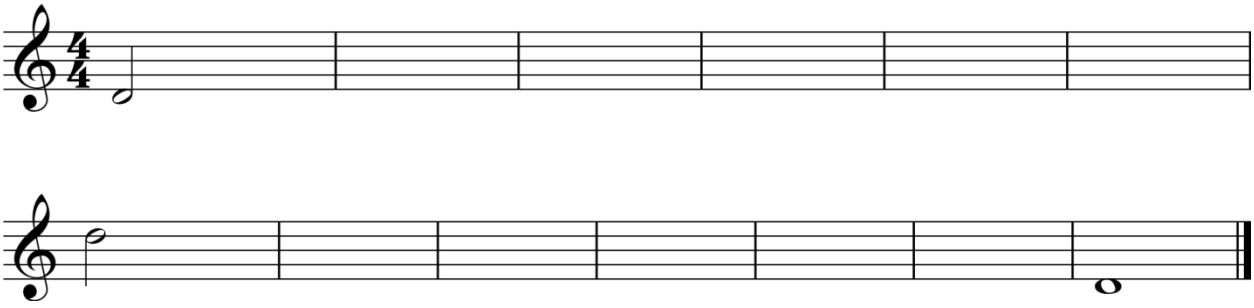

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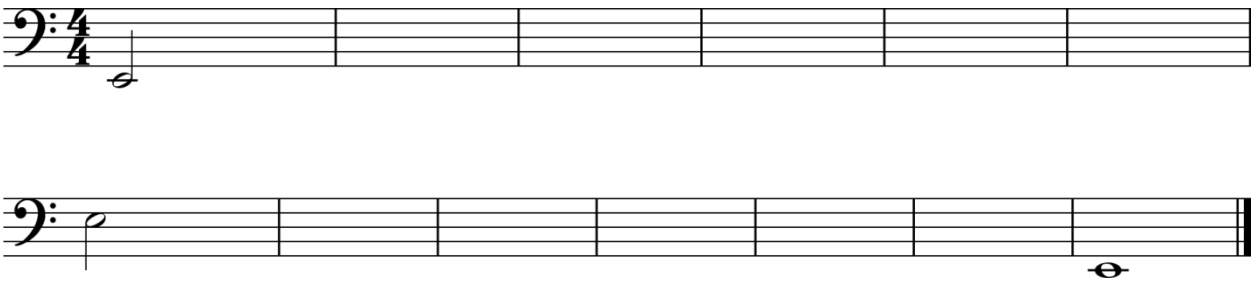


SUMMARY

- ✓ Notes that are the same pitch but have different names are ***enharmonically equivalent***.

- ✓ A **Chromatic Scale** can be built on any note, and exists of **only semitones** between each of the notes.

- ✓ When building a **chromatic scale** on a natural (white) note, use **sharps** on the way **up (ascending)** and **flats** on the way **down (descending)**.

Lesson 5.2 – Basic Intervals

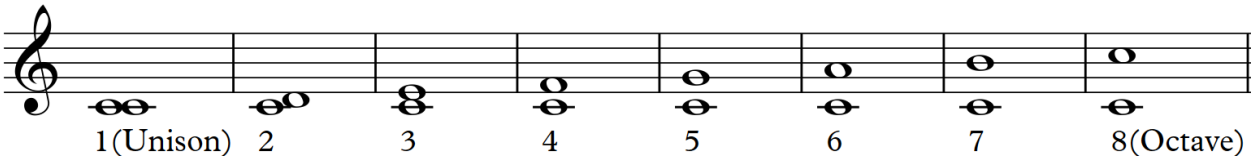
What is an Interval? How do you figure out its size?

In music, an **interval** is the **distance between two notes.** The ***size*** of an interval is measured by **counting all of the letter names** in between the two notes **including the first and the last one.** For example, what is the size of the interval from C up to F? Count **up** from C**: C D E F**. Four letter names means that the interval is a **4th.**

What if you were asked the size of the interval from C *down* to F? Now you would count ***down*** from C to F: C B A G F. Five letter names means the interval is a 5th. The distance between two letter names depends on whether you are going up or down. (Use the piano keyboard on page 3 to discover these examples.)

Let's try another one. What is the interval from D *up* to C. Count the letter names starting with D: **D E F G A B C** – that's seven, so the interval up from **D** to **C** is a **7th**. If we wanted the interval from D *down* to C, we would only count two letter names, **D** and **C**, so it is a **2nd**.

Here are all the sizes of intervals within an octave:



How Do Accidentals Influence Intervals?

We just saw that the interval from D *up* to C is a 7th. What if the C is raised by a semitone? In other words, what is the size of the interval from D to **C#**? Since the *size* of the interval only depends on the number of letter names, the interval is still a 7th! (D, E, F, G, A, B, C#)

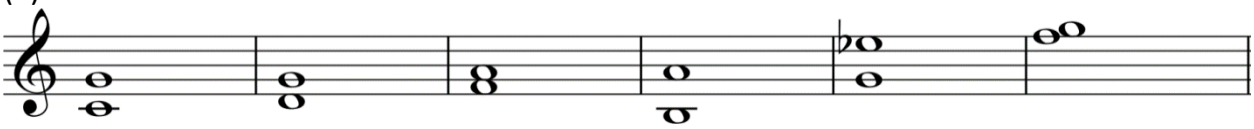
This means that **accidentals do NOT affect the *size* of an interval**. They do, however, affect the *quality* of an interval (major, minor, etc.) – we'll explore this in the next lesson.

EXERCISE

Name the size of the interval (2, 3, 4, etc).

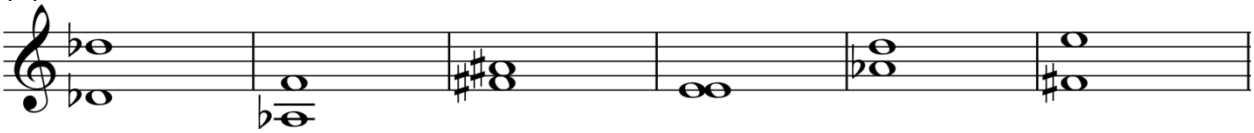
1.

(a)



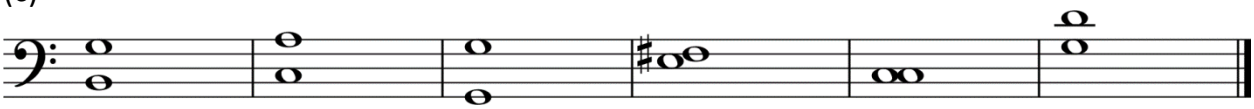
_____ _____ _____ _____ _____ _____

(b)



_____ _____ _____ _____ _____ _____

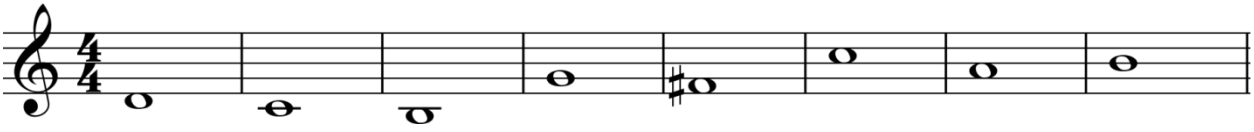
(c)



_____ _____ _____ _____ _____ _____

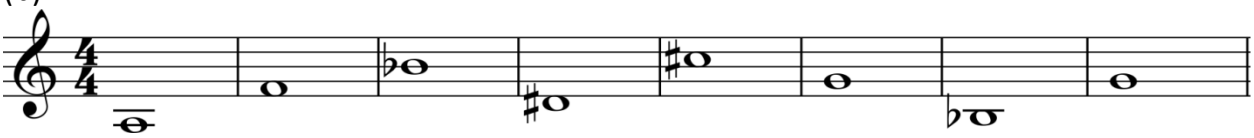
2. Write the following intervals **above** the given note.

