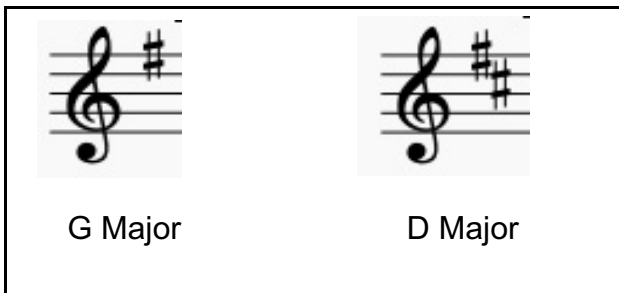


MAJOR SCALE Key Signatures

By now you should be comfortable constructing a scale and creating the triads on each note within the scale, identifying each by their roman numeral, and describing the tonal structure of the chord (major, minor, diminished).

First item: A key signature is either nothing (C), or Sharps, or Flats. The latter two are never mixed so you will not see a key signature with a mix of # and b.

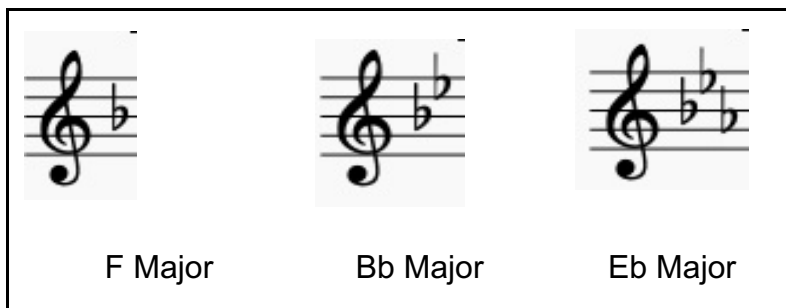
As you have written scales, you may have noticed that in all of the sharp scales, the 7th note is always sharp. Key signatures are always listed in order of increasing number of sharps or flats. For example, G has one sharp F#. D has two sharps, F# and C# and they are listed at the beginning of the score in that order. See the two figures below.



The image shows two musical staves. The first staff has a treble clef and a sharp sign (#) on the F line, labeled "G Major". The second staff has a treble clef and sharp signs (#) on the F line and the C line, labeled "D Major".

The signature for A would add G#. Now note that the Key signature Name is just the next half step up from the last sharp. This is consistent across all sharp key signatures. Once you know the order of the sharps, then you can determine the full key signature by going through them until you arrive at the sharp before the key name and you have the key signature.

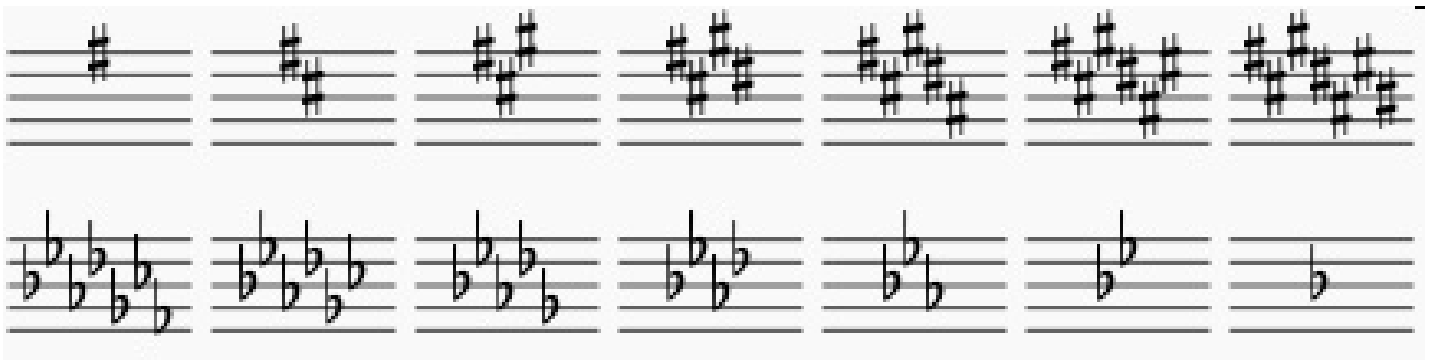
Flats work in a similar manner, similar but different. Just as you have to “know” that C has no sharps or flats, you have to “know” that F has one flat, Bb. After that it becomes easy. As with sharps, the flats are also written in the order of increasing number. So, look at the figure below:



The image shows three musical staves. The first staff has a treble clef and a flat sign (b) on the B line, labeled "F Major". The second staff has a treble clef and flat signs (b) on the B line and the E line, labeled "Bb Major". The third staff has a treble clef and flat signs (b) on the B line, the E line, and the A line, labeled "Eb Major".

