Scales and Arpeggios

for Trumpet Players of all ages

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Scales- Introduction

Scales and arpeggios are part of our basic training in the technique of our instrument. Fluency improves all aspects of our playing and allows our brains and fingers to recognize patterns quickly and efficiently.

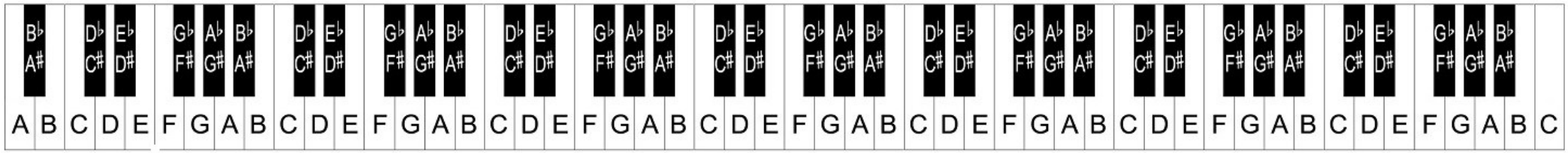
The scales in this booklet are arranged so that musicians can tackle them in order. Players should memorize each page before moving on to the next step. Even brand-new beginners can start working on scales. When you have a scale memorized you must keep practicing it to keep in "in your fingers". Scale study is a cumulative process- we keep adding to our list of scales that we are practicing each day.

A metronome is an essential tool for practicing these "patterns"- fingers, tongue and brain work efficiently only when there is a steady pulse. You should play ONLY as fast as you can play perfectly- learning patterns are about muscle memory, and players will only improve through repetition. If you practice a scale incorrectly 5 times and correctly 1 time the body will remember whatever you did the most! So, go slow enough to get it right each time. Ultimately, this will lead to faster progress.

Each type of scale should be practiced slurred at first, to establish connected wind. After the pattern is memorized the player should practice with different articulations; all tongued, all legato tongued, slur two tongue two, etc.

This booklet serves as an introduction- advanced study requires other resources, such as Arban's Complete Conservatory Method, and Clarke's Technical Studies, etc. See your teacher for a list of these resources.

88-Key Piano Keyboard Layout



www.Piano-Keyboard-Guide.com

The Chromatic Scale

The Chromatic Scale consists of ALL half-steps (adjacent keys on the piano keyboard).

Going up, we spell the chromatic scale with sharps (#), as sharps raise the pitch ½ step.

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

Going down, we spell the chromatic scale with flats (b), as flats lower the pitch ½ step.

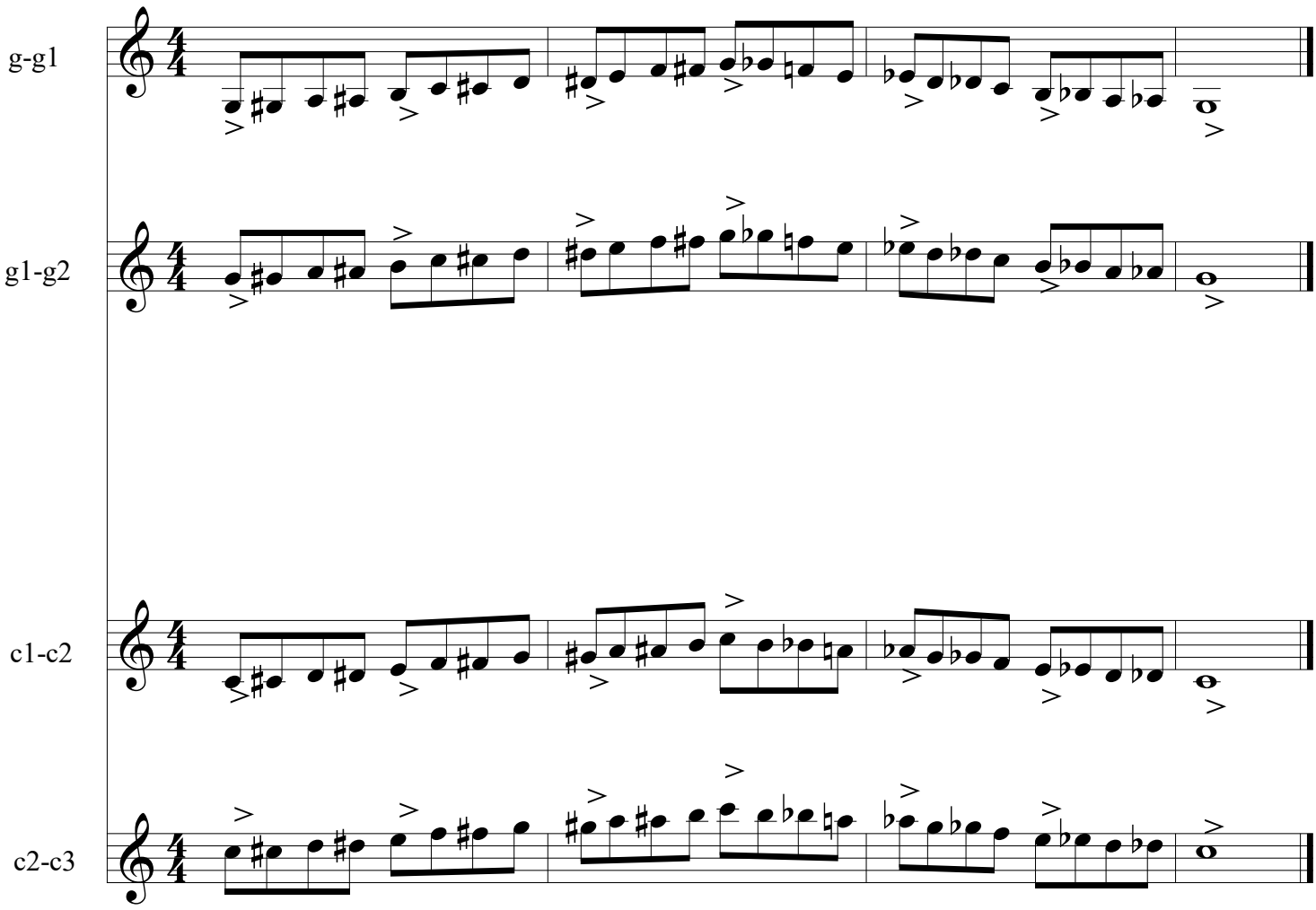
C-B-Bb-A-Ab-G-Gb-F-E-Eb-D-Db-C

Beginners benefit greatly from practicing the chromatic scale, as they are exposed to all the notes and fingerings.

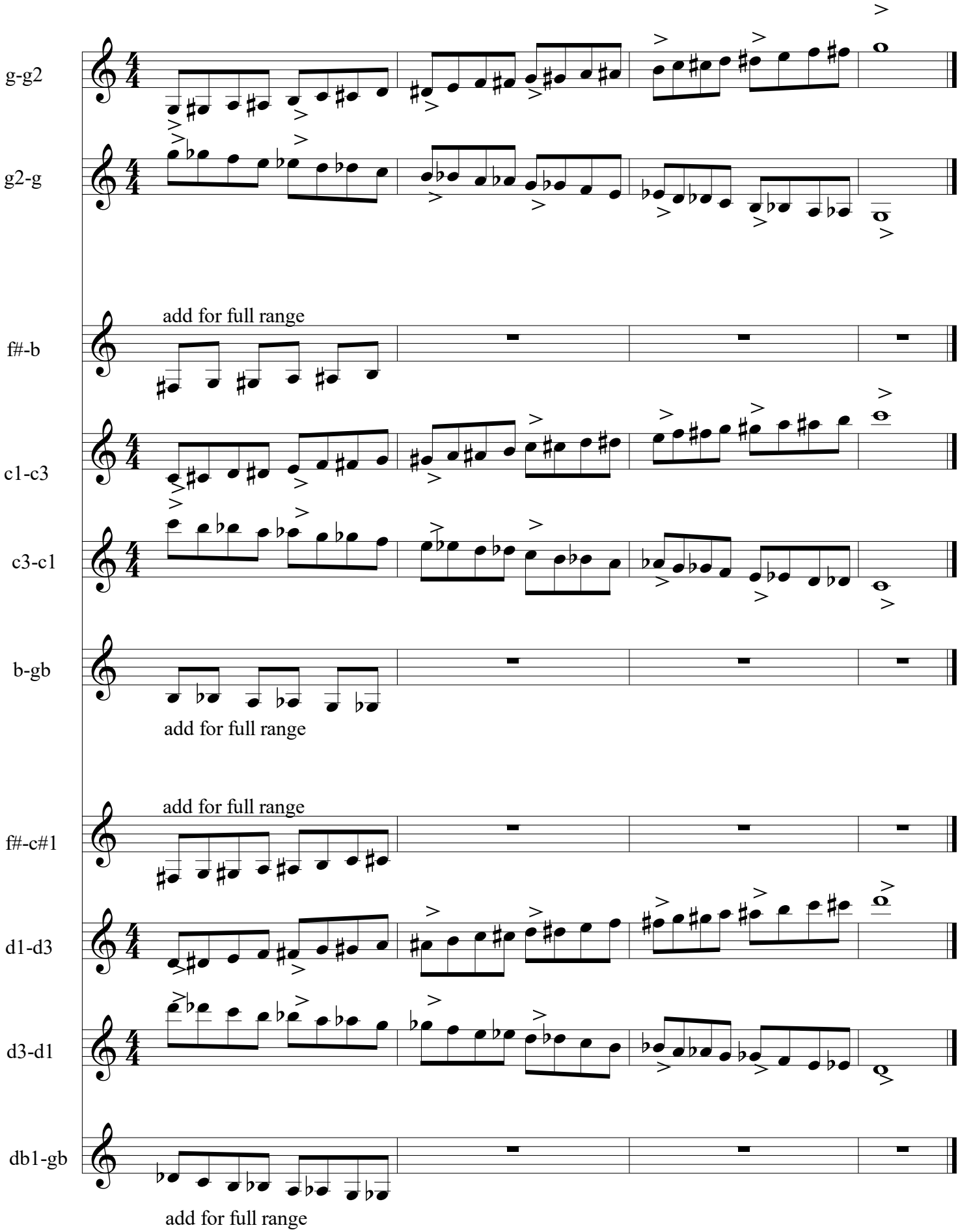
More advanced players should be able to play the chromatic scale starting on any note and continuing throughout the player's full range.

Use a metronome! A steady pulse is crucial for pattern learning!

Chromatic Scale- Beginner



Chromatic Scale



The Major Scale

All scales (other than the chromatic) are patterns of whole and half steps. If you start playing on any note, play each note name in order and apply this pattern, you will have the "sound" of that type of scale.

Basic note names in order:

1-2-3-4-5-6-7-8 (1)

A-B-C-D-E-F-G-A

B-C-D-E-F-G-A-B

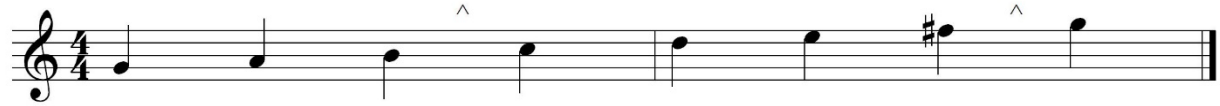
C-D-E-F-G-A-B-C

Etc.

Major scales have half-steps (^) between 3 and 4, and between 7 and 8; the rest are whole steps.

1-2-3^4-5-6-7^8

[C Major has no flats or sharps]



[G Major has 1 #- F#)

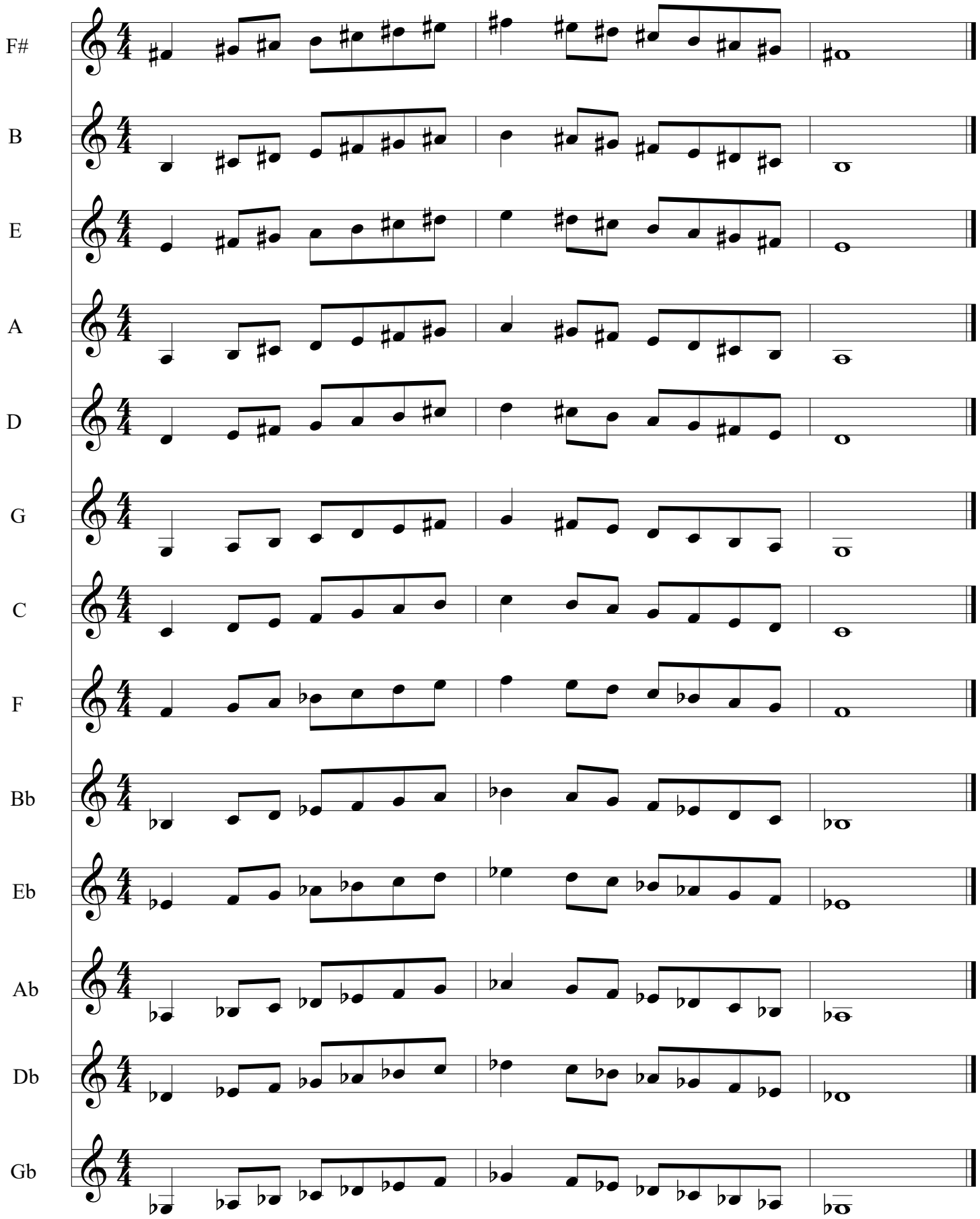
[F Major has 1 b- Bb]

Etc.