(a)



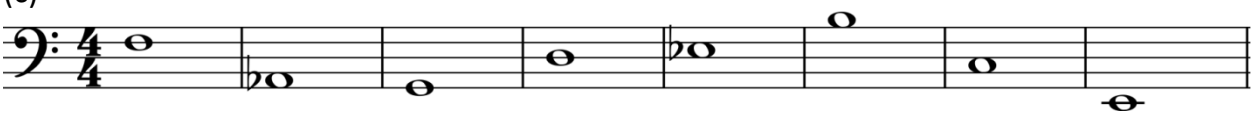
5 Octave 7 2 Unison 3 4 6

(b)



4 6 3 1 2 5 7 1

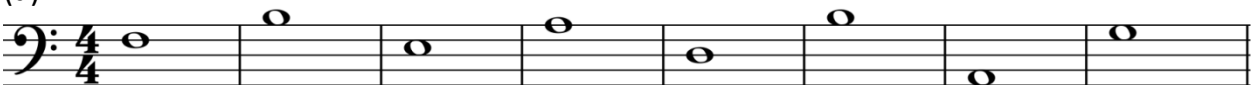
(c)



5 3 8 1 7 2 6 4

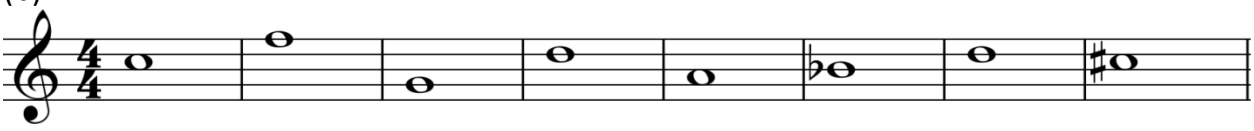
3. Write the following intervals **below** the given note.

(a)



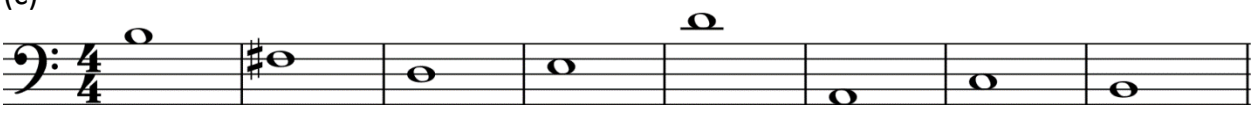
5 Octave 7 2 Unison 3 4 6

(b)



7 8 2 6 5 1 4 3

(c)



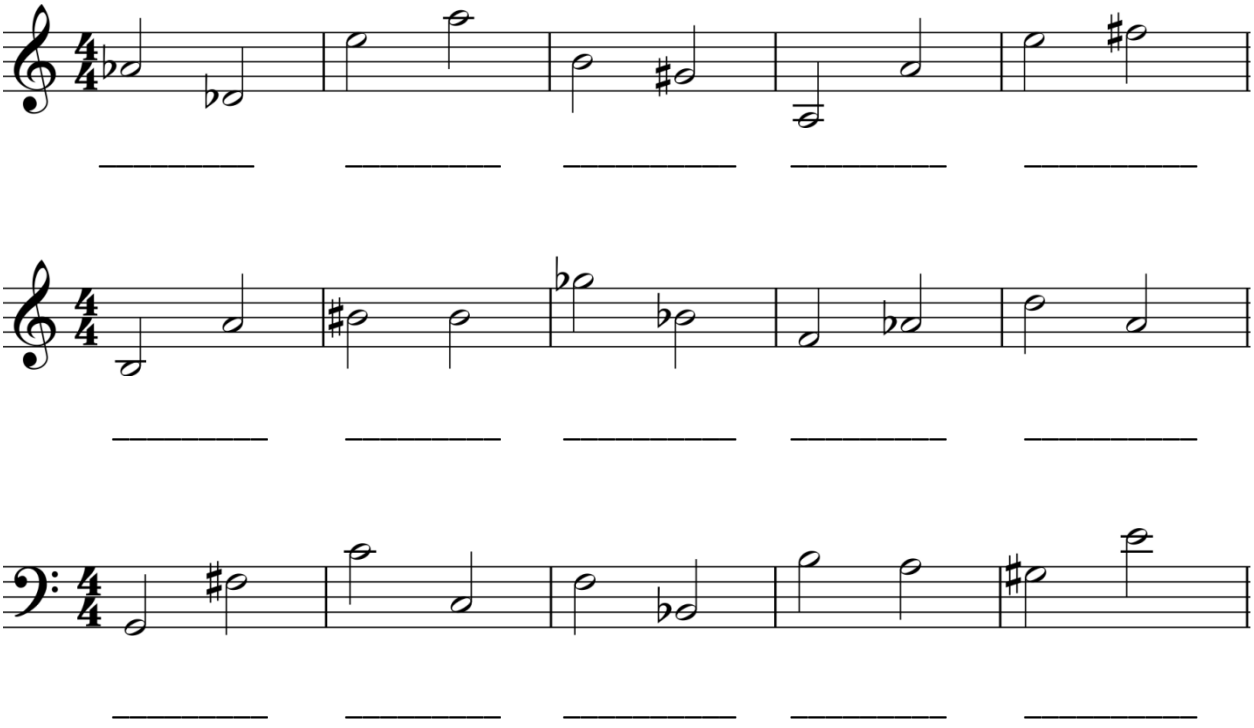
6 2 4 7 Octave Unison 3 5

Harmonic and Melodic Intervals

So far, the intervals we have been using as examples have been **harmonic** intervals. This means that both notes sound at the same time. If the two notes sound one after the other, the interval is **melodic**.

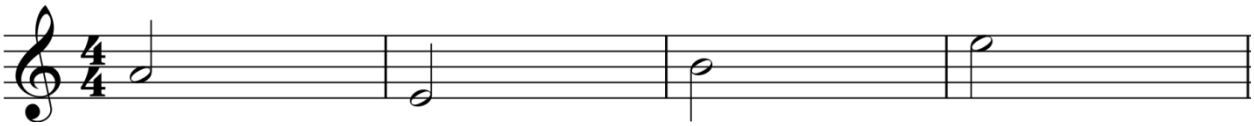
EXERCISE

1. Name the following **melodic intervals**.



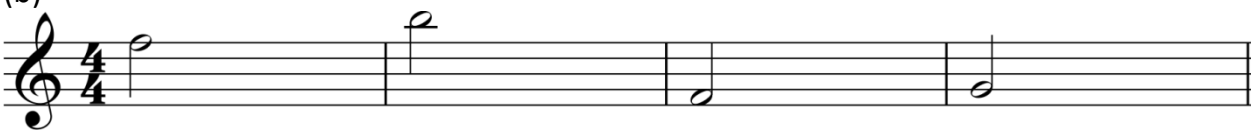
2. Write the melodic intervals **below** the given notes.

(a)



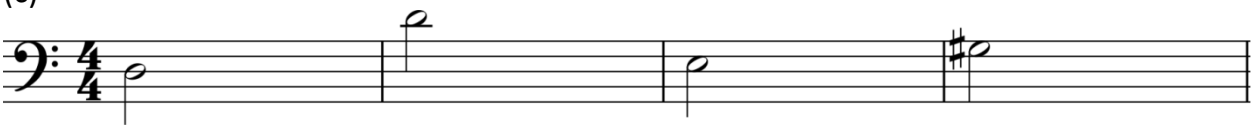
6 5 Octave 7

(b)



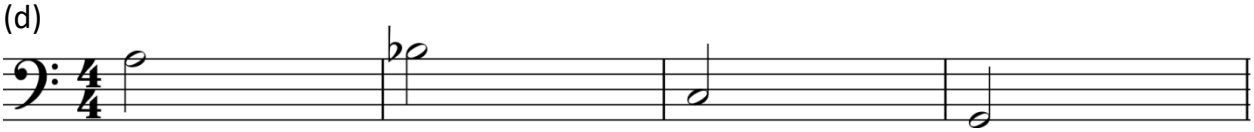
3 2 4 7

(c)



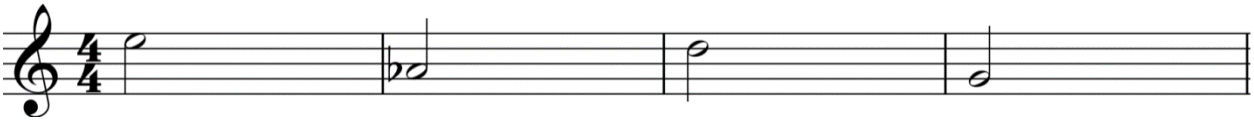
4 7 5 6

(d)