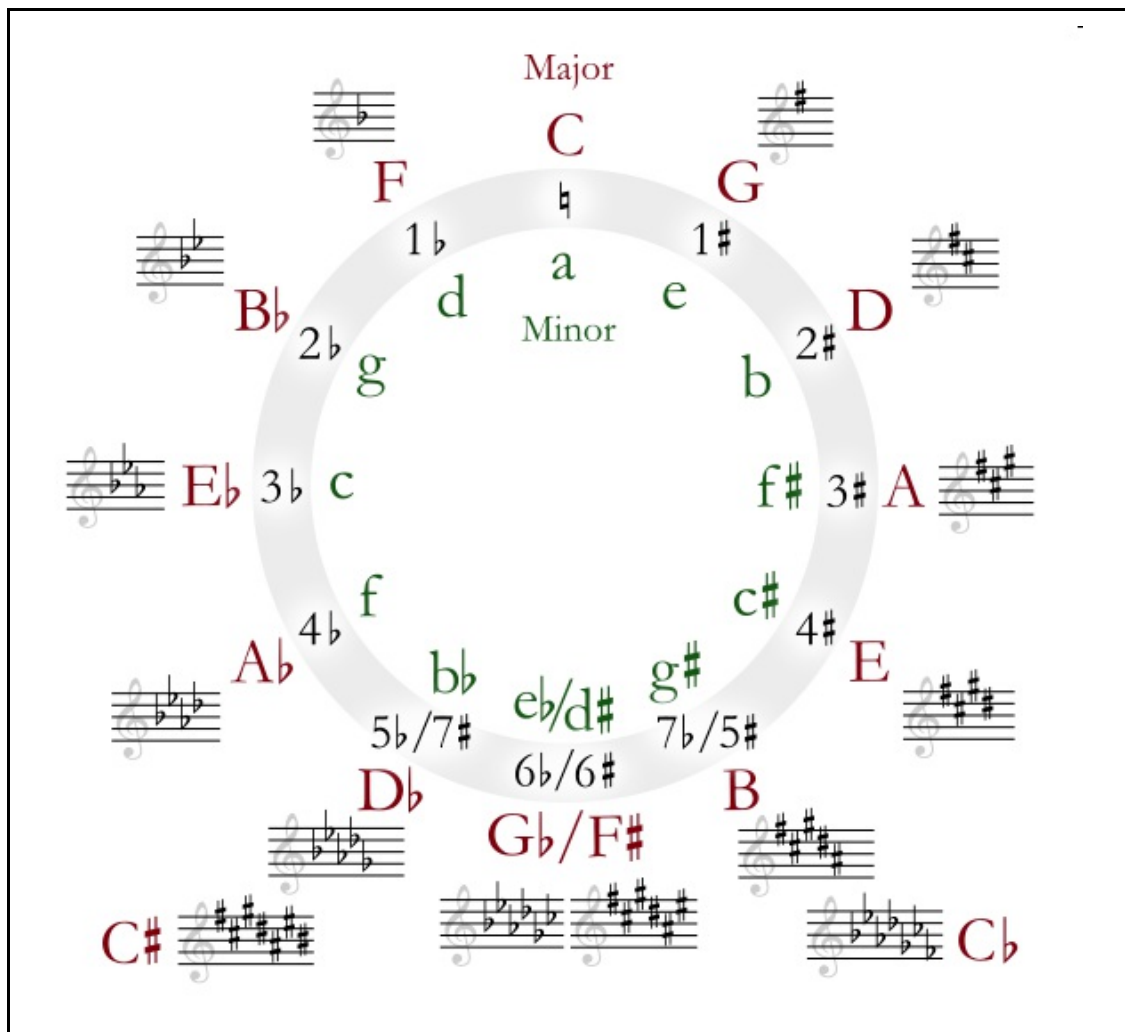
Notice that with more than one flat, the key name is the next to last flat. If Ab major were shown, it would have Bb, Eb, Ab, Db. The next to last flat is Ab, the name of the key.