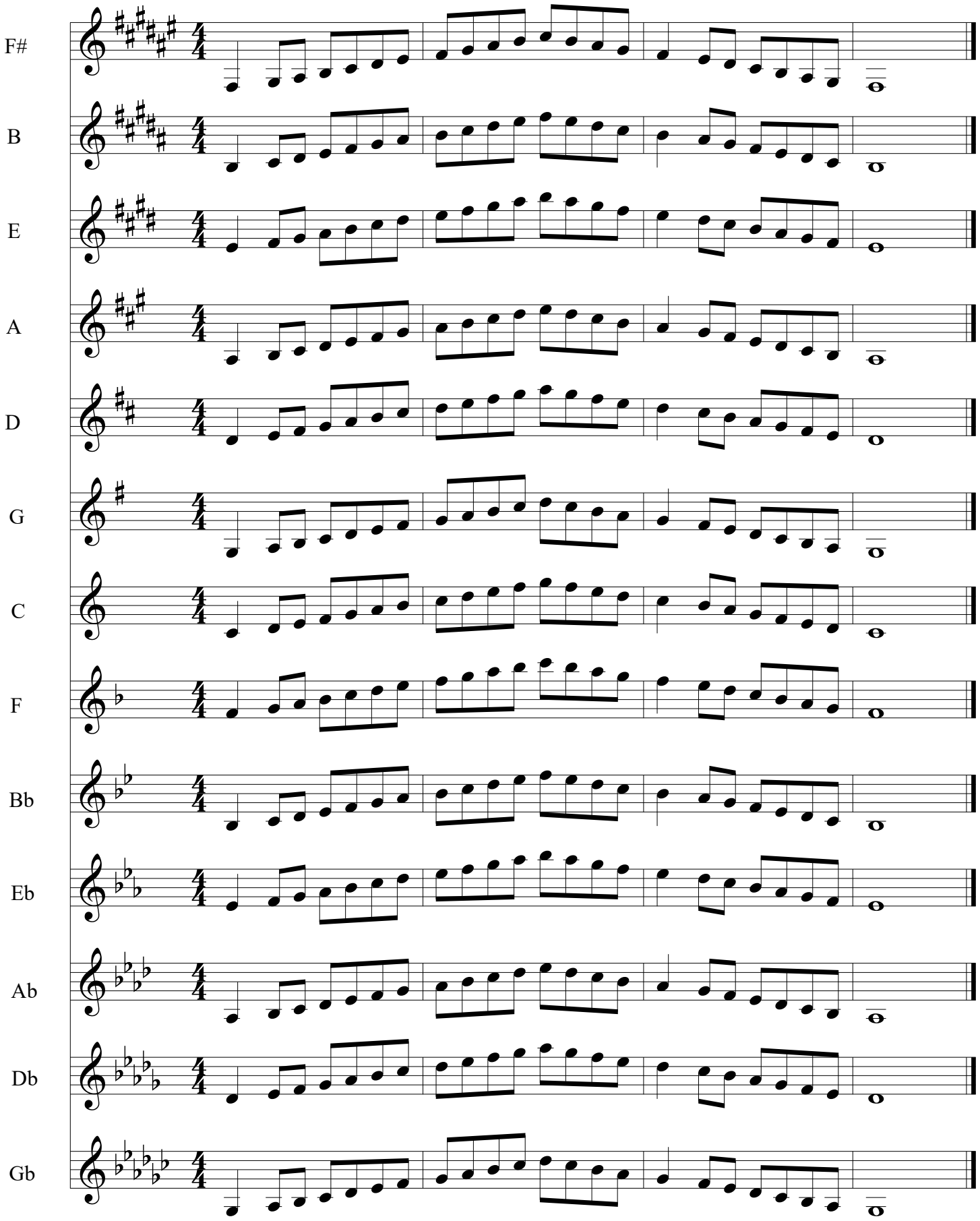
If you are new to music theory, discuss how this works with your teacher!

Practice the major scales through your playable range. This booklet has three options: 1 octave, 1 octave plus a 5th, and 2 octaves. Use a metronome!

Major Scales- one 8ve no key signature

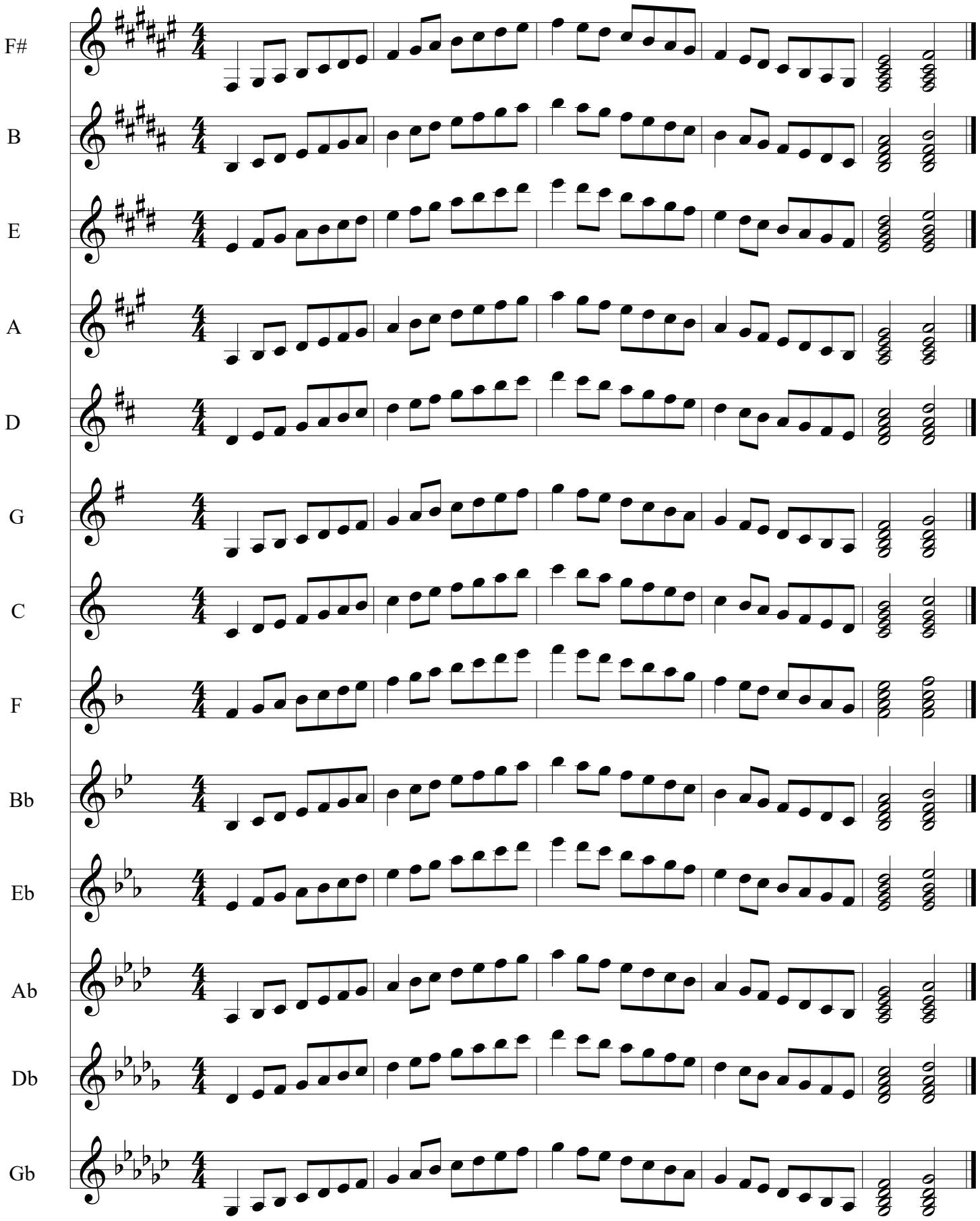


Major Scales- 8ve + 5th



Major Scales- two 8ve

Xmaj7 - X



The minor scales

All scales (other than the chromatic) are patterns of whole and half steps. If you start playing on any note, play each note name in order and apply this pattern, you will have the "sound" of that type of scale.

Basic note names in order:

1-2-3-4-5-6-7-8 (1)

A-B-C-D-E-F-G-A

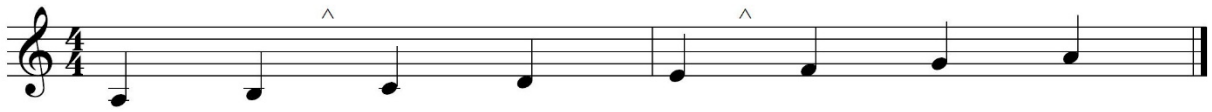
B-C-D-E-F-G-A-B

C-D-E-F-G-A-B-C

Etc.

Natural minor scales have half-steps (^) between 2 and 3, and between 5 and 6; the rest are whole steps.

1-2^3-4-5^6-7-8



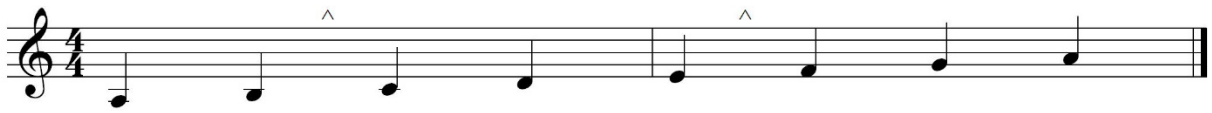
[a minor has no flats or sharps]

[e minor has 1 #- F#]

[d minor has 1 b- Bb]

There are two other forms of the minor scale: Harmonic minor, and Melodic minor. For these two forms we make an adjustment from the Natural minor.

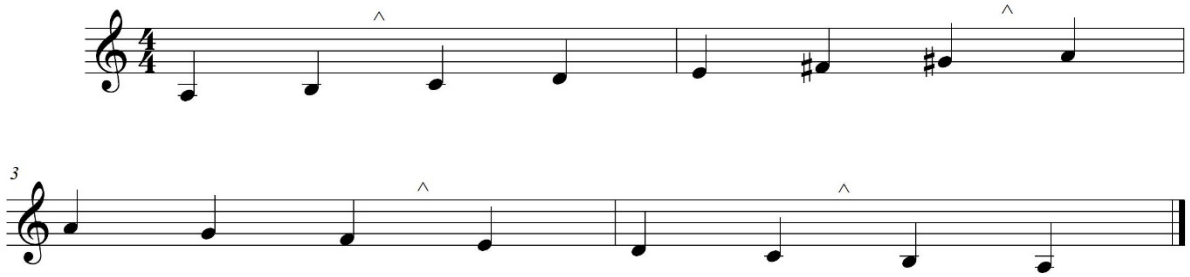
For **Harmonic minor**, we start with the Natural minor and we raise the 7th step a half-step, by adding either a sharp sign or a natural sign (if the note was originally a flat note). This creates a half-step (^) "leading tone" into tonic. It also creates an augmented 2nd (*) between step 6 and step 7, which gives the harmonic minor scale its distinctive sound. The harmonic minor scale is important in jazz and should be practiced starting on the tonic and the fifth.



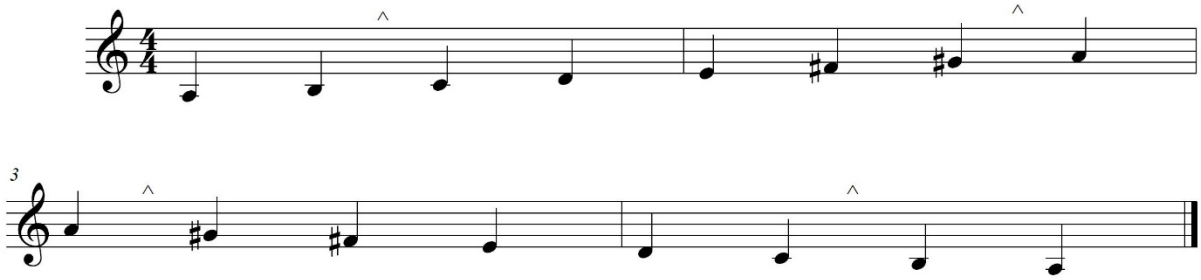
[a natural minor]

[a harmonic minor]

For **Melodic minor**, we start with the Natural minor and we raise the 6th AND 7th step a half-step, by adding either a sharp sign or a natural sign (if the note was originally a flat note) on the upward portion of the scale. We ONLY do this when the scale is going UP. When the scale is going DOWN we go back to Natural minor. The **jazz melodic minor** raises the 6th and 7th steps a half-step going up AND down.



[a melodic minor}

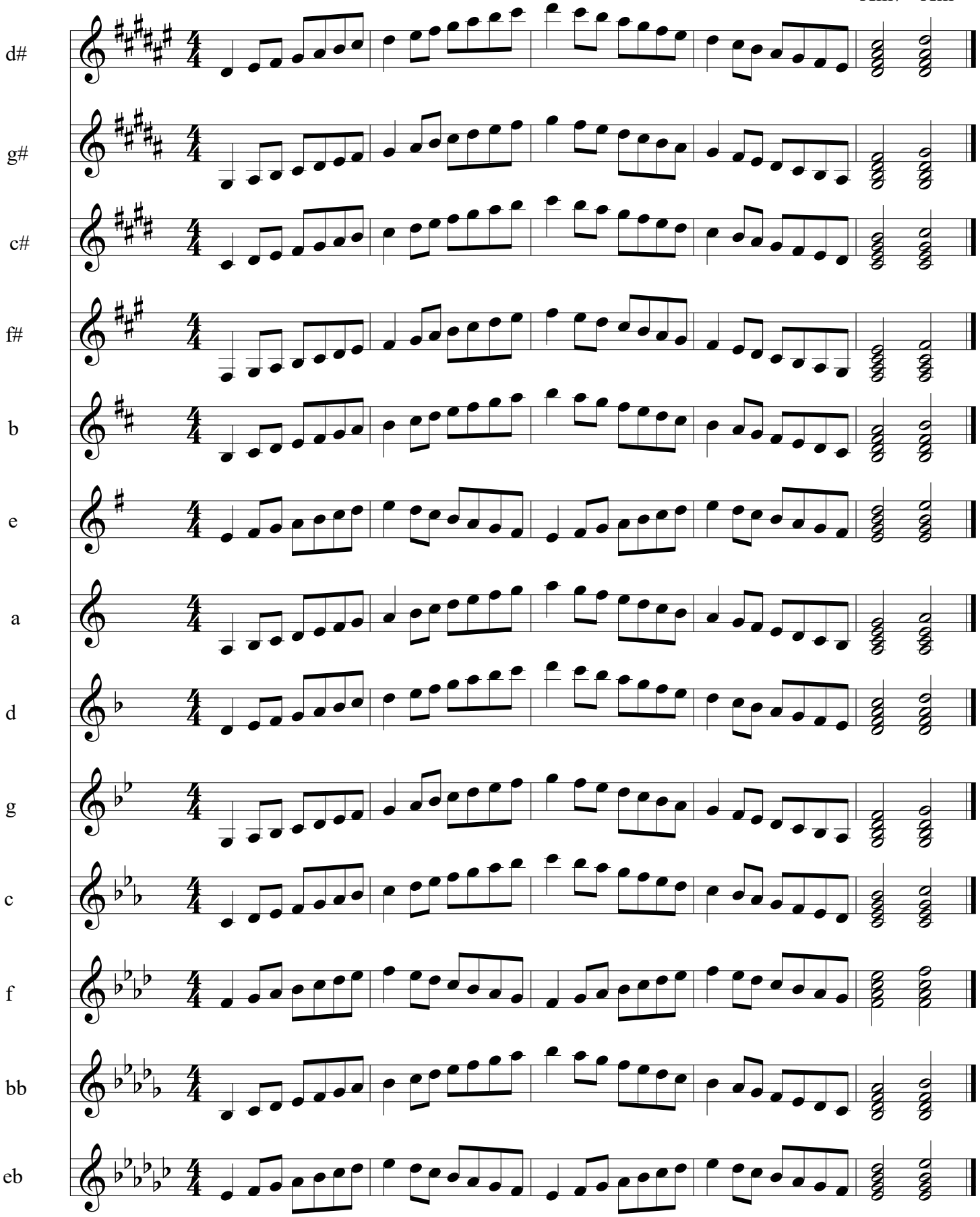


[jazz melodic minor]