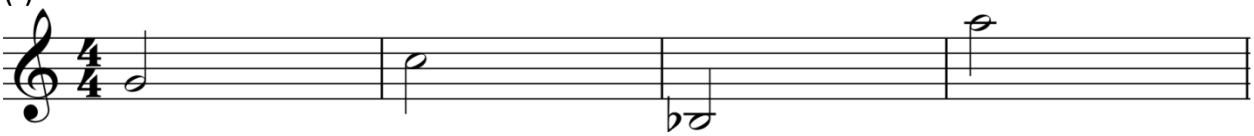
Octave 3 1 2

(e)



6 3 8 5

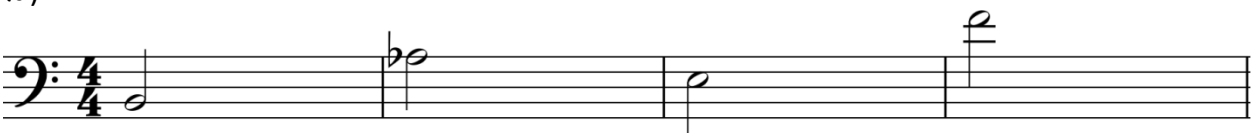
(f)



Unison 4 2 7

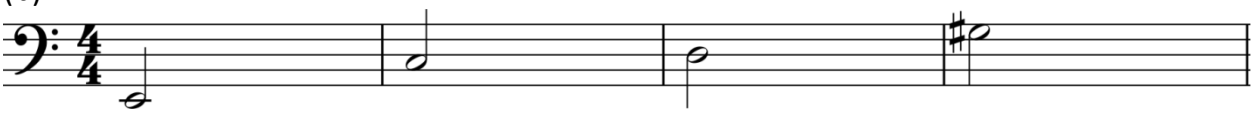
3. Write the melodic interval **above** the given note.

(a)



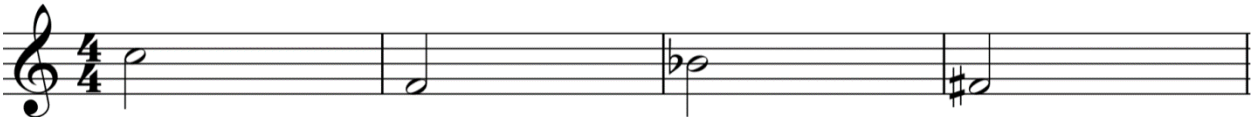
7 3 4 1

(b)



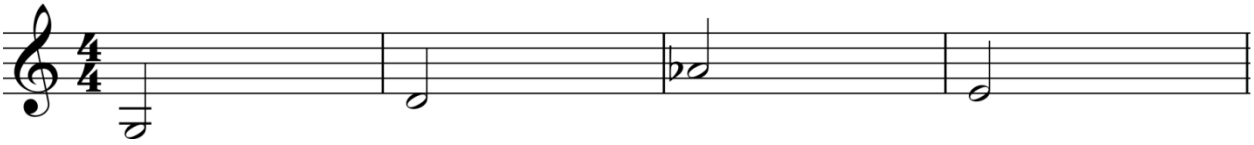
5 8 2 6

(c)



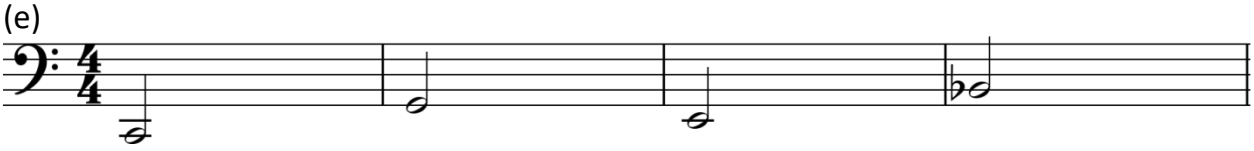
4 2 5 3

(d)



7 Octave 6 Unison

(e)



6 3 4 2

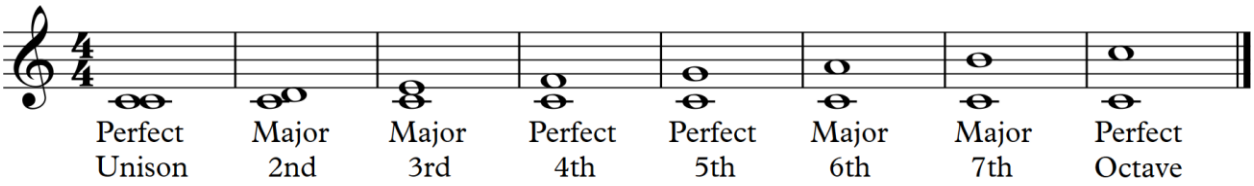
SUMMARY

- ✓ An **interval** is the **distance between two notes**.
- ✓ Intervals within an octave are: unison, 2nd, 3rd, 4th, 5th, 6th, 7th and octave.
- ✓ The size of an interval **always includes the first note and the last note**.
- ✓ Accidentals do not affect the size of an interval; they affect the quality of the interval.
- ✓ **Harmonic** intervals – the two notes occur at the same time
  Melodic intervals – the two notes occur one after the other

Lesson 5.3 – Classification of Intervals

Now that we know how to find the size of an interval, we need to talk about the quality (or type) of an interval. There are five types of intervals: **major**, **perfect**, **minor**, **augmented**, and **diminished**. In this lesson, we will learn about **major** and **perfect** intervals.

If we look at intervals based on the C major scale, we see the following:



Which intervals are major? __2__ , _____ , _____ , _____

Which intervals are perfect? _____ , _____ , _____ , _____

Conclusions (true for ALL major scales):

- If a note exists in the major scale **above** a certain note, we say that the interval between those two notes is either a **major** or **perfect** interval.
- Major intervals: 2, 3, 6, 7
- Perfect intervals: unison, 4, 5, octave

To label a **major** interval, we write **maj** (i.e. maj 3). Note that some other methods will use a capital **M** or a plus sign (**+**) sign to identify a major interval (i.e. M3, +3).

To label a **perfect** interval, we write **per** (i.e. per 4). Note that some other methods will use a capital **P** to identify a perfect interval (i.e. P4).

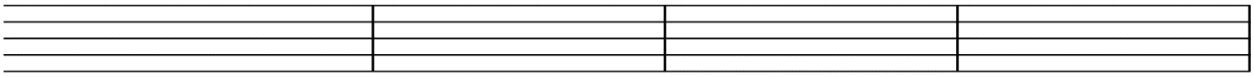
While either is correct to use when labelling intervals, this course will use the first method demonstrated.

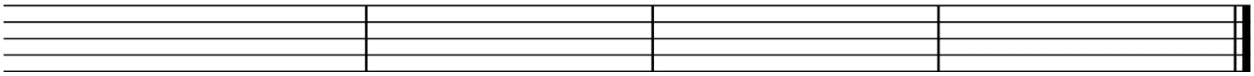
If a piano keyboard is available,
play each of the following intervals
and listen to how they sound.

Perfect Unison/Octave (per 1)	C to C
Major 2nd (maj 2)	C to D
Major 3rd (maj 3)	C to E
Perfect 4th (per 4)	C to F
Perfect 5th (per 5)	C to G
Major 6th (maj 6)	C to A
Major 7th (maj 7)	C to B

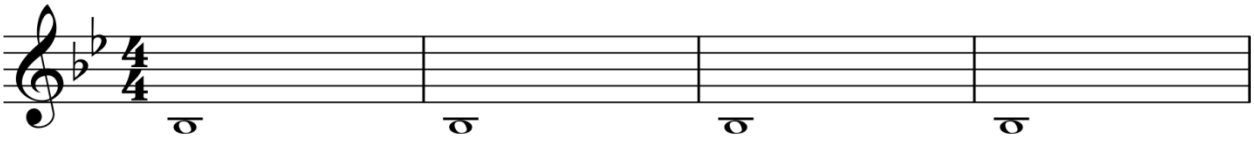
EXERCISE

1. Using the correct key signature, write the Bb major scale ascending in whole notes in 4/4 time in the Treble Clef.

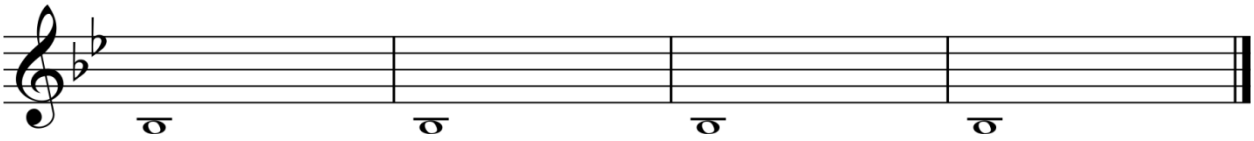




Add the following harmonic intervals **above** the note Bb, based on the notes in the Bb major scale.