It is the convention that sharps and flats are always shown in the key signature in order of increasing number by key that is G has only one sharp: F#, D has two, F#, C#. The following figure shows the accepted standard for key signatures. Remember the rules for determining Key in sharps and flats and you should be able to name the key for each signature shown. Note that the sharps are shown increasing in number from left to right but the flats are backward. This figure comes from Musescore 3 and there is a possible reason for this odd display and that is directly related to the next topic.



The Circle of Fifths

You may have heard of this. This is a diagram, a tool, used to display the relationships that exist among the 12 keys. This diagram looks complicated but we'll talk about it piece by piece.



Note that the sharps on the right are in increasing number (left to right in the Muse figure), and the flats on the left are in increasing number (right to left in the Muse figure). Perhaps the programmer who did the Muse key signature diagram was trying to stay consistent with the circle. I don't know, but it certainly sounds good!

So what does the Circle tell us?

All of the Key names, the capital letters.

The keys names are a PERFECT Fifth apart going up, sharps, and going down, flats.

The key signatures for each key and the order of placement of sharps and flats

The relative minors

We will start with C at the top (C is usually a good place to start, no key signature.)

Move to the right to the first letter: G (up the keyboard a fifth): C-D-E-F-G. Create the scale it will be found that there is one sharp: F#.

Moving to the next letter, another fifth to D. Create the scale and find two sharps: F# and C#.

This continues down to the bottom. Those bottom three will be discussed in a minute.

Starting again from C, moving to the left a fifth, down the keyboard to F: one flat - Bb.

Then another fifth (careful to make it PERFECT, 7 half steps) to Bb: two flats - Bb, Eb

On this particular diagram, on the circle just inside the Key letters, the number of sharps and flats is shown.

The three keys at the bottom all have two names. That is because Db and C# are exactly the same on the piano keyboard. Same for Gb/F# and B and Cb. Just different names. The term for this commonality is "enharmonic"

Listed in order the first four flats spell a word: B-E-A-D (flats) and note that they are a fifth apart going DOWN the keyboard.

The sharps don't spell a word: F-C-G-D-A, but a mnemonic such as **F**ast **C**ars **G**o **D**uring **A**cceleration. (It's all I could think of!)

Just to review: The key signature is determined as follows:

When sharps are used the Key name is one half step up from the last listed sharp.

When flats are used the Key name is the next to last listed flat.

Key signatures NEVER MIX SHARPS AND FLATS. Either none or one or the other.

Minor keys: The circle introduces minor keys so this will be a good time to talk a little about them.

Minor keys do not own a key signature. Make a mental note of that.

A minor key takes the key signature of the Major Key which is a minor third above the root. That is referred to as the relative Major. Sometimes when speaking of a Major key the term relative minor will be used particularly if there is a modulation to it. The terms are simply based on the starting point.

Take the root or tonic of the minor key, for example “a” minor and count up a third and insure it is a minor third. This will put you on C therefore that key signature is used by “a minor” which means a piece with no key signature could be in C or a minor; there is not specific indication of which, you have to look at the chords. Frequently, but not always, the opening chord is either the Tonic or Dominate of the Key. Almost always the final chord is the tonic of the key. Thus you see a score with no key signature and the last chord/tonality is “a” minor, that piece is written in “a” minor.

Using “g” minor count up a MINOR third from the note G and find Bb thus the relative major and key signature of “g” minor is taken from Bb Major in this case two flats: Bb and Eb.

The roman numerals will be used in a minor key just as they are for a Major but the default tonality is not the same. Where the I chord in a Major key is also a Major chord, in a minor key the I is a minor chord. So in a minor key, I, IV, and V are minor, II is diminished, III, and VI are major. You should be aware of these differences rather than trying to memorize them. Chord names: Tonic, Dominate, etc. do remain the same.

So within the inner ring of the circle are listed the minor keys opposite their related Majors.

There is no assignment for this lesson. Constructing the circle when it is already provided and a topic of discussion is literally reinventing the wheel. It would be worth while to look at the key signature figure and identify what each one is by applying the appropriate sharp or flat rule.

Questions, however, should be asked.