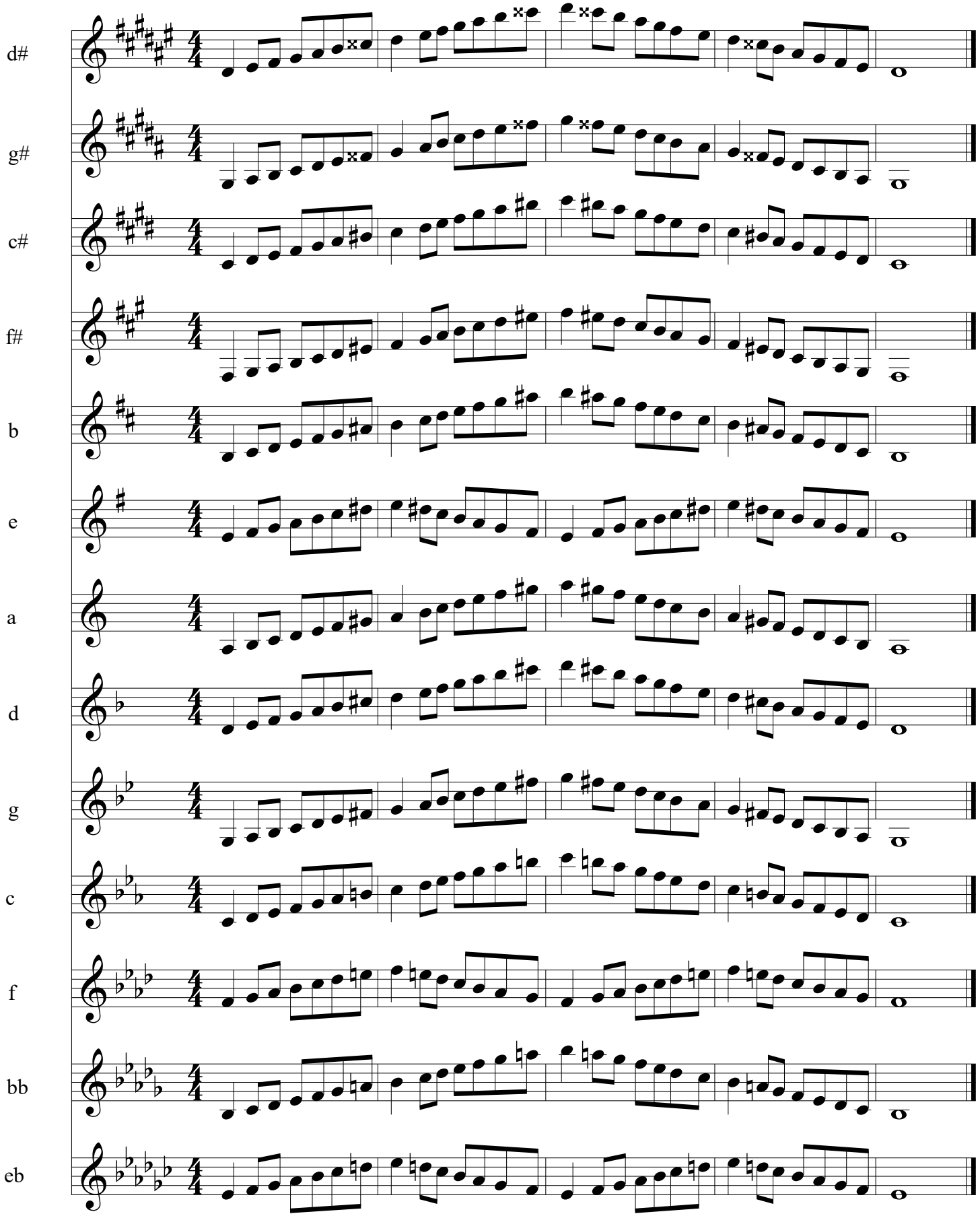
Practice the minor scales through your playable range. Use a metronome!

natural minor scales

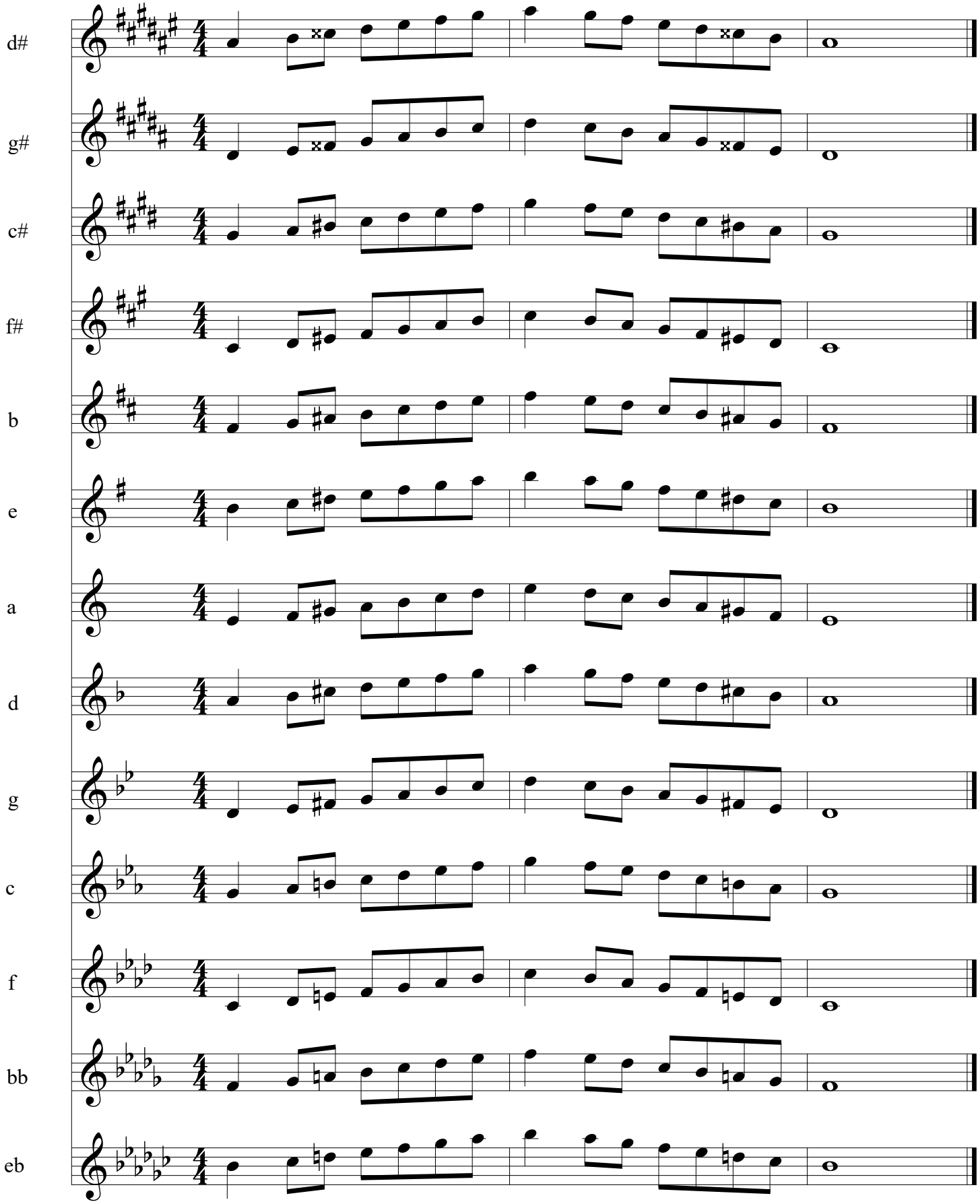
Xm7 - Xm



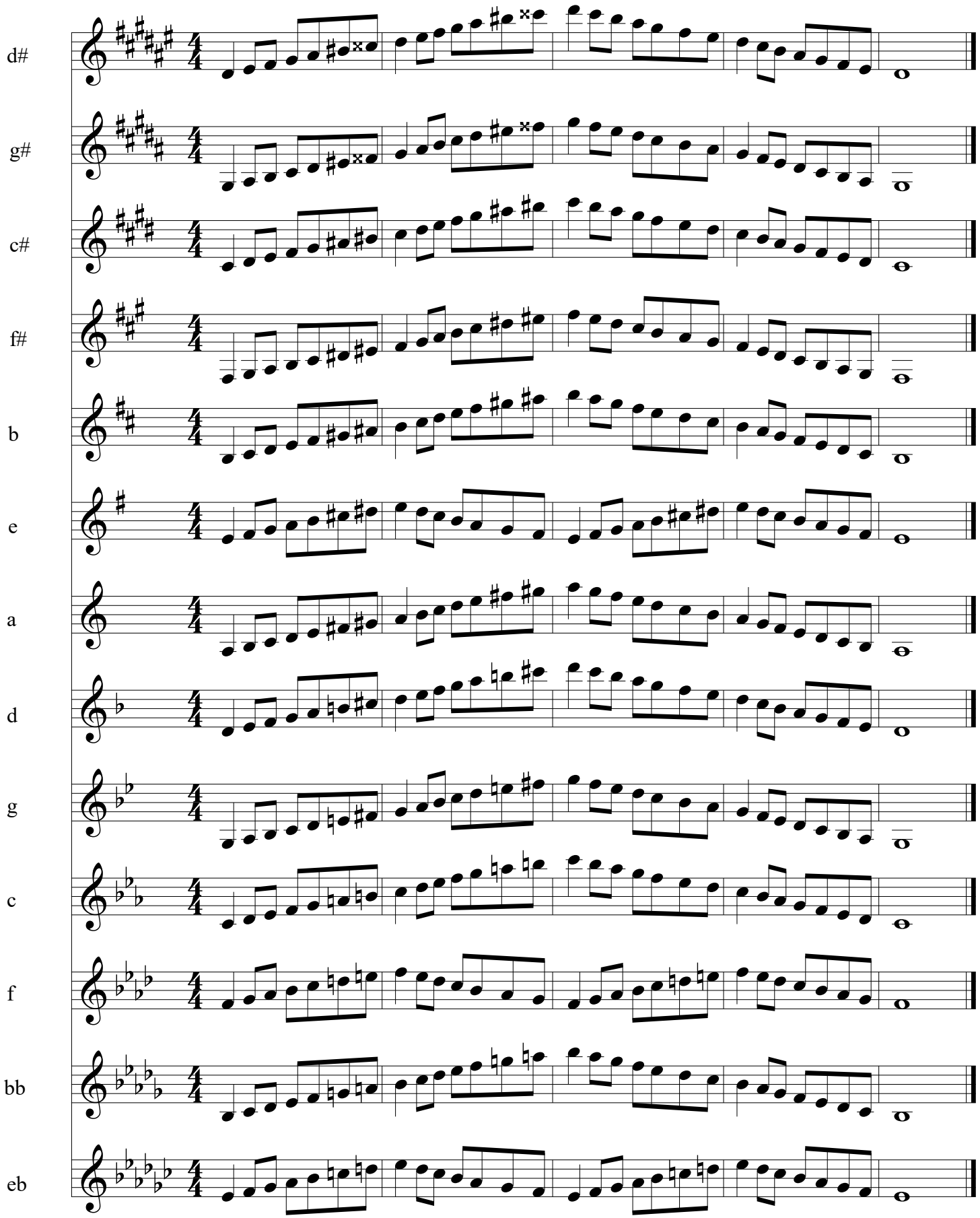
harmonic minor scales



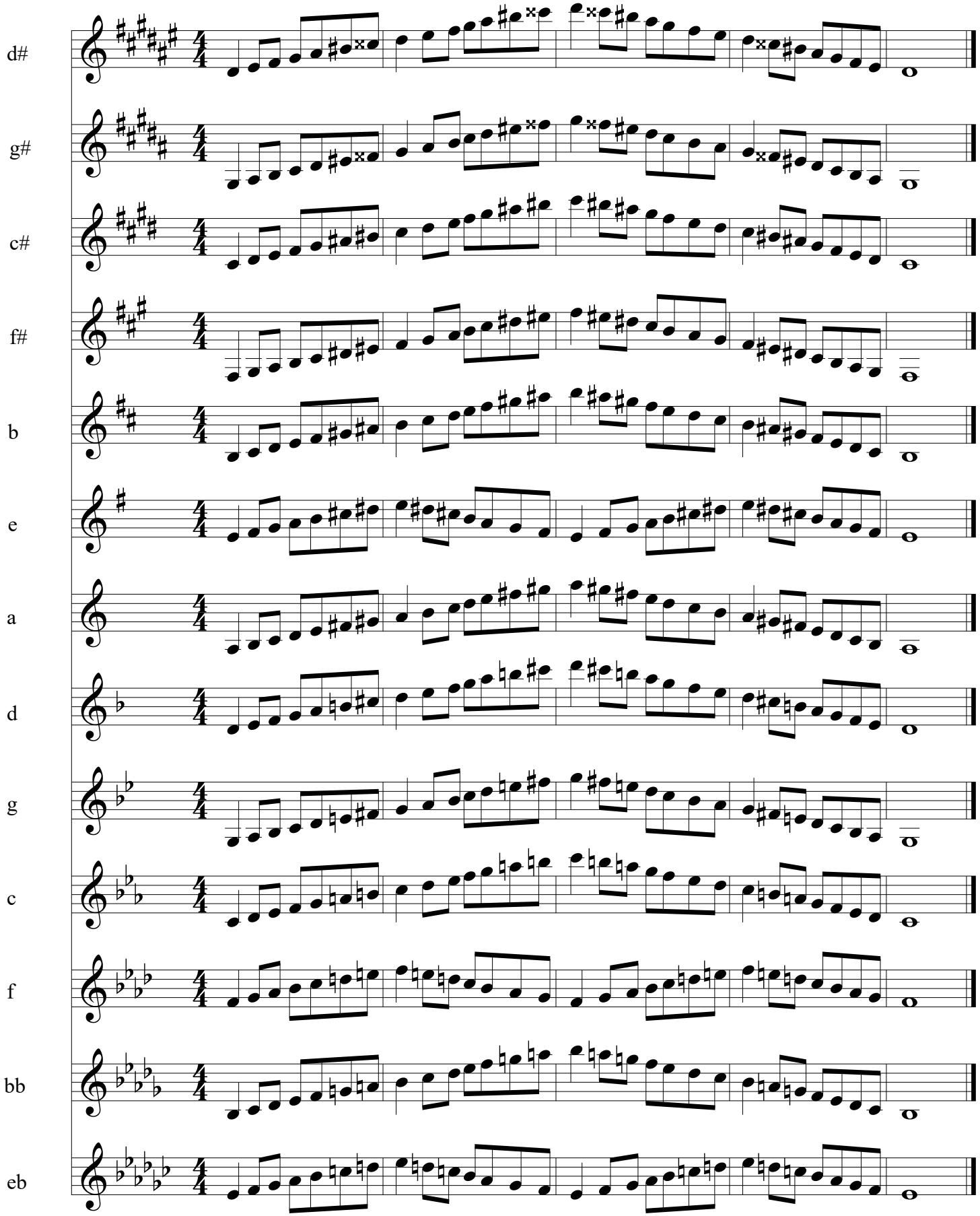
harmonic minor scales- starting on 5th



melodic minor scales



Jazz Melodic Minor scales



Arpeggios

Arpeggios are outlines of the "chords", usually of triads (chords built in 3rds).

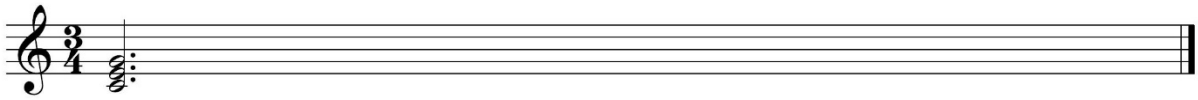
For example, in C Major we have the following steps of the scale:

1-2-3-4-5-6-7-8

If I only play 1-3-5-8 we have the C Major Triad (**C**-D-**E**-F-**G**-A-B-**C)**

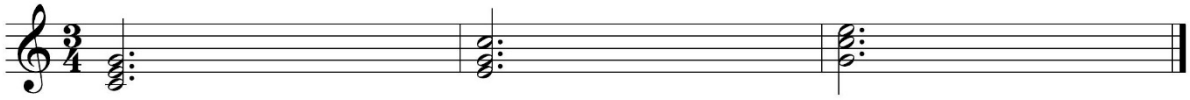
If we take 1-3-5 and stack them, we have a C Major chord.

G 5
E 3
C 1

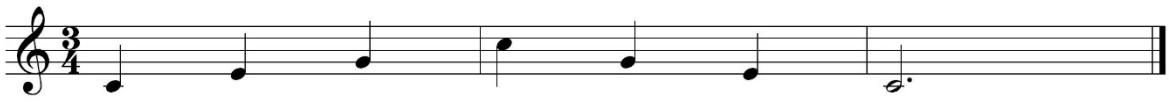


We can start with any of these three notes in the bottom of the chord:

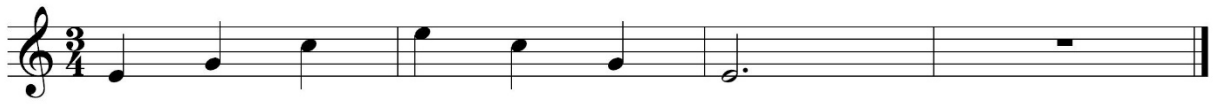
G	5	C	1	E	3
E	3	G	5	C	1
C	1 (root position)	E	3 (first inversion)	G	5 (second inversion)



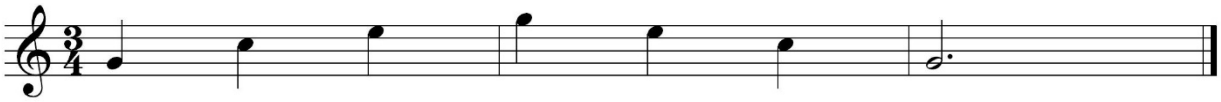
As melodic instruments, trumpet players can't play the chord (since we can only play one note at a time), but we can outline, or arpeggiate the chord.