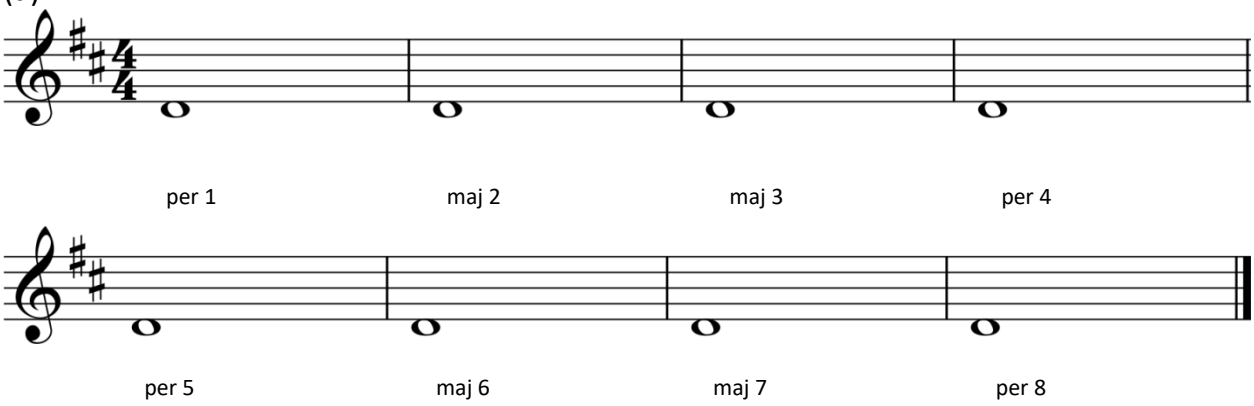
per 1 maj 2 maj 3 per 4



per 5 maj 6 maj 7 per 8

2. Write the following harmonic intervals **above** the given notes.

(a)



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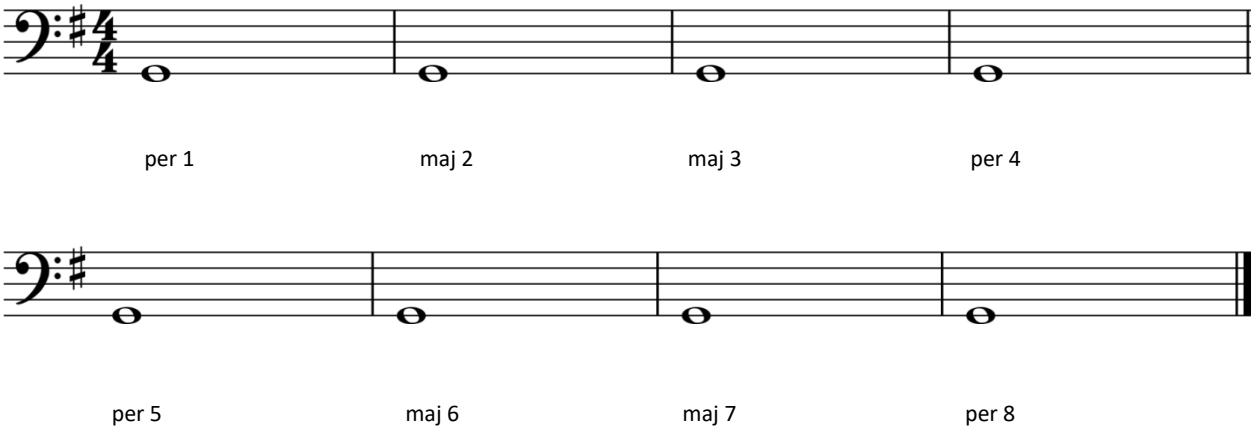

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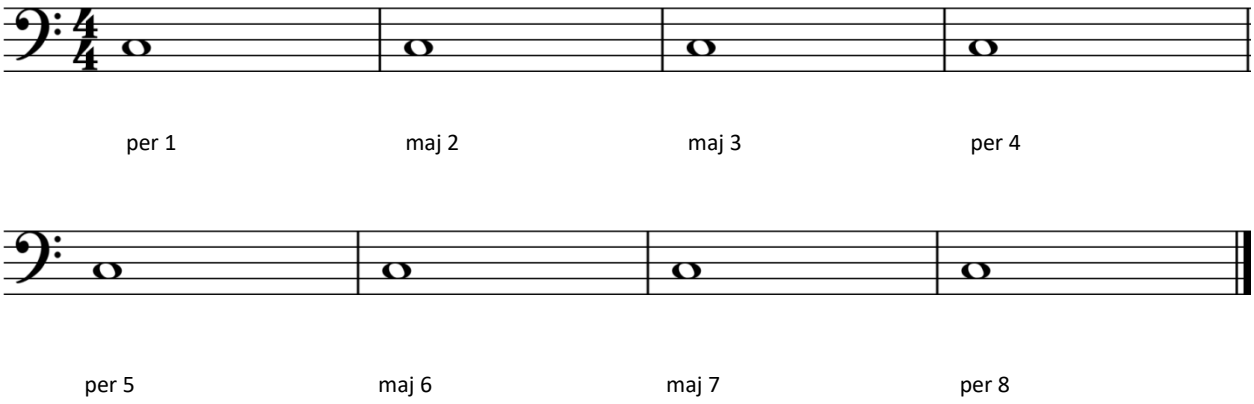
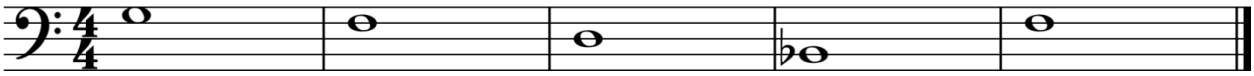


3. Write the harmonic intervals **above** each given note.

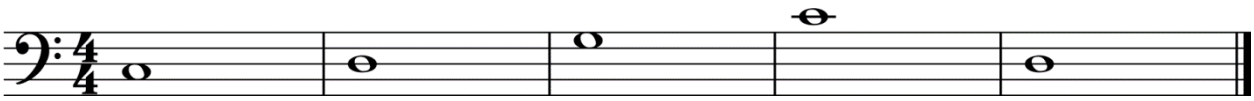
HINT: Treat each given note as the first note of a major scale.

(a)



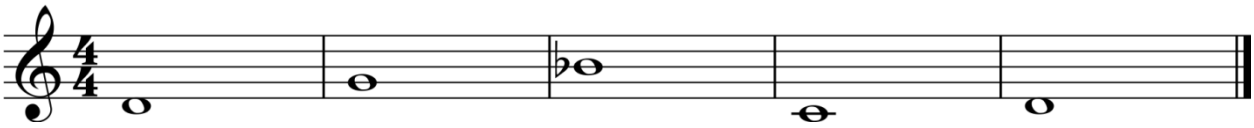
per 5 per 4 maj 3 maj 2 maj 7

(b)



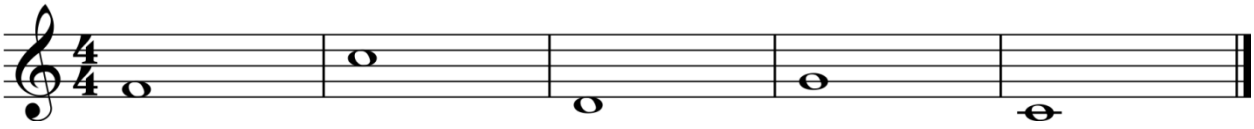
maj 6 per 8 per 1 maj 2 maj 6

(c)



maj 7 maj 3 per 4 maj 2 per 5

(d)

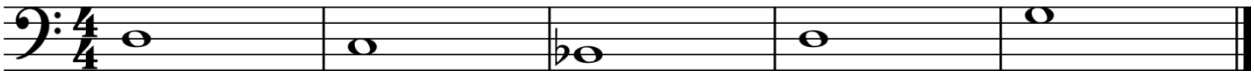


per 4 maj 6 per 4 maj 6 per 5

4. Write the harmonic intervals **below** each given note.

HINT: The bottom note you write becomes the first note of a major scale.