C-E-G-C-G-E-C or 1-3-5-1-5-3-1 (root position)



E-G-C-E-C-G-E or 3-5-1-3-1-5-3 (first inversion)



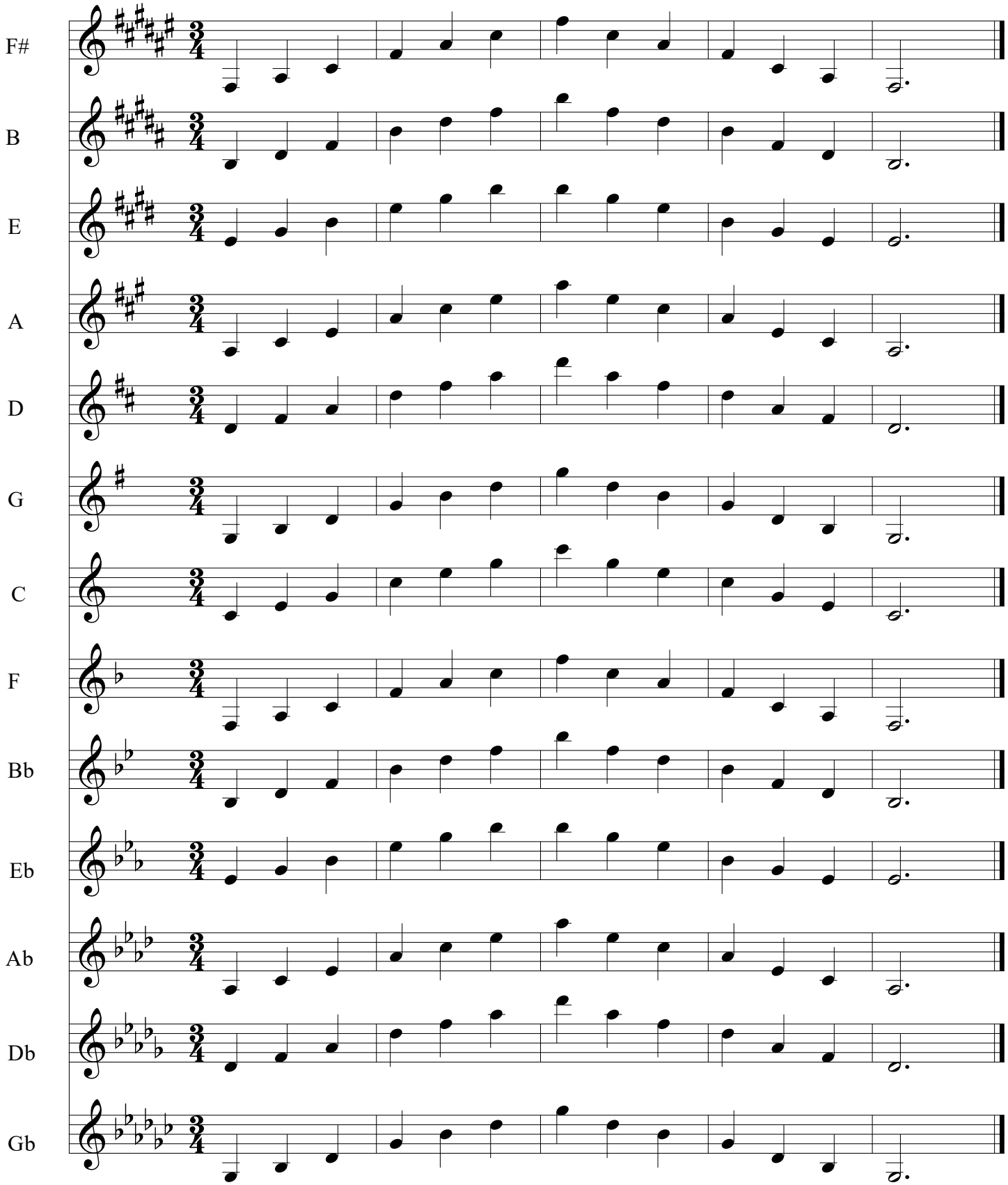
G-C-E-G-E-C-G or 5-1-3-5-3-1-5 (second inversion)

We can continue to stack 3rds for extended chords- 7^{th}, 9^{th}, 11^{th}, 13^{th}, etc.

I have included major and minor arpeggios in their root position- see Arban or other sources for other inversions. I've also additional arpeggios of interest. Discuss these with your teacher.

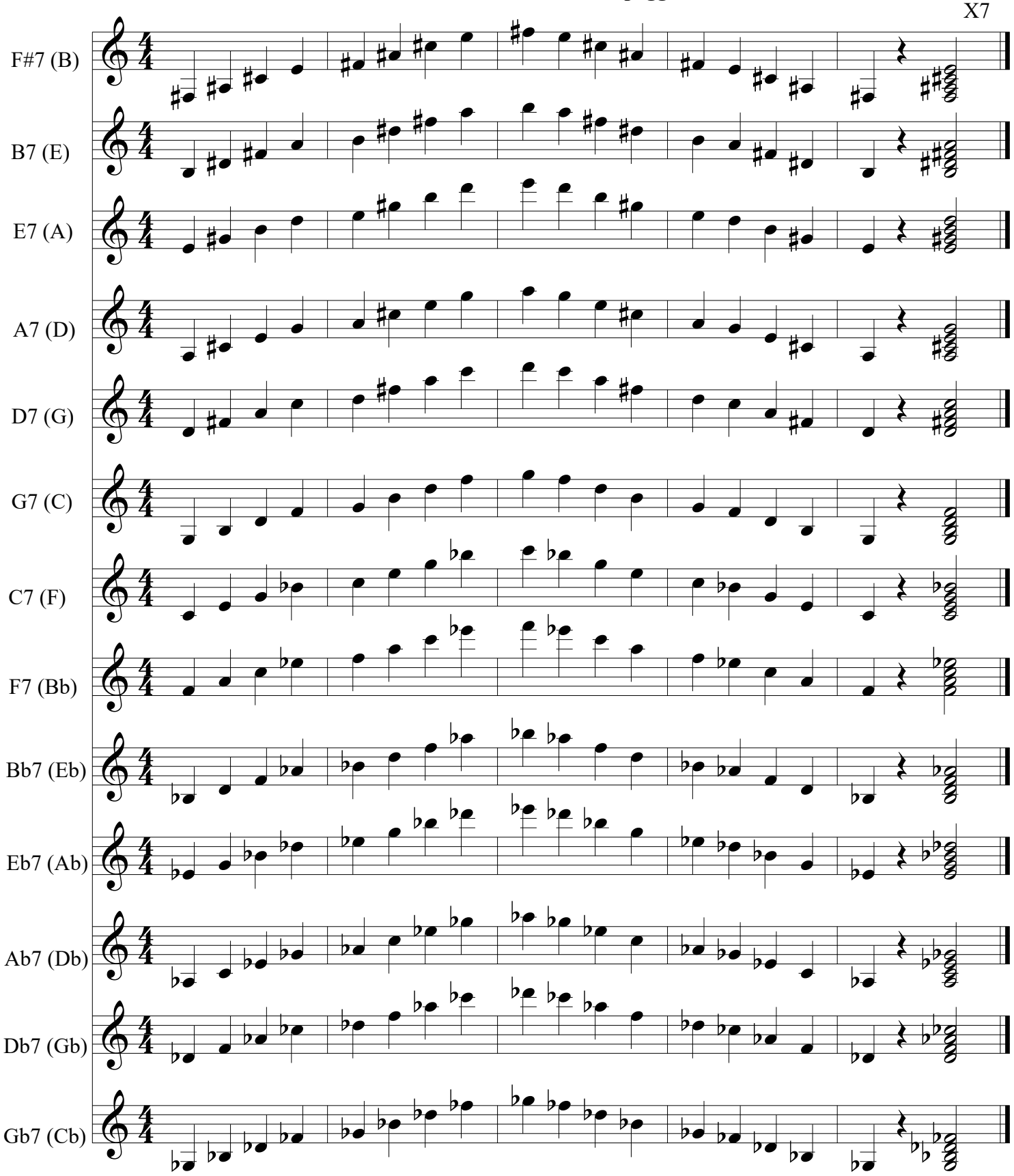
Use a metronome!

Major Arpeggios



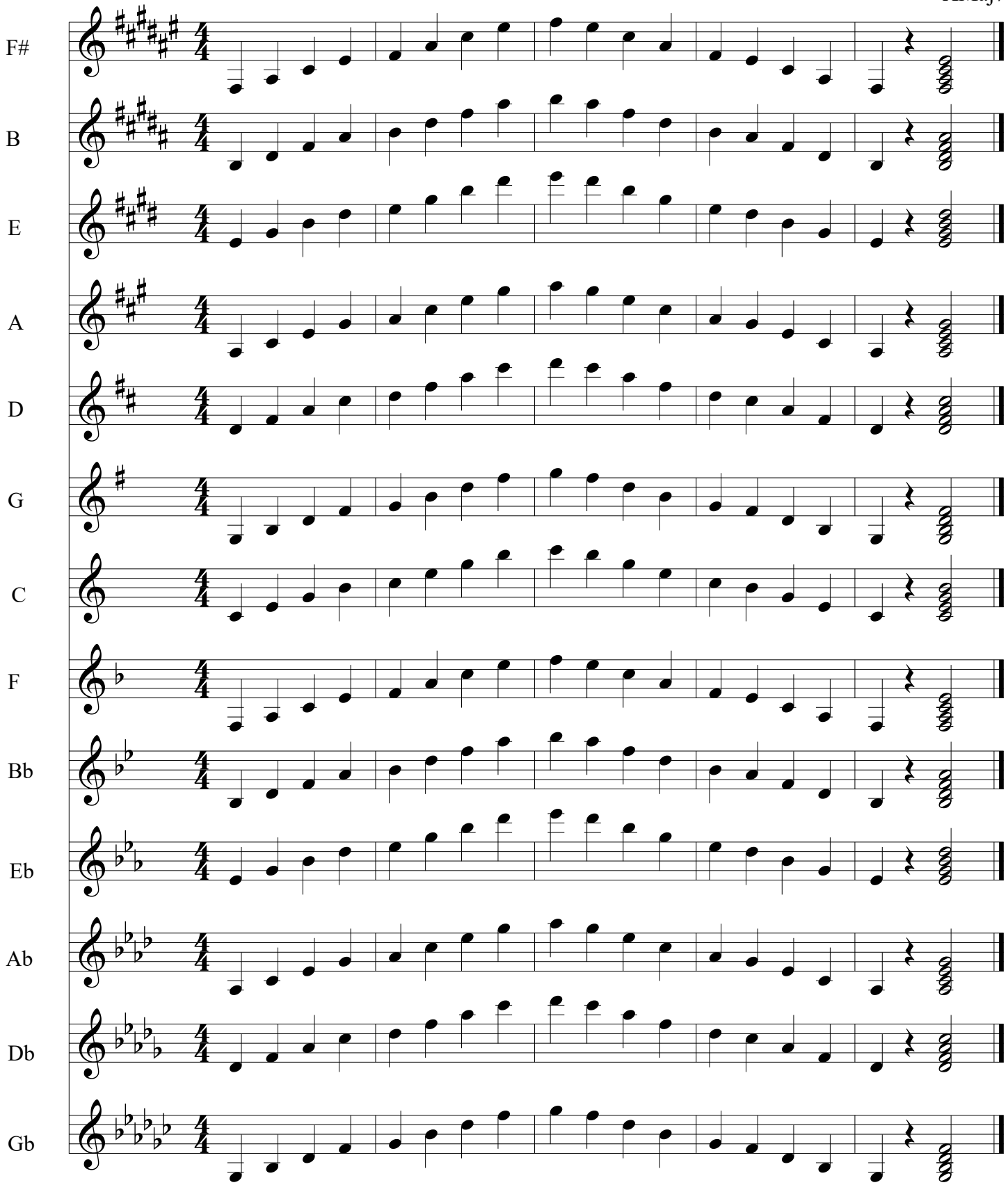
Dominant Seventh Arpeggios

X7

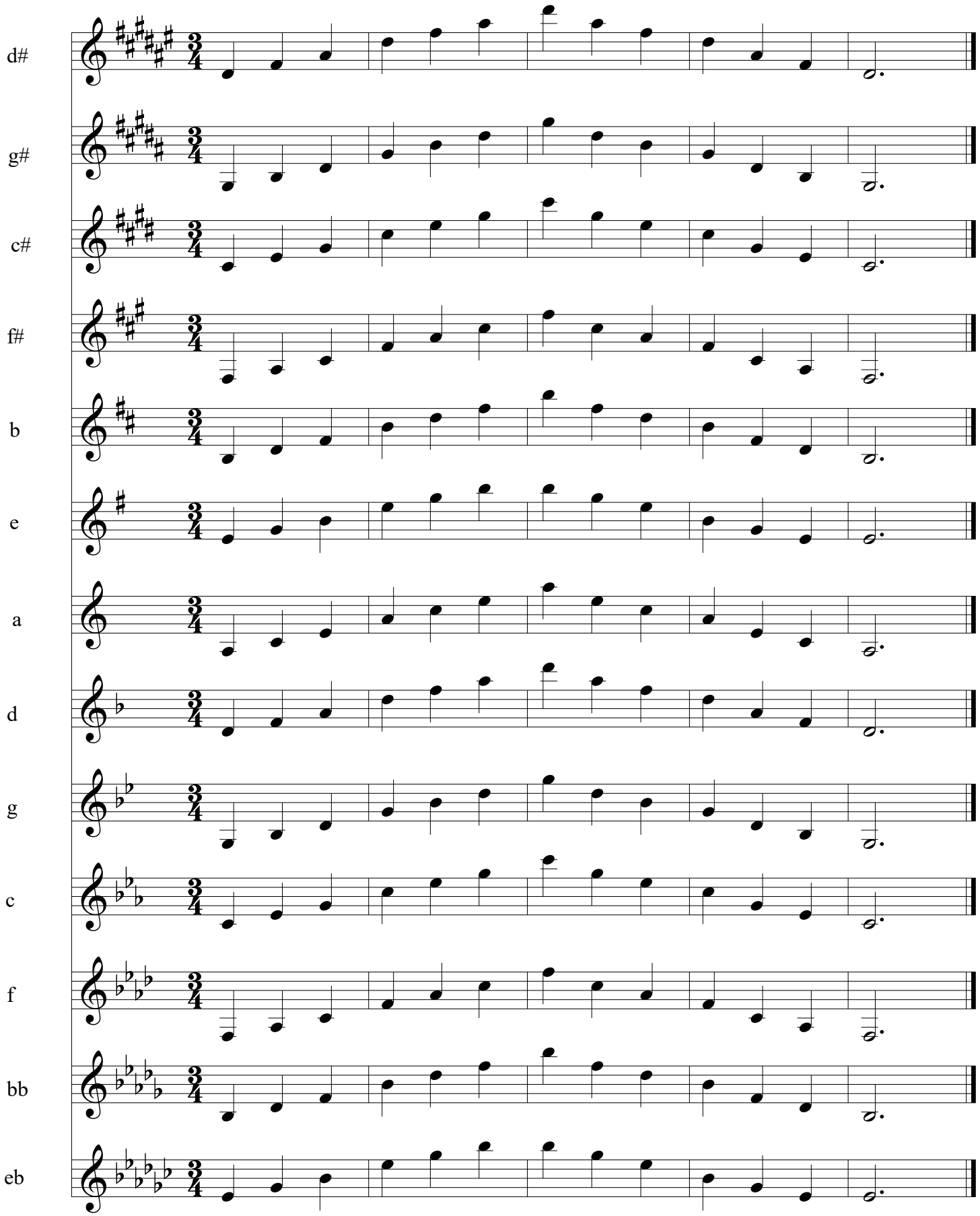


Major Seventh Arpeggios

XMaj7

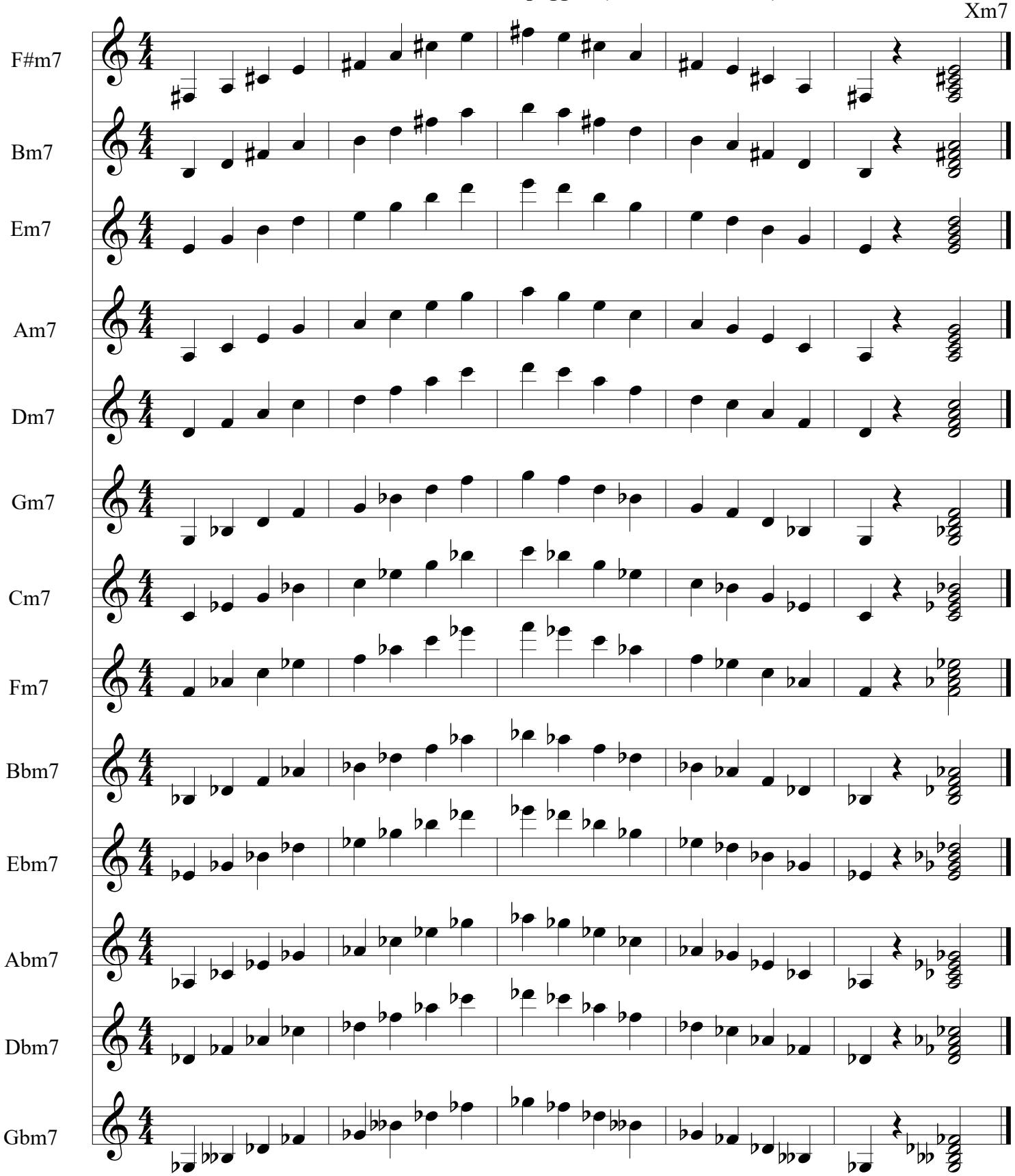


minor arpeggios

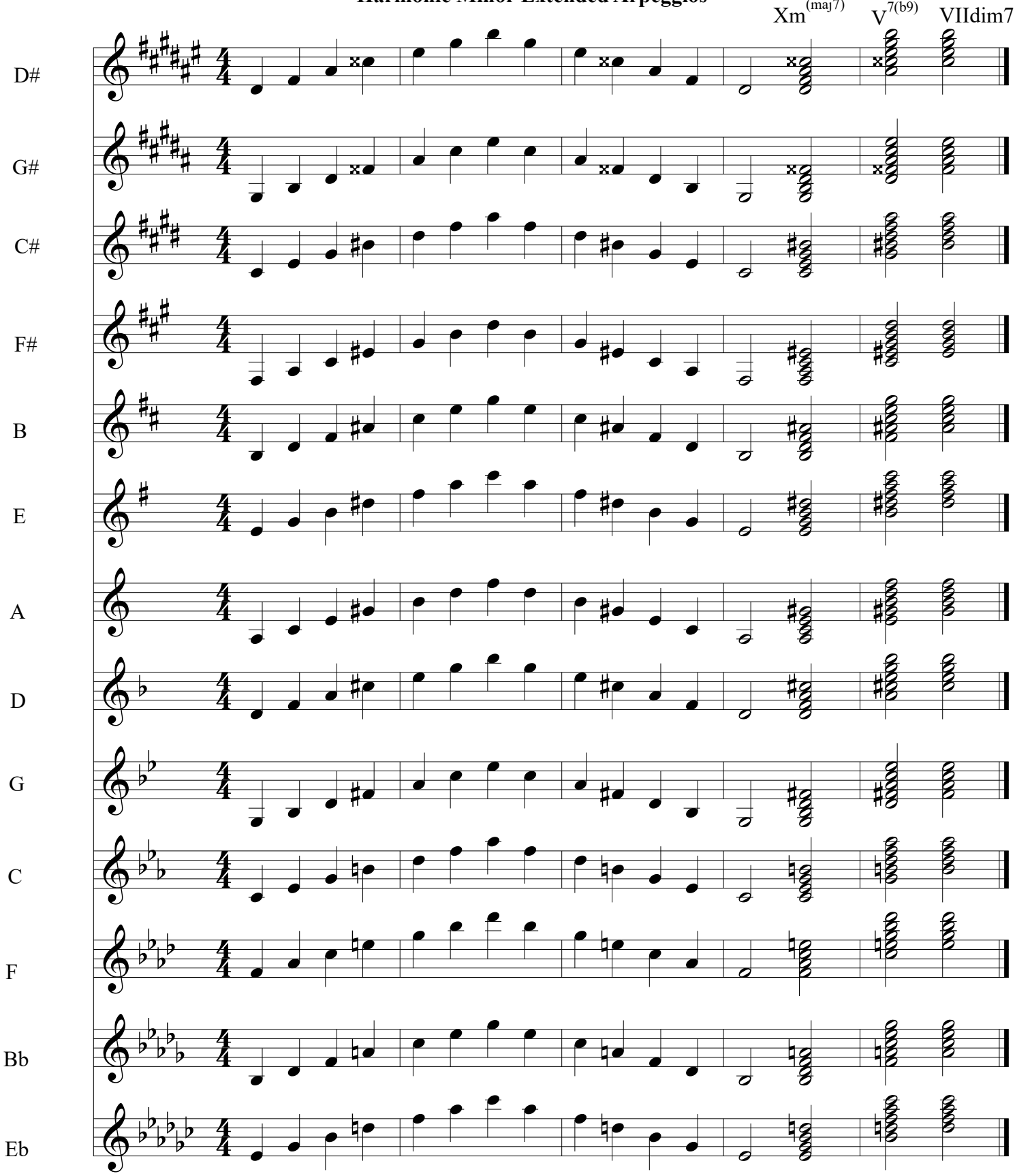


Minor Seventh Arpeggios (Xmin7, Xm7, X-7)