(a)

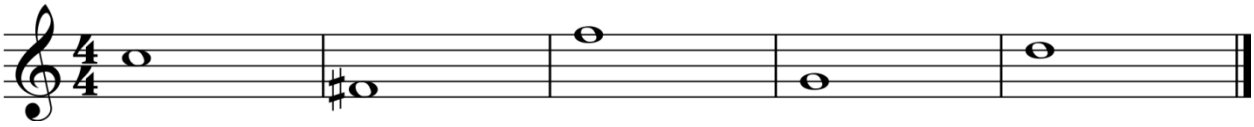


maj 6 per 5 per 4 maj 7 maj 2

(b)

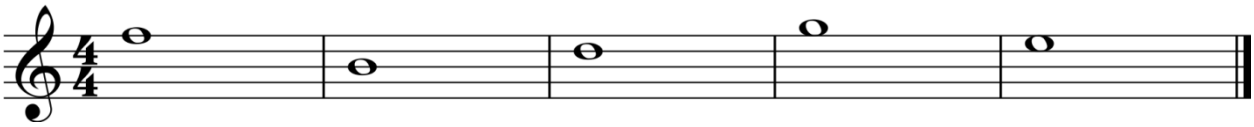
maj 7 maj 3 per 4 maj 6 per 1

(c)



per 4 maj 3 maj 2 per 5 maj 7

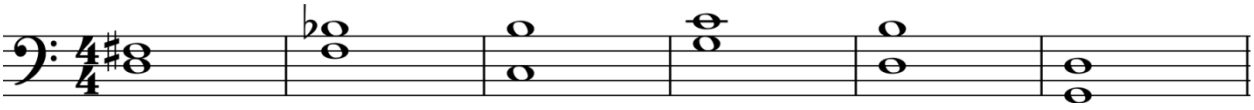
(d)



per 4 maj 6 maj 3 maj 2 per 5

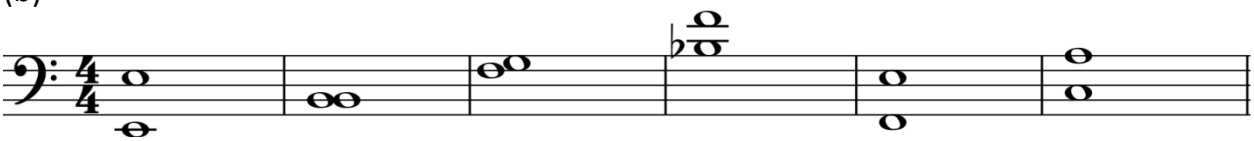
5. Name the following intervals (both the size and type). The first one is done for you.

(a)



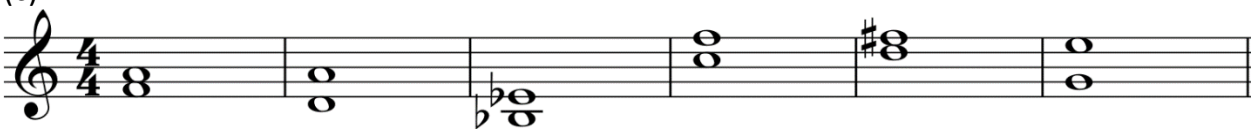
maj 3 _____ _____ _____ _____ _____

(b)



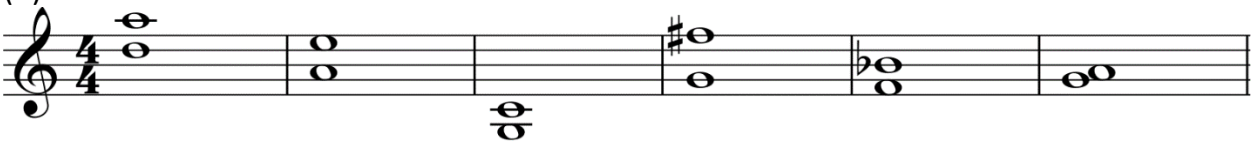
_____ _____ _____ _____ _____ _____

(c)



_____ _____ _____ _____ _____ _____

(d)



_____ _____ _____ _____ _____ _____

SUMMARY

- ✓ **Intervals** based on the major scale are either **major** or **perfect**.
- ✓ The 2nd, 3rd, 6th and 7th intervals are known as **major** intervals.
- ✓ The unison, 4th, 5th and Octave intervals are known as **perfect** intervals.
- ✓ **Major** intervals are labelled with **maj**. **Perfect** intervals are labelled with **per**.

Lesson 5.4 - Minor Intervals

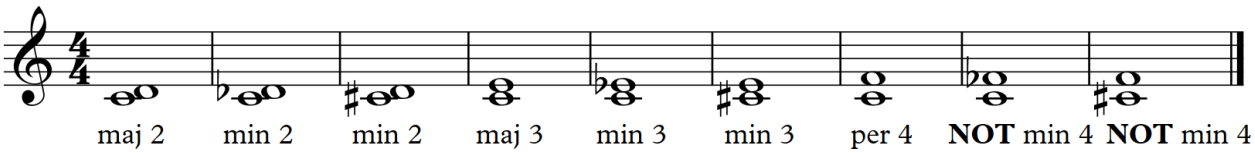
In the previous lesson, you studied major and perfect intervals. You may also remember that there are two ways to write intervals: **harmonic** – when they are stacked on top of each other and played at the same time; and **melodic** – when they are separated by space, and meant to be played one note after the other.

We will now learn about **minor** intervals.

*A **minor interval** (represented by **min**) is formed by making a major interval one semitone smaller.* (If a *perfect* interval is made one semitone smaller, the result is NOT a minor interval; we will learn about this in a later level).

NOTE: **Minor** intervals are represented by **min.** Some methods will use a lowercase **m** or a minus sign (**-**) sign to identify a minor interval (i.e. m3, -3).

Examples:



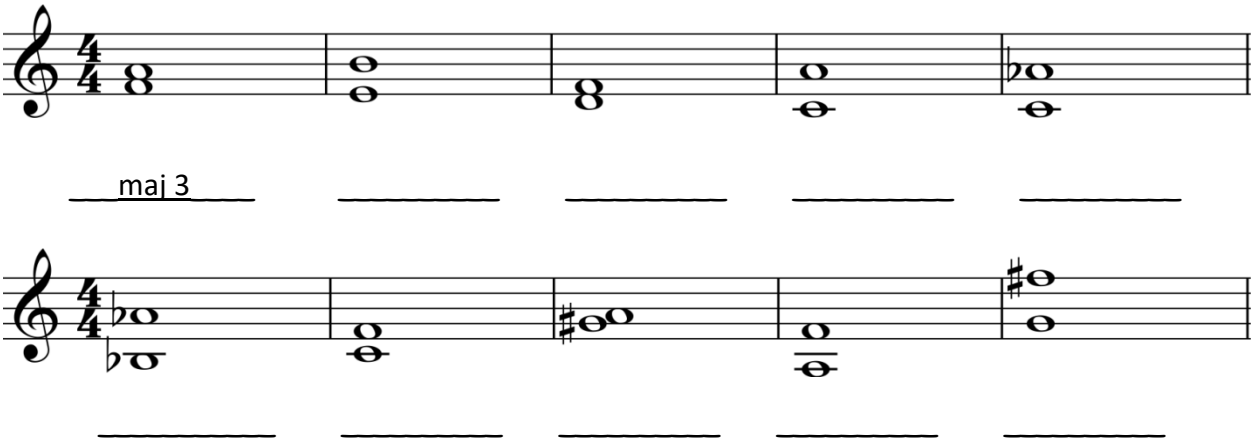
*Notice that these are all **harmonic** intervals.*

Important points:

- There are TWO ways to make a major interval one semitone smaller:
    1. *lower* the *top* note
    2. *raise* the *bottom* note
- Remember that the *size* of the interval (3rd, 4th, etc.) depends on the number of letter names from the bottom note to the top note.