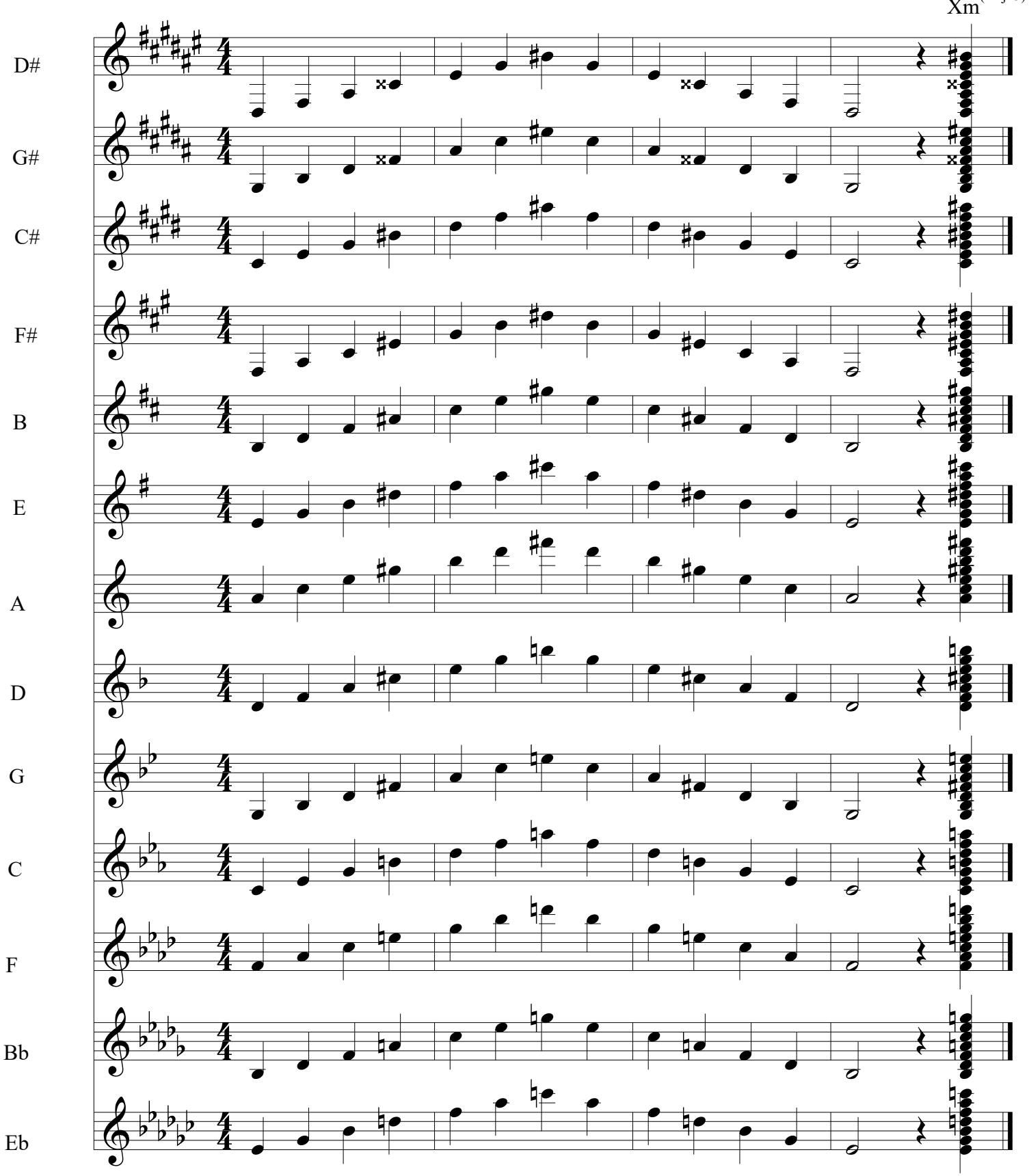
Xm7



Harmonic Minor Extended Arpeggios

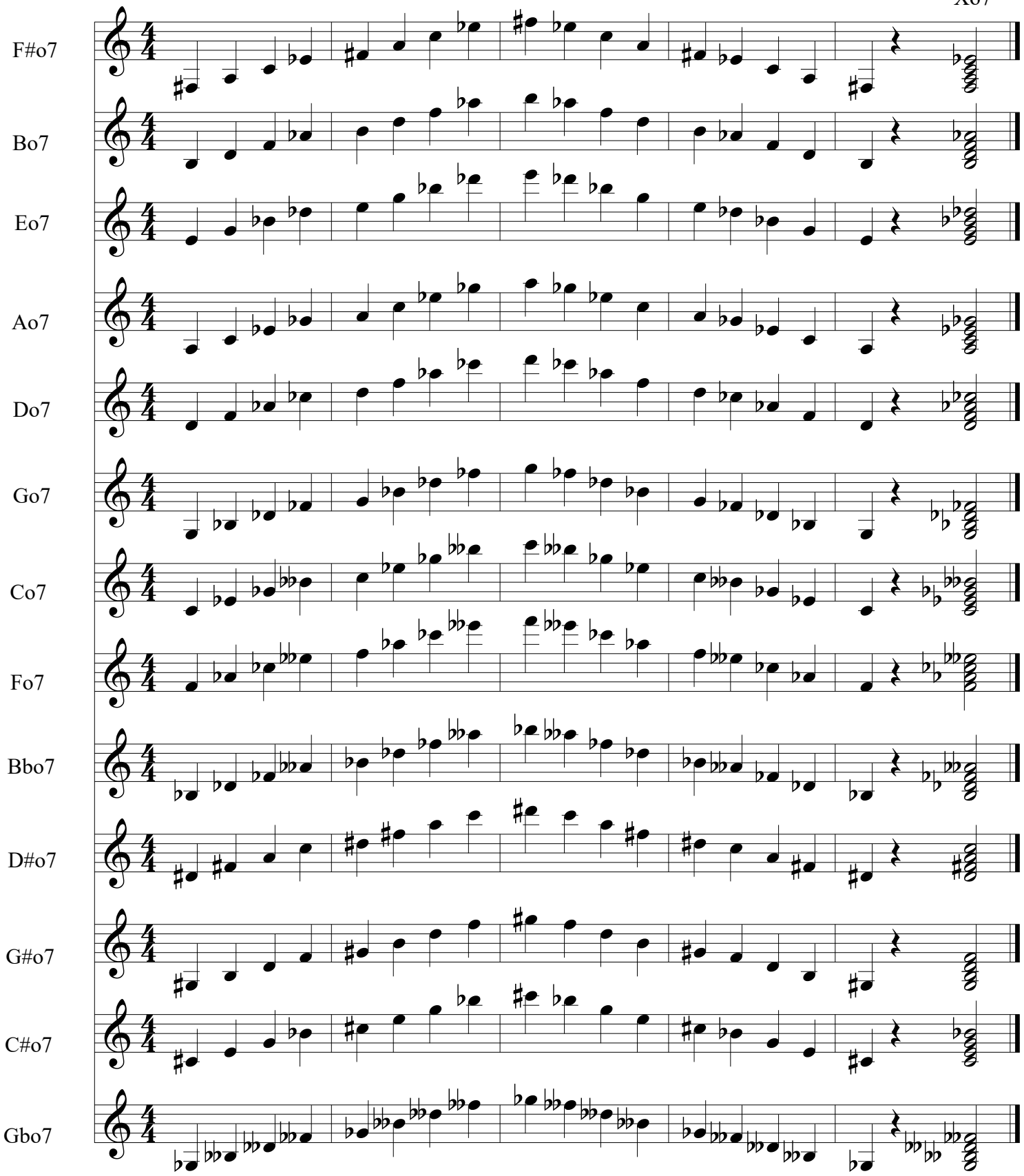


Melodic Minor Extended Arpeggios

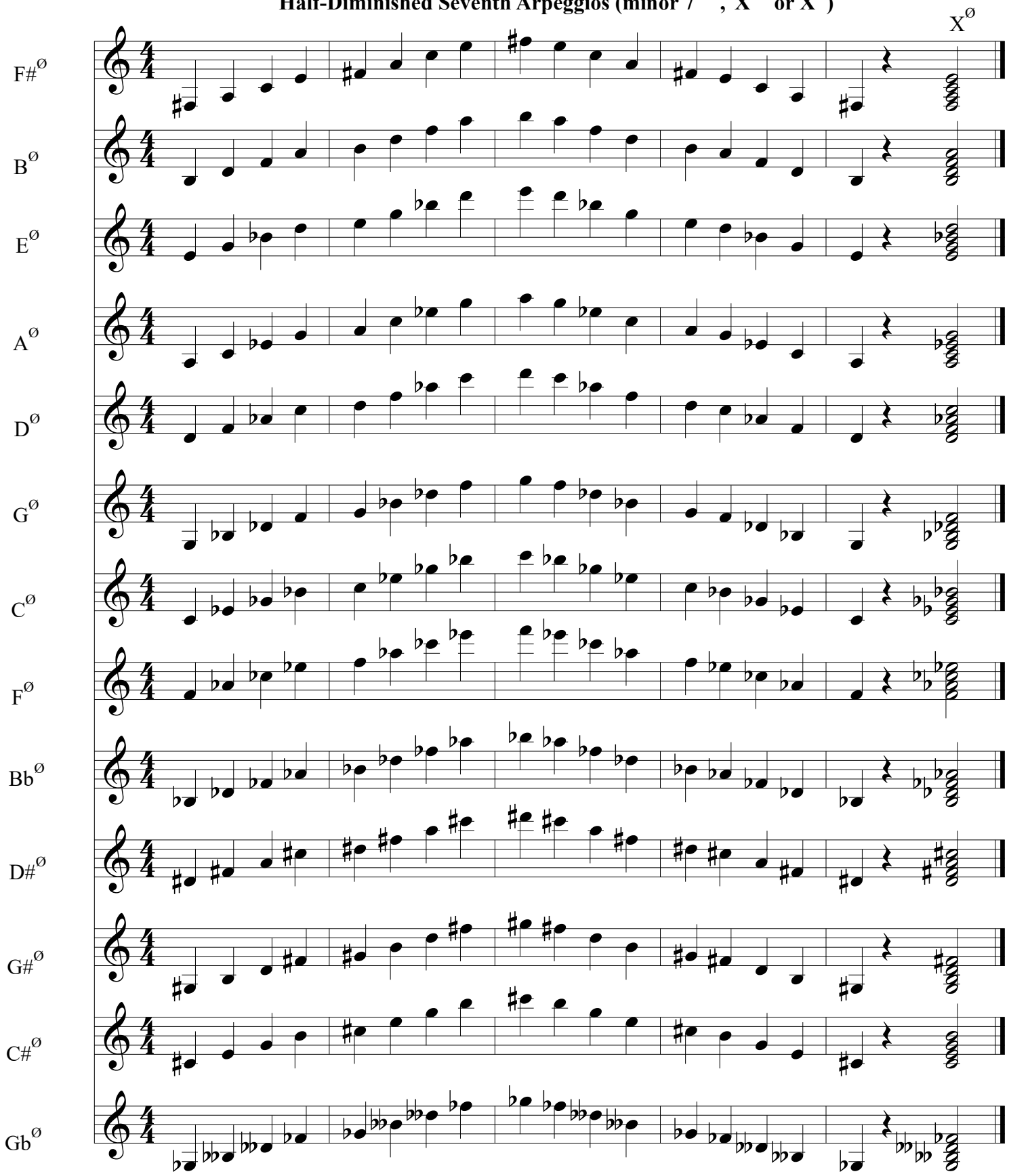


Diminished Seventh Arpeggios

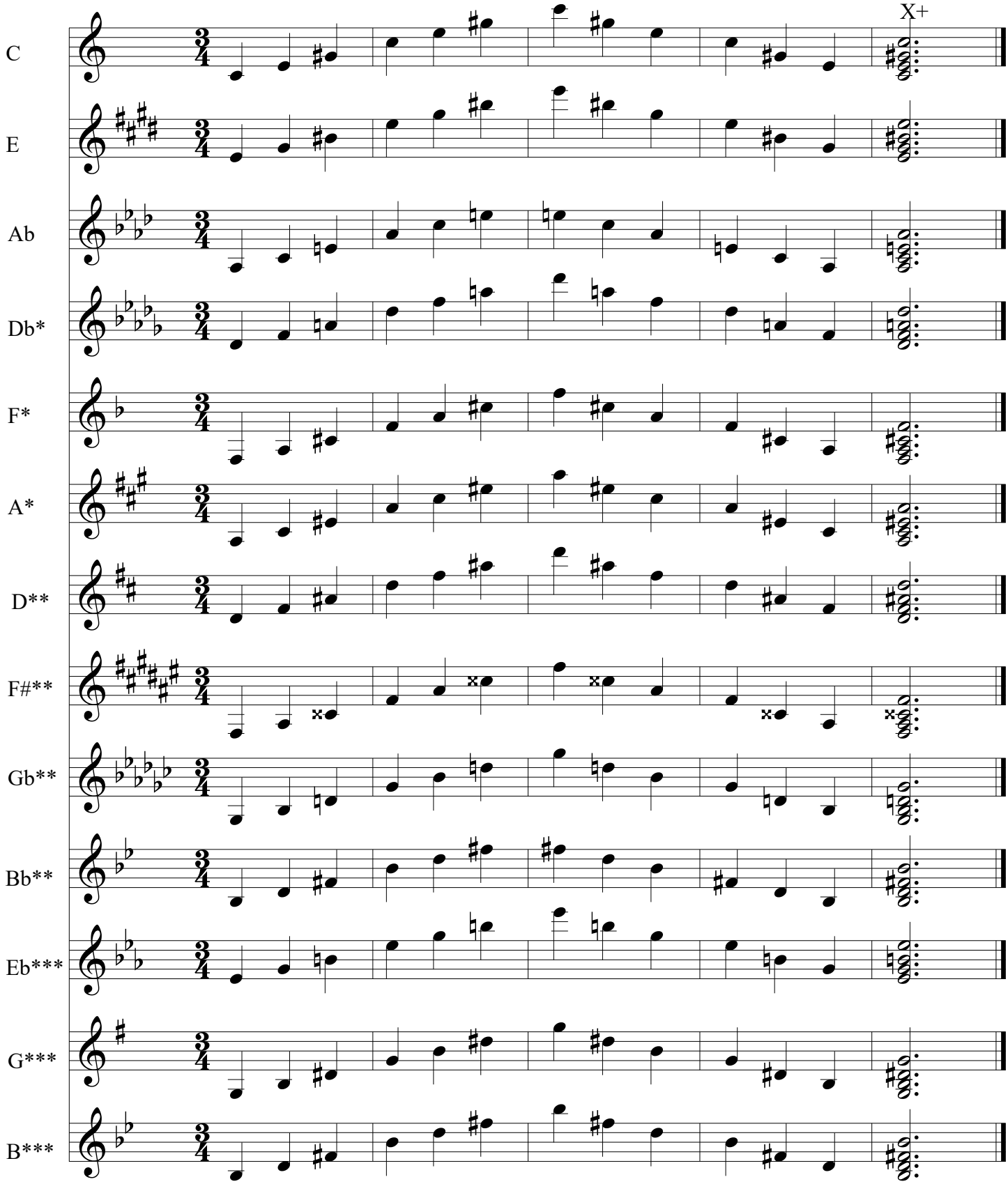
Xo7



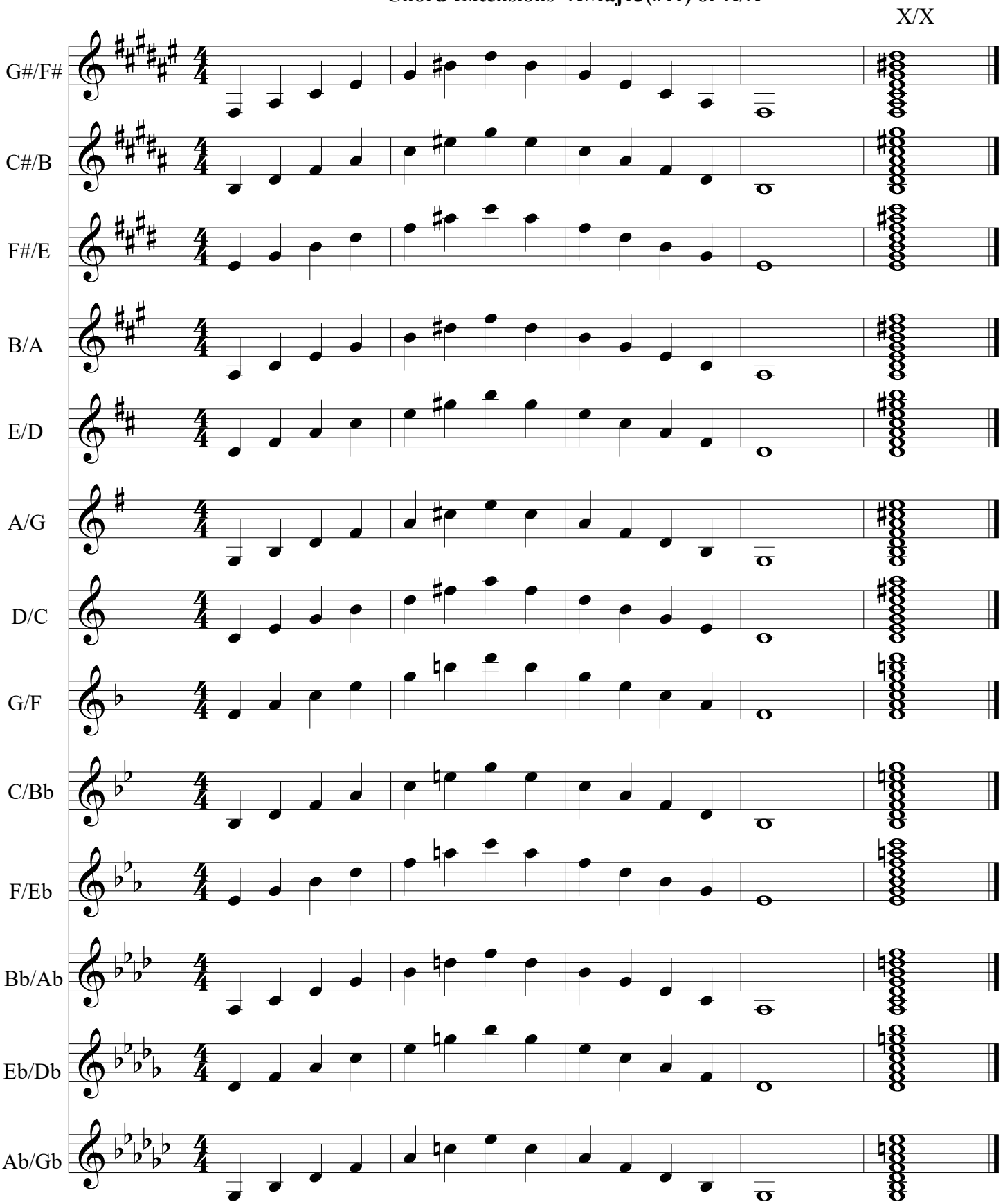
Half-Diminished Seventh Arpeggios (minor $7^{(b5)}$, $X^{Ø7}$ or $X^{Ø}$)



Augmented Arpeggios, X+



Chord Extensions- XMaj13(#11) or X/X

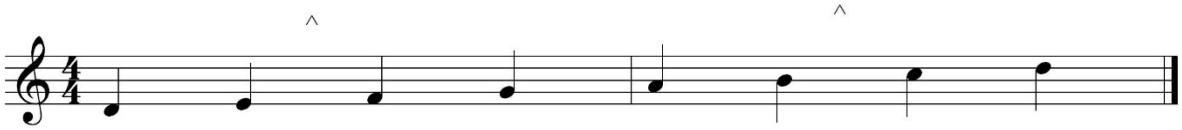


The Modes.

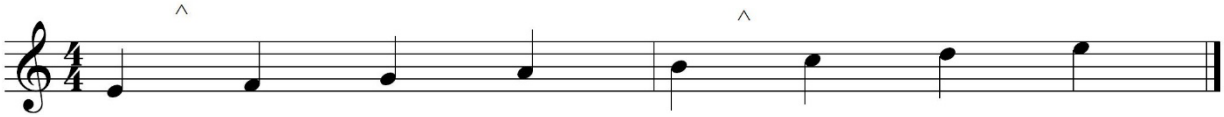
The Medieval church modes were patterns of whole and ½ steps used in sacred music and chant. They took their name from the ancient Greek modes, though incorrectly.

If you sit at a piano and play all white keys starting on different notes, you generate seven different patterns of whole and half-steps, the church modes. ^ is a ½ step

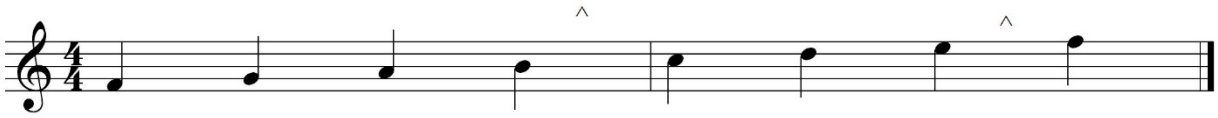
Ionian mode major sounding (our Major scale)



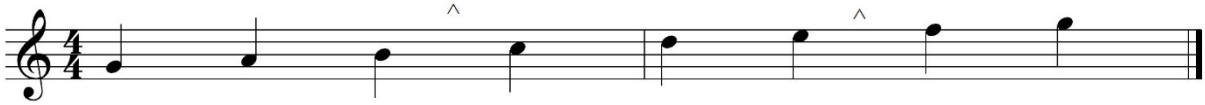
Dorian mode minor sounding



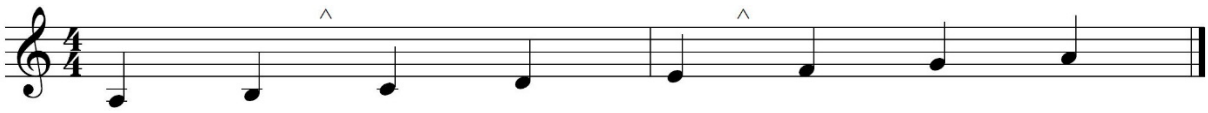
Phrygian mode minor sounding



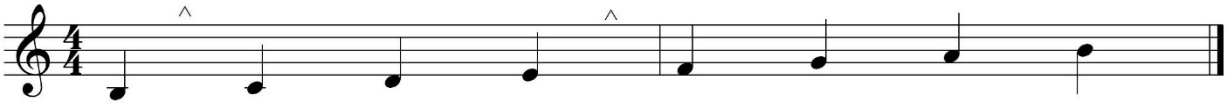
Lydian mode major sounding



Mixolydian mode major sounding



Aeolian mode minor sounding (our Natural minor scale)



Locrian mode diminished sounding

Eventually, composers gravitated toward the Ionian mode (our major scale) and the Aeolian mode (or natural minor scale), and our western "tonal" music had its birth.

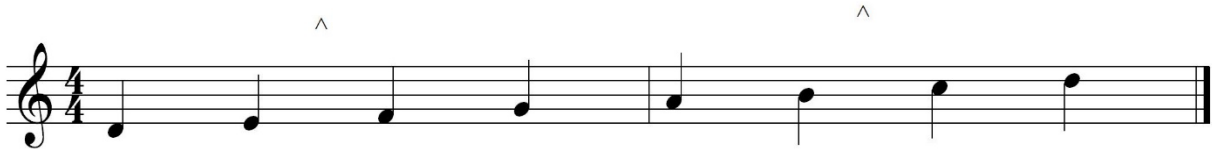
Why learn the modes today? The modes can be used as substitute scales in jazz improvisation. Learning the modes adds more tools to your improv toolbox.

Also, playing d Dorian is just playing a C Major scale from d-d; being able to play any major scale starting on any note of the scale (the modes) makes us better performers and sight-readers!

See resources such as Arban for these types of exercises.

The Dorian Mode

The pattern of whole and half-steps for the Dorian mode is as follows:
(^ is a ½ step). The Dorian mode is a “minor sounding” mode.



Half-steps between 2^3 and 6^7.

Compare this pattern to that of D Major:

[half-steps between 3^4 and 7^8]

There are several ways to find the notes of Dorian mode:

1. Play a diatonic scale (all the note names in order) with half-steps between 2^3, and 6^7. For example, for c Dorian, play all the note names from c to c, adding accidentals to make ½ steps in the correct spots for Dorian mode.

2. You can take the tonic, then from the key signature of that tonic's major scale you add 2 flats. For example, if finding key sign for f Dorian, go from F major (1 flat) and add 2 flats to key sign; f Dorian has 3 flats in the key sign. For e Dorian, go from E major (4 sharps) and add 2 flats to key sign; e Dorian is left with 2 sharps in the key sign.

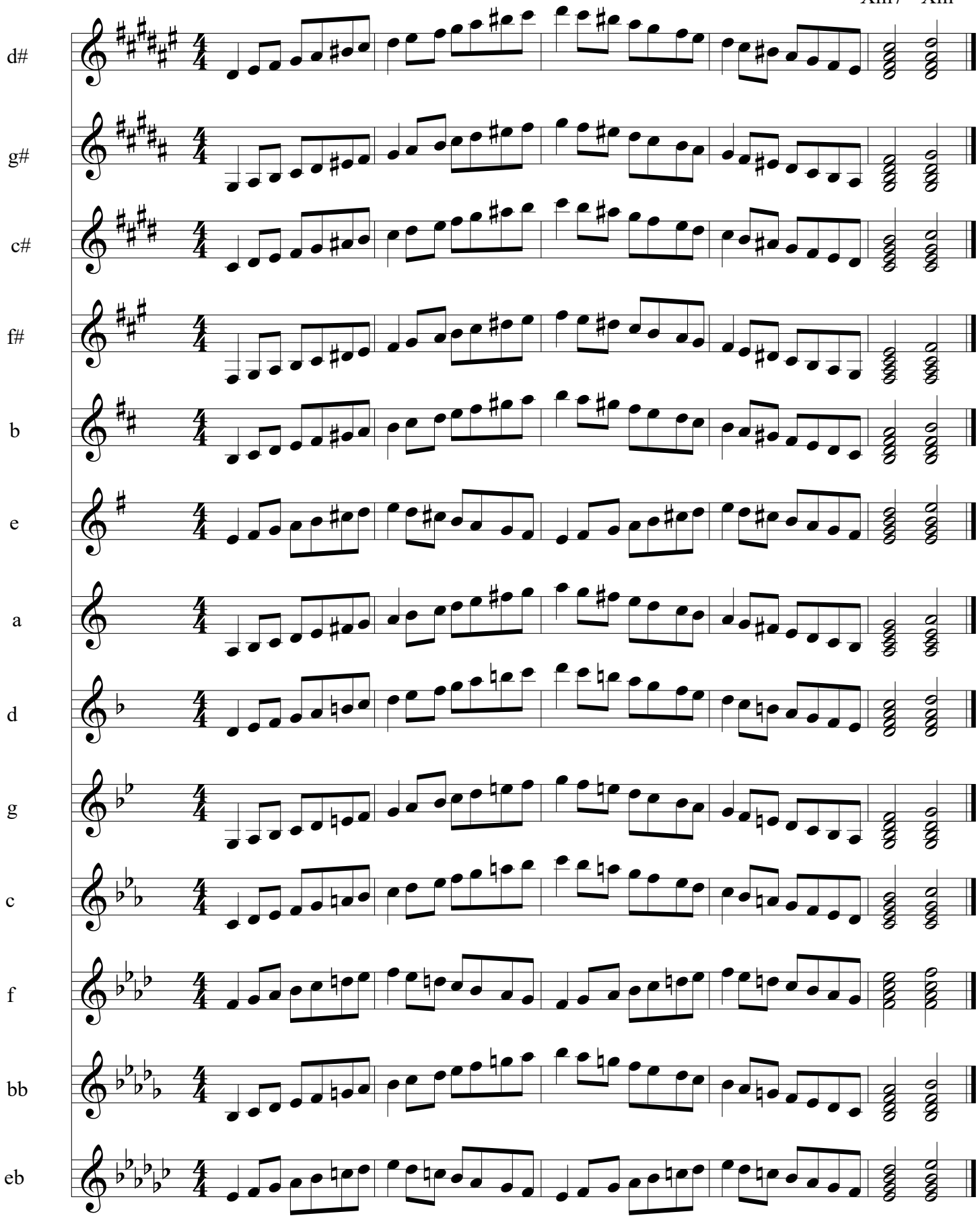
3. You can just raise or lower steps of the Major or natural minor scale. To find the Dorian mode from the Major scale, LOWER the 3rd and 7th steps of the scale ½ step. To find the Dorian mode from the natural minor scale, raise the 6th step of the scale ½ step.

4. You can play the scale with the key signature of the Major scale a Major 2nd (whole step) below. For example, d Dorian has the key signature of C major.

Use a metronome! A steady pulse is crucial for pattern learning!

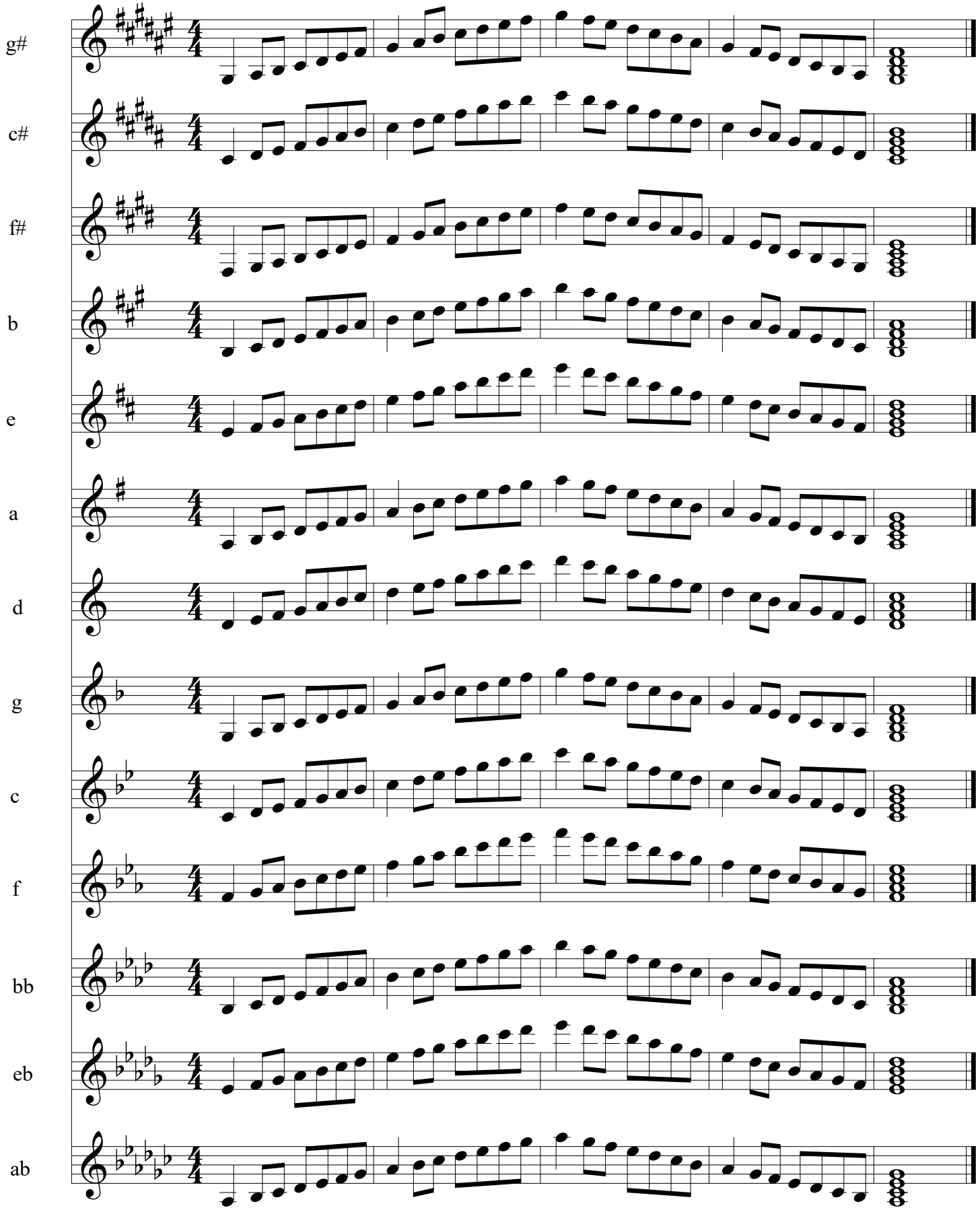
Dorian Mode from natural minor

Xm7 - Xm



Dorian Mode- Advanced

Xm7

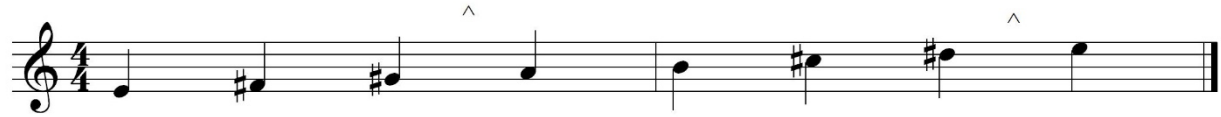


The Phrygian Mode

The pattern of whole and half-steps for the Phrygian mode is as follows:
(^ is a ½ step). The Phrygian mode is a “minor sounding” mode.

[half-steps between 1^2 and 5^6]

Compare this pattern to that of E Major:



[half-steps between 3^4 and 7^8]

There are several ways to find the notes of Phrygian mode:

1. Play a diatonic scale (play all the note names in order) and put half-steps between 1^2, and 5^6.
   For example, for c Phrygian, play all the note names from c to c, adding accidentals to make ½ steps in the correct spots for Phrygian mode.

2. You can take the tonic, then from the key signature of that tonic's major scale you add 4 flats. For example, if finding key sign for F Phrygian, go from F major (1 flat) and add 4 flats to key sign; F Phrygian has 5 flats in the key sign. For B Phrygian, go from B major (5 sharps) and add 4 flats to key sign; B Phrygian is left with 1 sharp in the key sign.

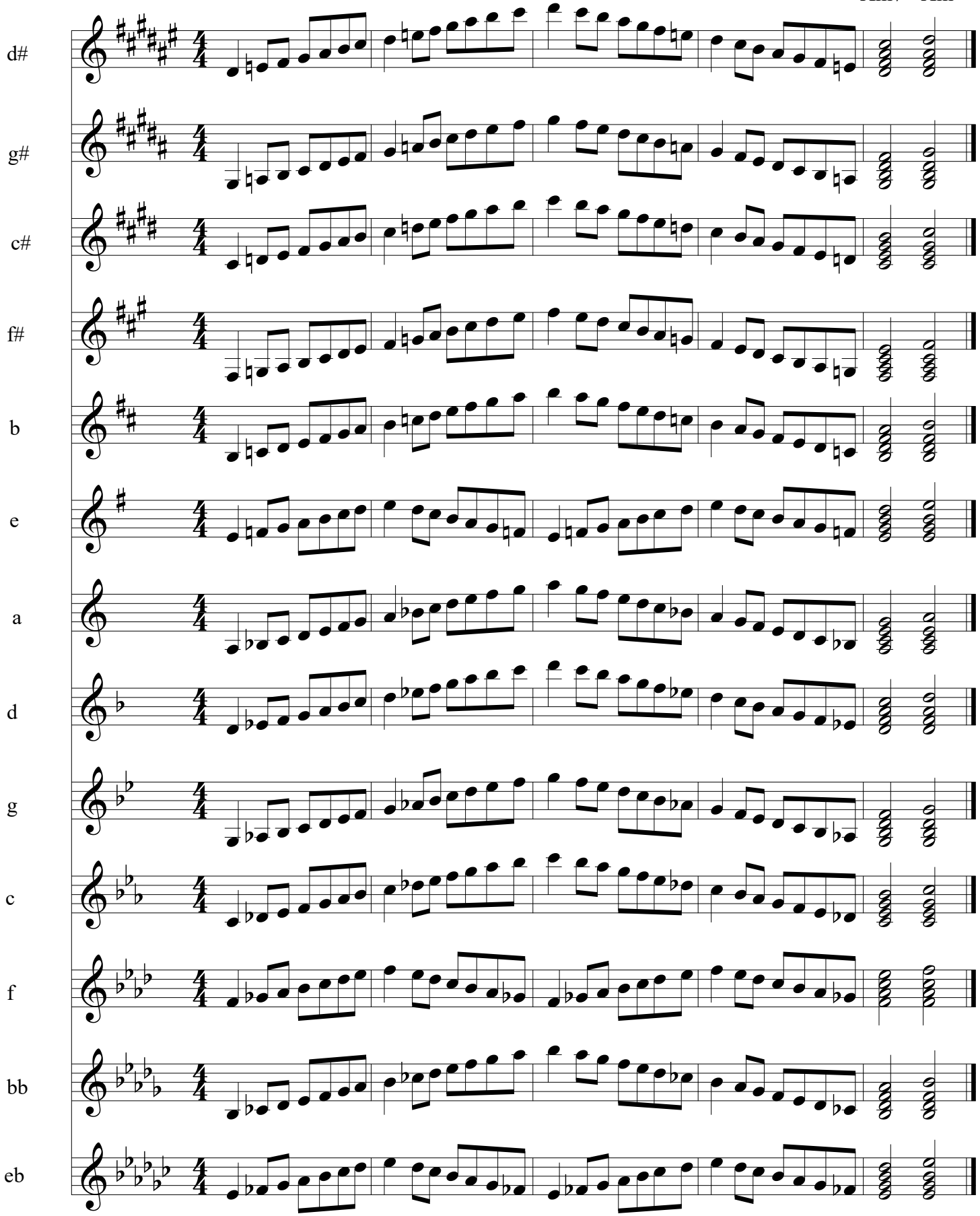
3. You can just raise or lower steps of the Major or natural minor scale. To find the Phrygian mode from the Major scale, LOWER the 2nd, 3rd, 6th, and 7th steps of the scale ½ step. To find the Phyrgian mode from the natural minor scale, LOWER the 2nd step of the scale ½ step.

4. You can play the scale with the key signature of the Major scale a Major 3rd below. For example, E Phrygian has the key signature of C major.

Use a metronome! A steady pulse is crucial for pattern learning!

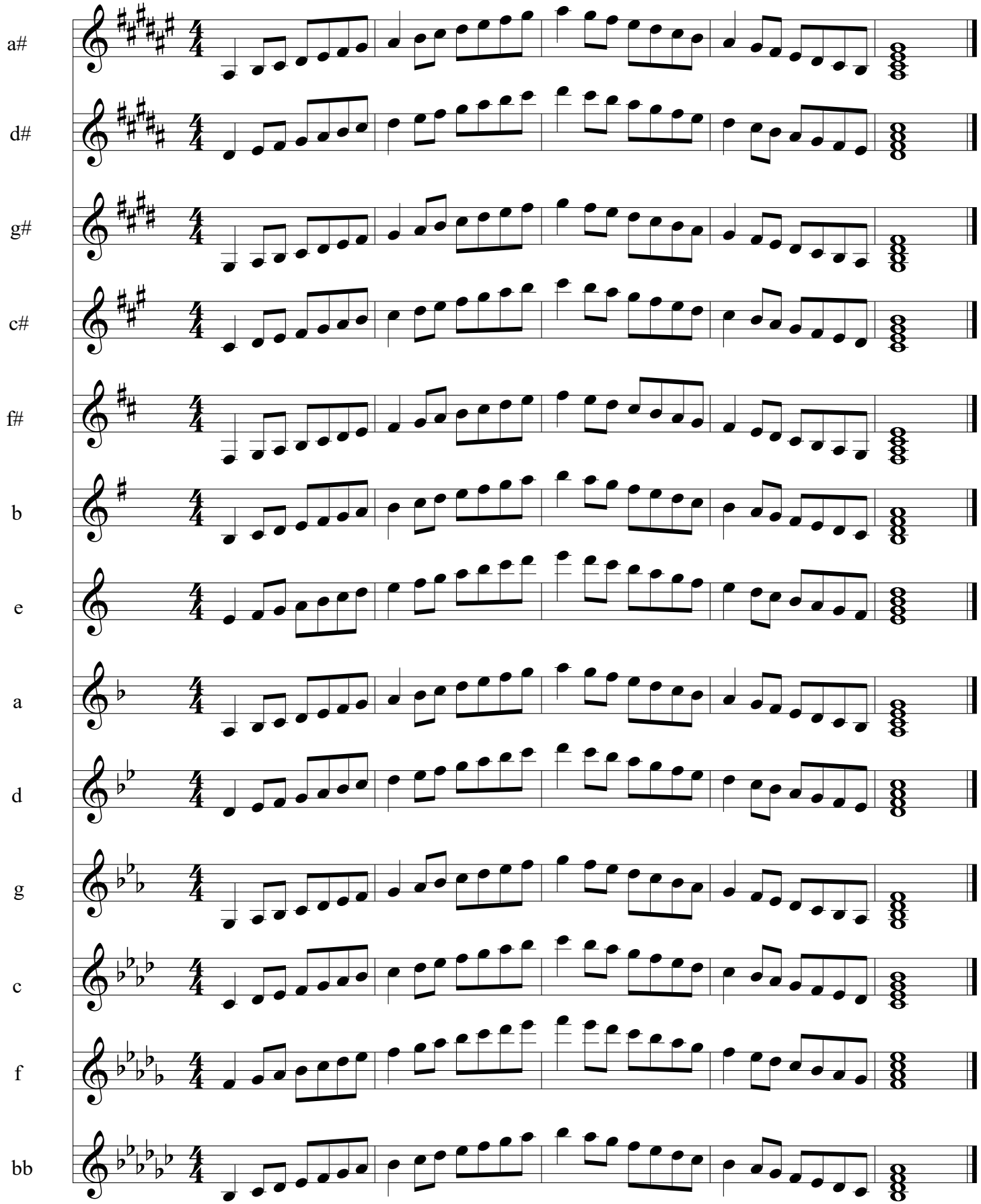
The Phrygian mode from natural minor

Xm7 - Xm



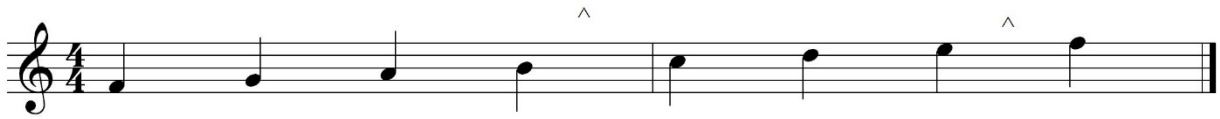
Phrygian Mode- Advanced

Xm7



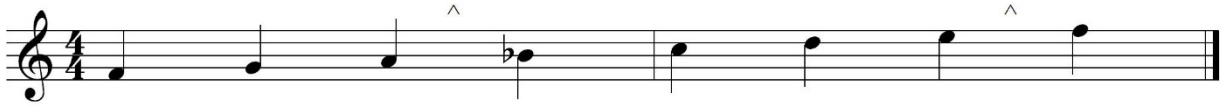
The Lydian Mode

The pattern of whole and half-steps for the Lydian mode is as follows:
(^ is a ½ step). The Lydian mode is a “major sounding” mode.