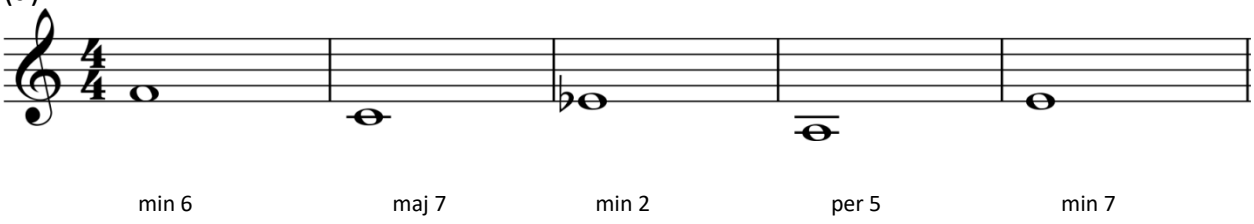
EXERCISE

1. Name the following **harmonic** intervals. The first one is done for you. (A harmonic interval is when two notes are played at the same time.)

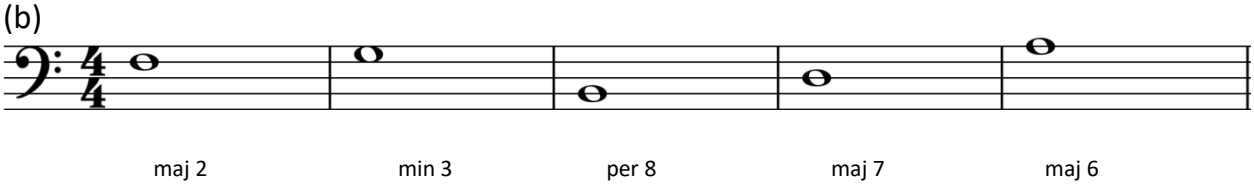


2. Write the following harmonic intervals **above** the given note.
(*Hint: For minor intervals, find the note of the major interval first and then lower the top note to make the interval one semitone smaller.)*

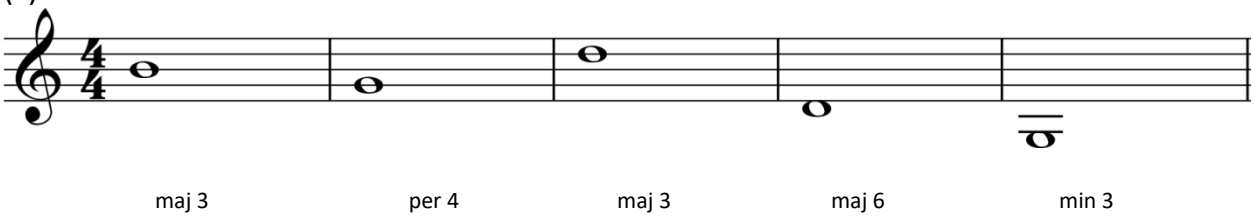
(a)



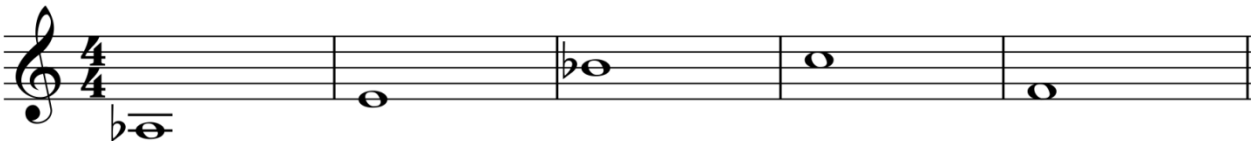
(b)



(c)

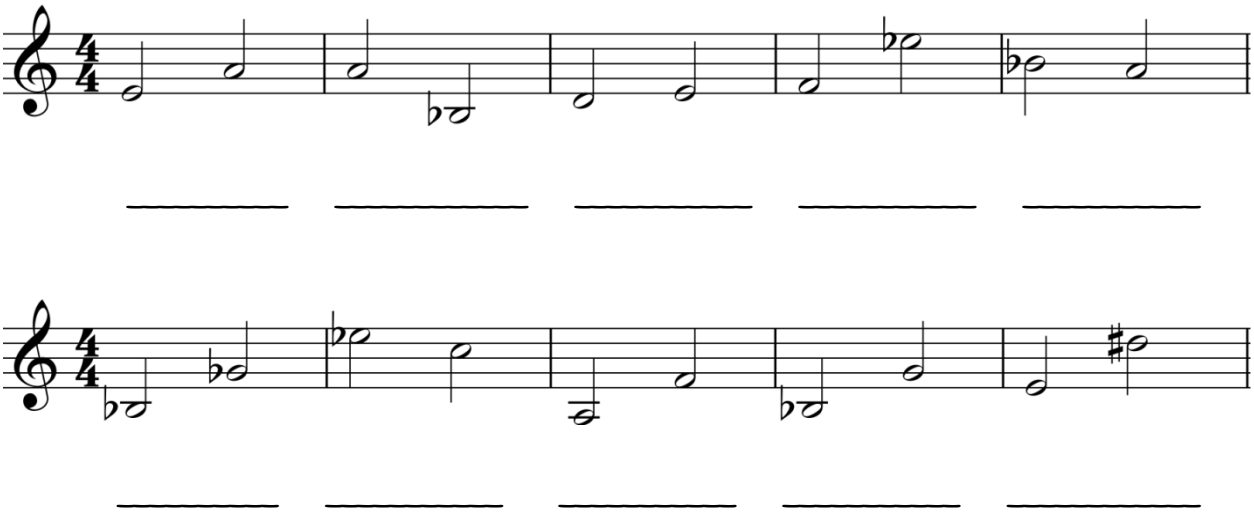


(d)



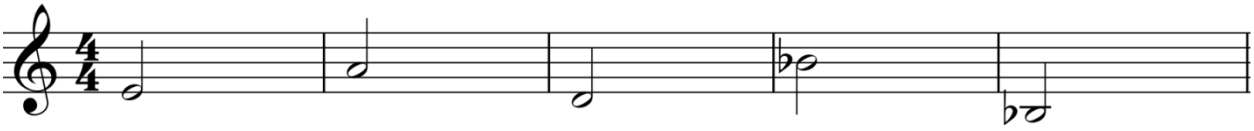
maj 7 | per 5 | maj 2 | min 6 | min 7

3. Name the following **melodic** intervals.



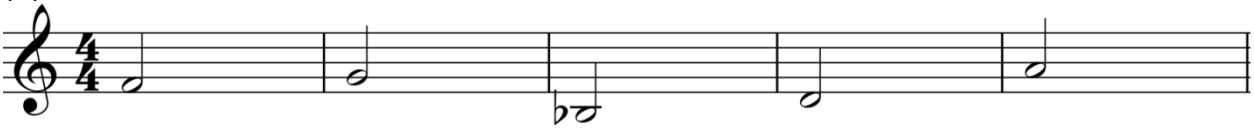
4. Write the following **melodic** intervals.

(a)



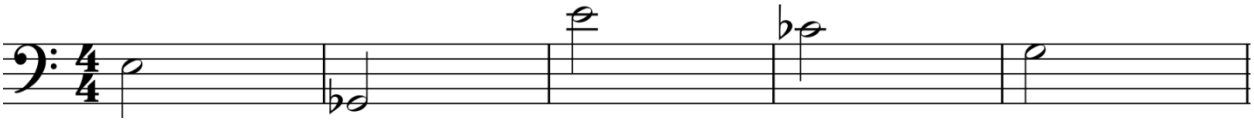
maj 6 up | per 5 down | min 6 up | min 3 up | min 3 down

(b)



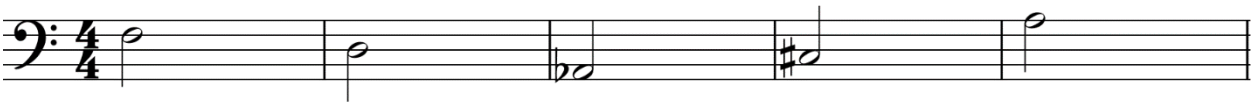
min 2 up | per 5 up | min 6 up | min 3 down | maj 7 down

(c)



min 2 up per 5 up maj 6 down min 3 down maj 7 down

(d)



per 4 up maj 3 down min 6 up maj 7 down maj 2 up

SUMMARY

- ✓ An interval is the distance between two notes. When we classify the interval (major, perfect, or minor), we use the major scale starting from the bottom note.
- ✓ A **minor** interval is just a major interval made smaller by a semitone.
- ✓ A minor interval is labelled as **min**.

Lesson 5.5 – Major and Minor Triads

A **chord** is the name given to three or more notes that sound at the same time. The simplest chord is made up of only three notes and is called a **triad**.

A triad is formed by stacking two intervals of a third on top of each other:

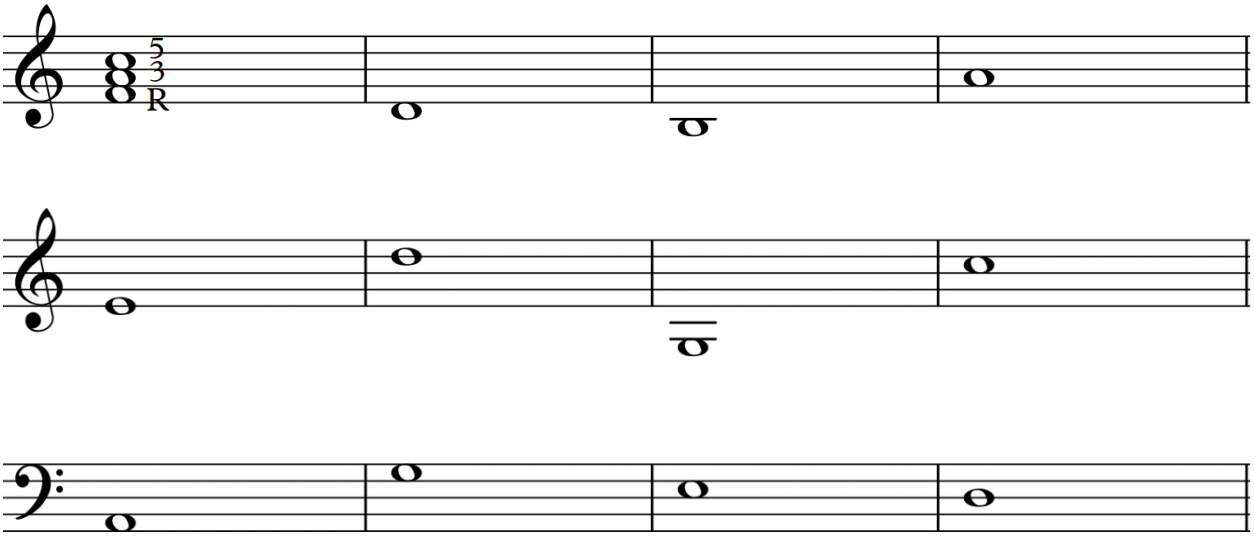
Notice that

- the **bottom note** is called the **root**
- the **middle note** is the **3rd** (because it is an interval of a third above the root)
- the **top note** is called the **5th** (because it is an interval of a fifth above the root)

When a triad begins on a **line** note, all the other notes of the triad will be **line** notes.
When a triad begins on a **space** note, all the other notes of the triad will be **space** notes.

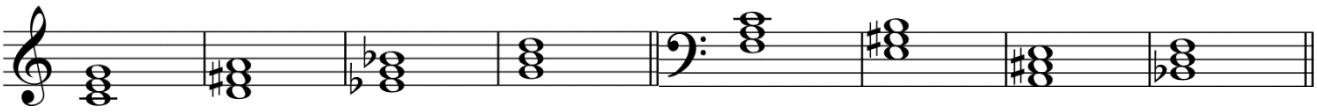
EXERCISE

1. Write triads above each given root. Label the root, 3rd and 5th of each triad. The first one is done for you.

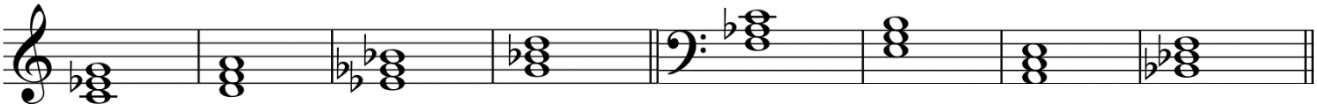


There are four different types of triads: **major**, **minor**, **augmented** and **diminished**. We will focus on the first two.

(1) A **major triad** consists of a **major 3rd** and a **perfect 5th** above the root. Study each example carefully:



(2) A **minor triad** consists of a **minor 3rd** and a **perfect 5th above the root**:



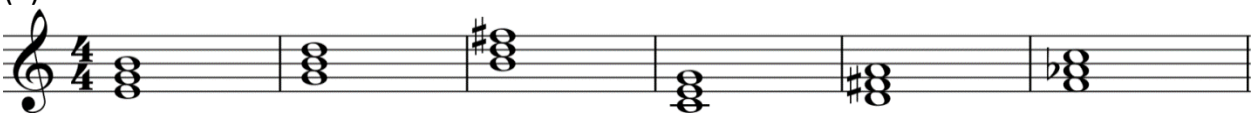
* To *name* a triad, we must

- name the root
- specify if the triad is major or minor

EXERCISE

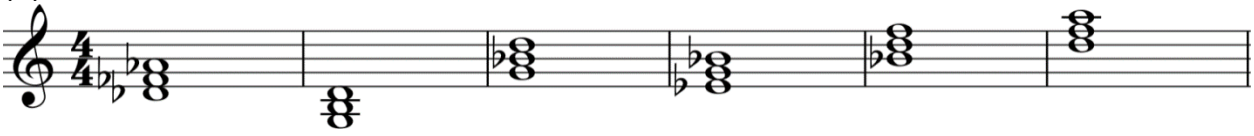
1. Name the following triads. For major triads, we only have to write the capital letter for the root of the triad. For *minor* triads, we write the capital letter for the root of the triad, followed by a lowercase *m*. The first two are done for you.

(a)



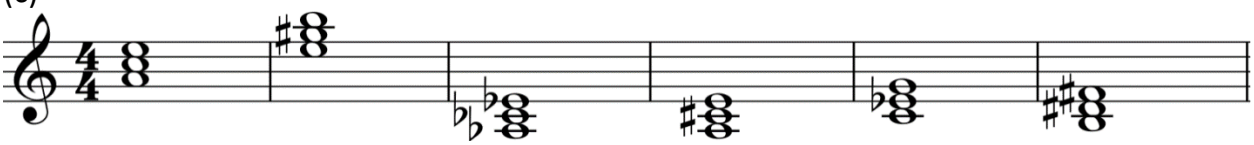
Em G _____ _____ _____ _____

(b)



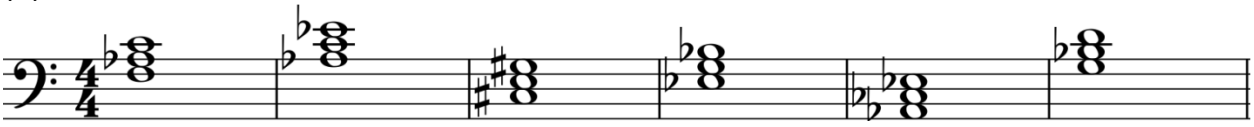
_____ _____ _____ _____ _____ _____

(c)



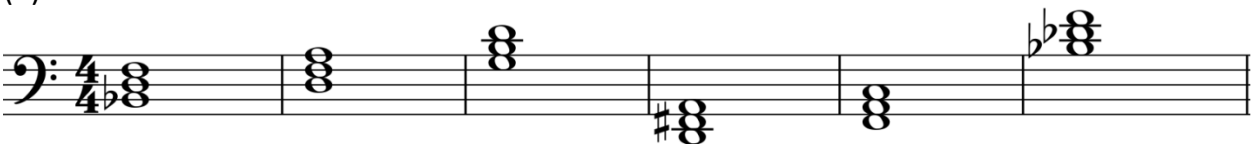
_____ _____ _____ _____ _____ _____

(d)



_____ _____ _____ _____ _____ _____

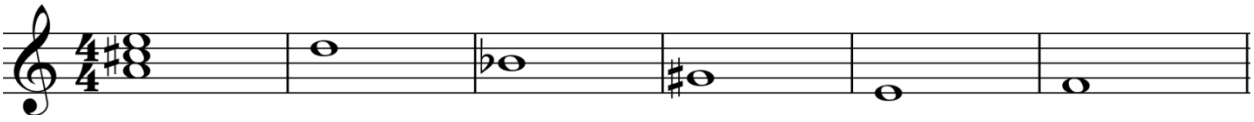
(e)



_____ _____ _____ _____ _____ _____

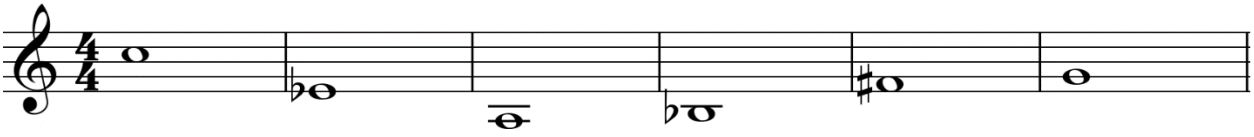
Write the triad above the given note. The first one is done for you.

(a)



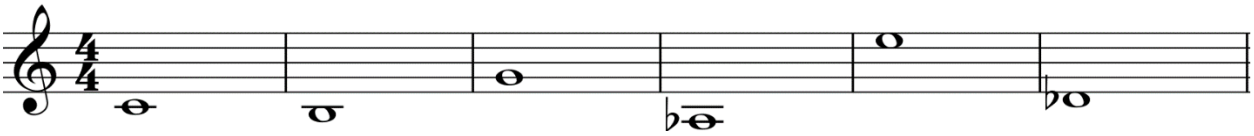
A Dm Bbm G#m E F

(b)



Cm Eb Am Bb F#m Gm

(c)

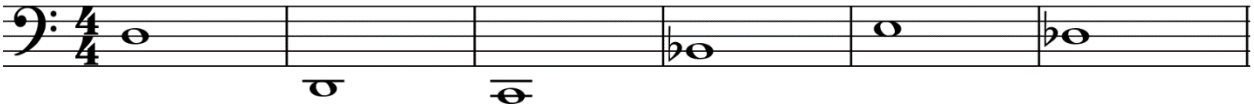


C Bm G Ab Em Db

(d)

F B C#m Ebm Abm Gm

(e)



D Dm Cm Bbm E Db

SUMMARY

- ✓ A **triad** is a combination of three notes that have two thirds stacked on top of each other.
- ✓ The type of triad is determined by the types of intervals above the root of the triad.
  - major 3rd, perfect fifth = major triad
  - minor 3rd, perfect fifth = minor triad
- ✓ Triads are named starting with the root. For example, a major triad starting on **C** is called a **C** major triad.

Musical Terms

Tempo Terms

There are many words that composers can use to tell us the tempo (or speed) of a piece of music.

Here are more terms that you might see, in addition to the ones we have previously learned, along with approximate metronome markings:

Indication	Tempo	Approximate number of beats per minute
Lento	slow	50 - 56
Adagio	slow	56 - 66
Andante	moderately slow; at a walking pace	69 - 72
Andantino	a little faster than *andante*	76 - 84
Moderato	at a moderate tempo	88 - 100
Allegretto	fairly fast (a little slower than *allegro*)	104 - 120
Allegro	fast	126 - 152
Presto	very fast	184 - 200

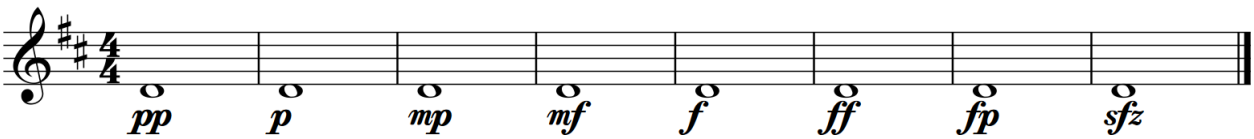
Style Terms

Along with how fast to play music, composers sometimes tell us the *style*:

Italian Term	English Translation
dolce	sweetly
simile	continue in the same manner as previously indicated (ex: continue playing staccato if it was just marked)
subito	suddenly

Dynamic Terms

The diagram below shows us dynamics from softest to loudest.



Two new dynamic terms are:

fp - *forte piano* (loud, then immediately soft)

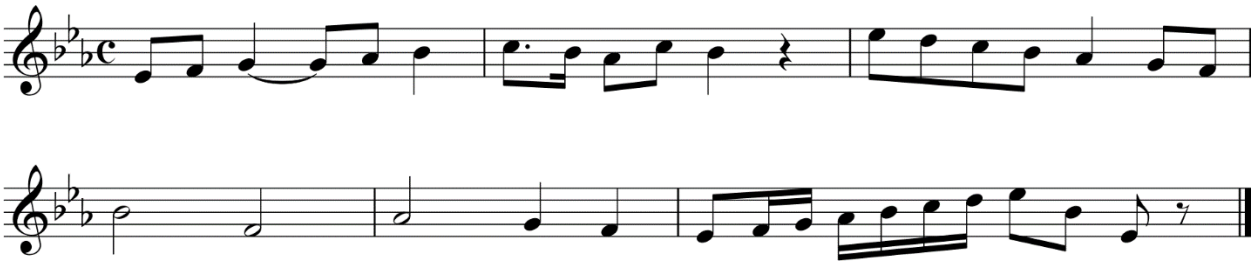
sfz - *sforzando* (forced, like ***fp***)

EXERCISE

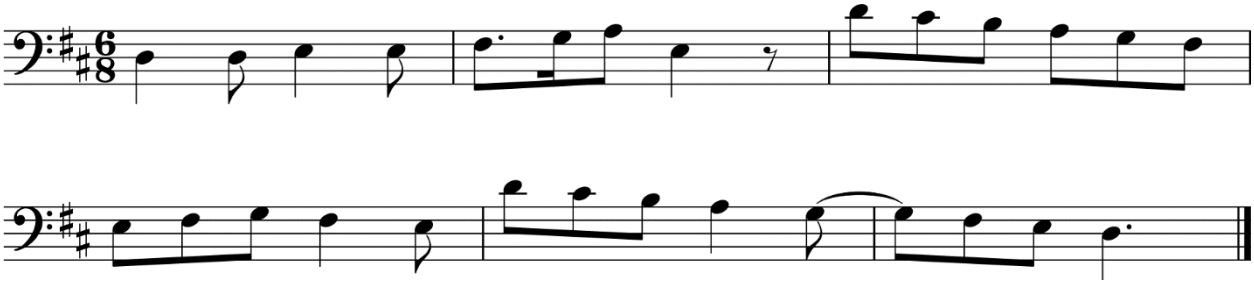
In each of the following pieces:

- add a tempo indication (including metronome marking).
- at least two dynamic markings (possibly including *crescendos* and *diminuendos*).
- include at least one *accelerando, rallentando* or *ritardando.*
- add at least two articulation or style markings (accent, *staccato, legato*/slur, *dolce*, etc…).

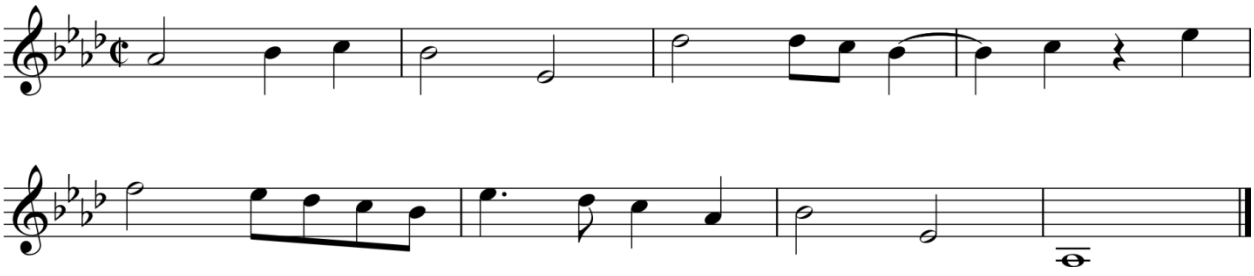
1.



2.



3.



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