[half- steps between 4^5 and 7^8]

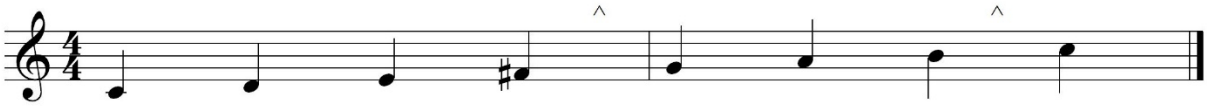
Compare this pattern to that of F Major:



[half-steps between 3^4 and 7^8]

There are several ways to find the notes of Lydian mode:

1. Play a diatonic scale (play all the note names in order) and put half-steps between 4^5, and 7^8.
   For example, for C Lydian, play all the note names from C to C adding accidentals to make ½ steps in the correct spots for Lydian mode.



2. You can take the tonic, then from the key signature of that tonic's major scale you add 1 sharp. For example, if finding key sign for F Lydian, go from F major (1 flat) and add 1 sharp to key sign; F Lydian has 0 flats/sharps in the key sign. For E Lydian, go from E major (4 sharps) and add 1 sharp to key sign; E Lydian has 5 sharps in the key sign.

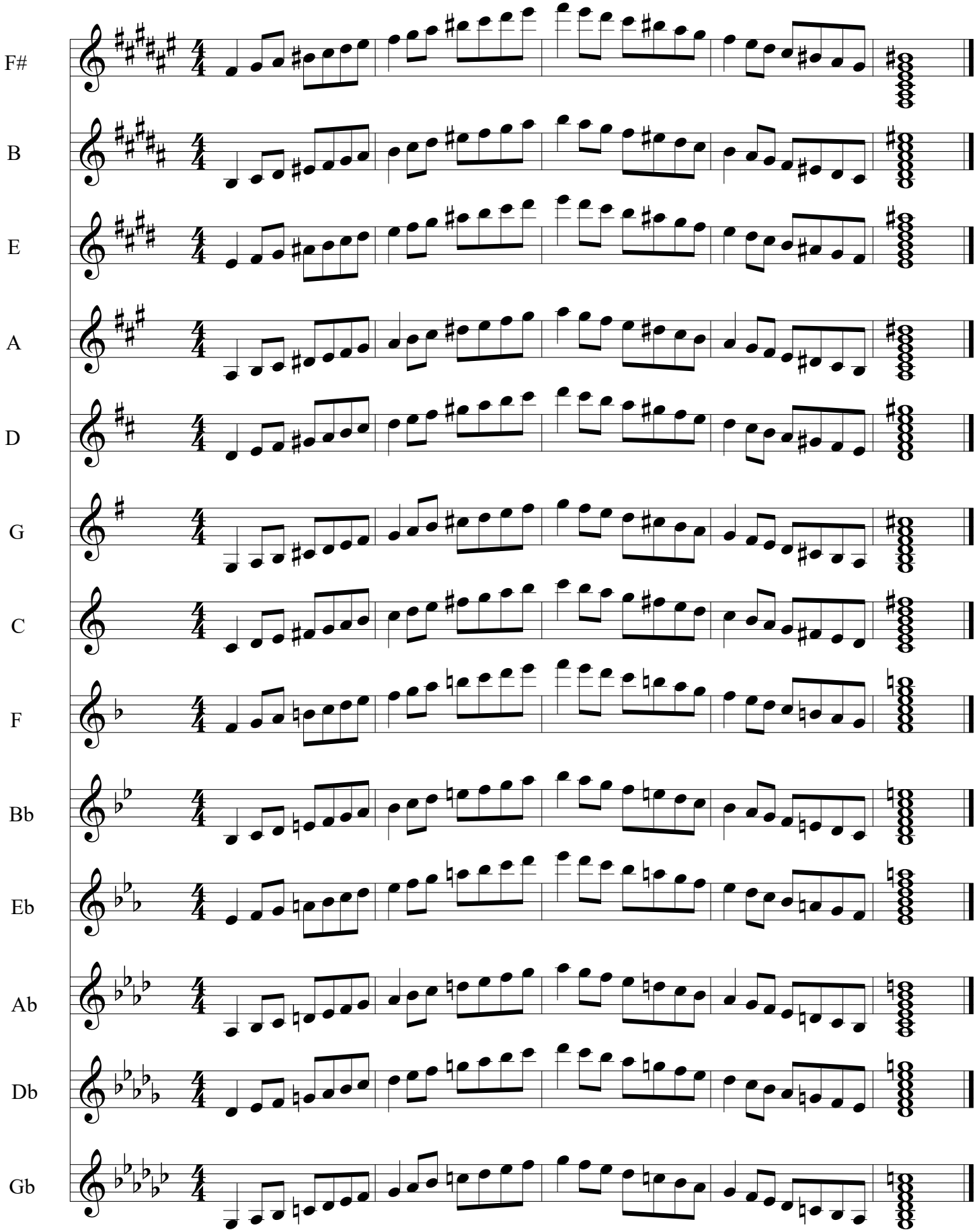
3. You can just raise or lower steps of the Major scale. For Lydian mode, take the Major scale and RAISE the 4th step of the scale ½ step.

4. You can play the scale with the key signature of the Major scale a Perfect 4^{th} below. For example, F Lydian has the key signature of C major.

Use a metronome! A steady pulse is crucial for pattern learning!

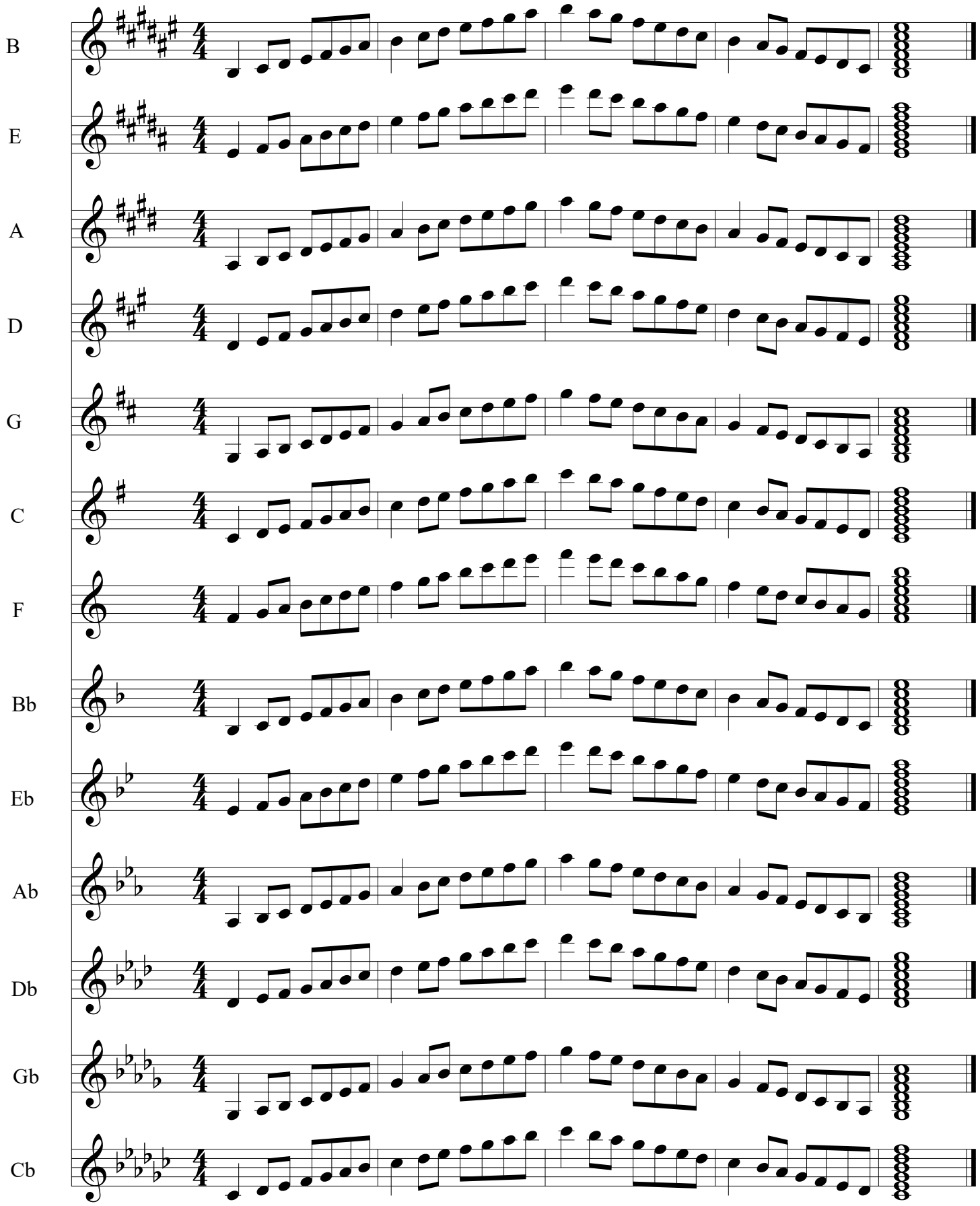
Lydian Mode from Major key signature- add 1 sharp

Xmaj7 (#11)



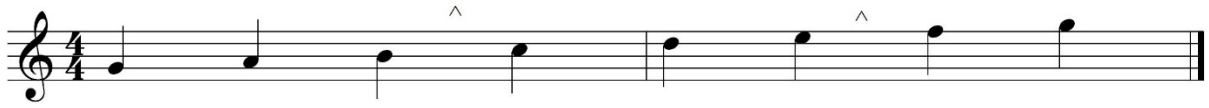
Lydian Mode- Advanced

Xmaj7 (#11)



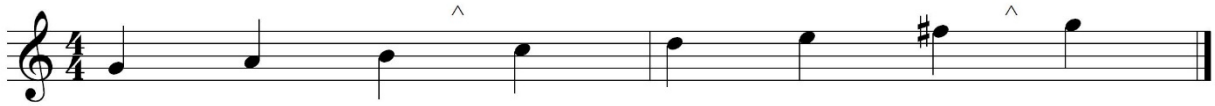
The Mixoydian Mode

The pattern of whole and half-steps for the Mixolydian mode is as follows:
(^ is a ½ step). Mixolydian is a “major sounding” mode.



[half- steps between 3^4 and 6^7]

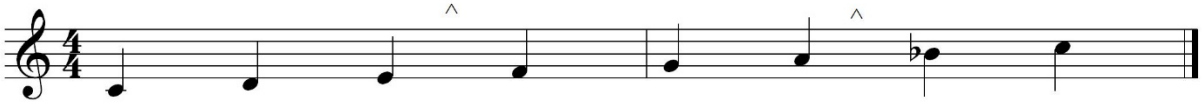
Compare this pattern to that of G Major:



[half-steps between 3^4 and 7^8]

There are several ways to find the notes of Mixolydian mode:

1. Play a diatonic scale (play all the note names in order) and put half-steps between 3^4, and 6^7.
   For example, for C Mixolydian, play all the note names from C to C adding accidentals to make ½ steps in the correct spots for Mixolydian mode.



2. You can take the tonic, then from the key signature of that tonic's major scale you add 1 flat. For example, if finding key sign for F Mixolydian, go from F major (1 flat) and add 1 flat to key sign; F Mixolydian has 2 flats in the key sign. For E Mixolydian, go from E major (4 sharps) and add 1 flat to key sign; E Mixolydian has 3 sharps in the key sign.

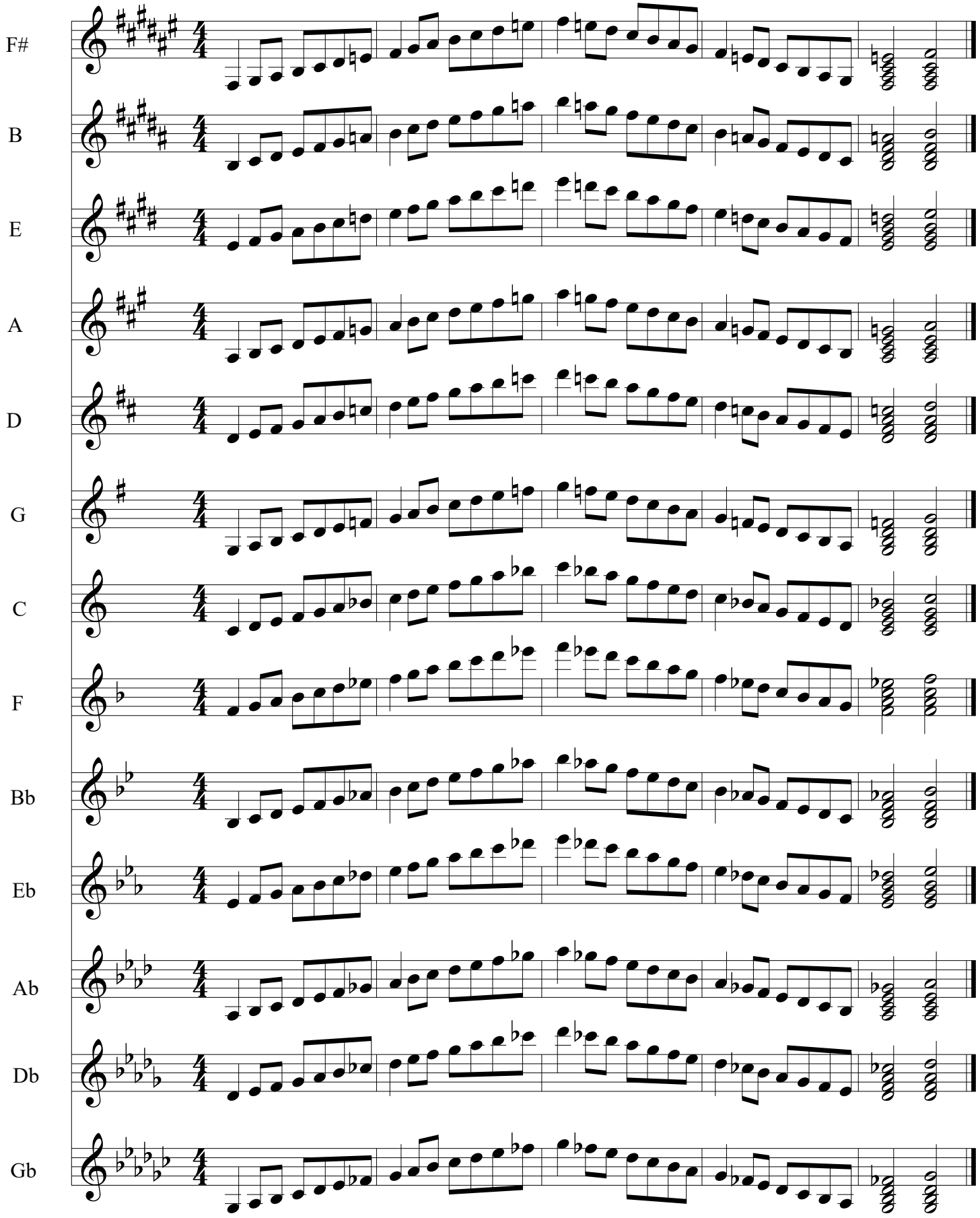
3. You can just raise or lower steps of the Major scale. For Mixolydian mode, take the Major scale and LOWER the 7th step of the scale ½ step.

4. You can play the scale with the key signature of the Major scale a Perfect 5^{th} below. For example, G Mixolydian has the key signature of C major.

Use a metronome! A steady pulse is crucial for pattern learning!

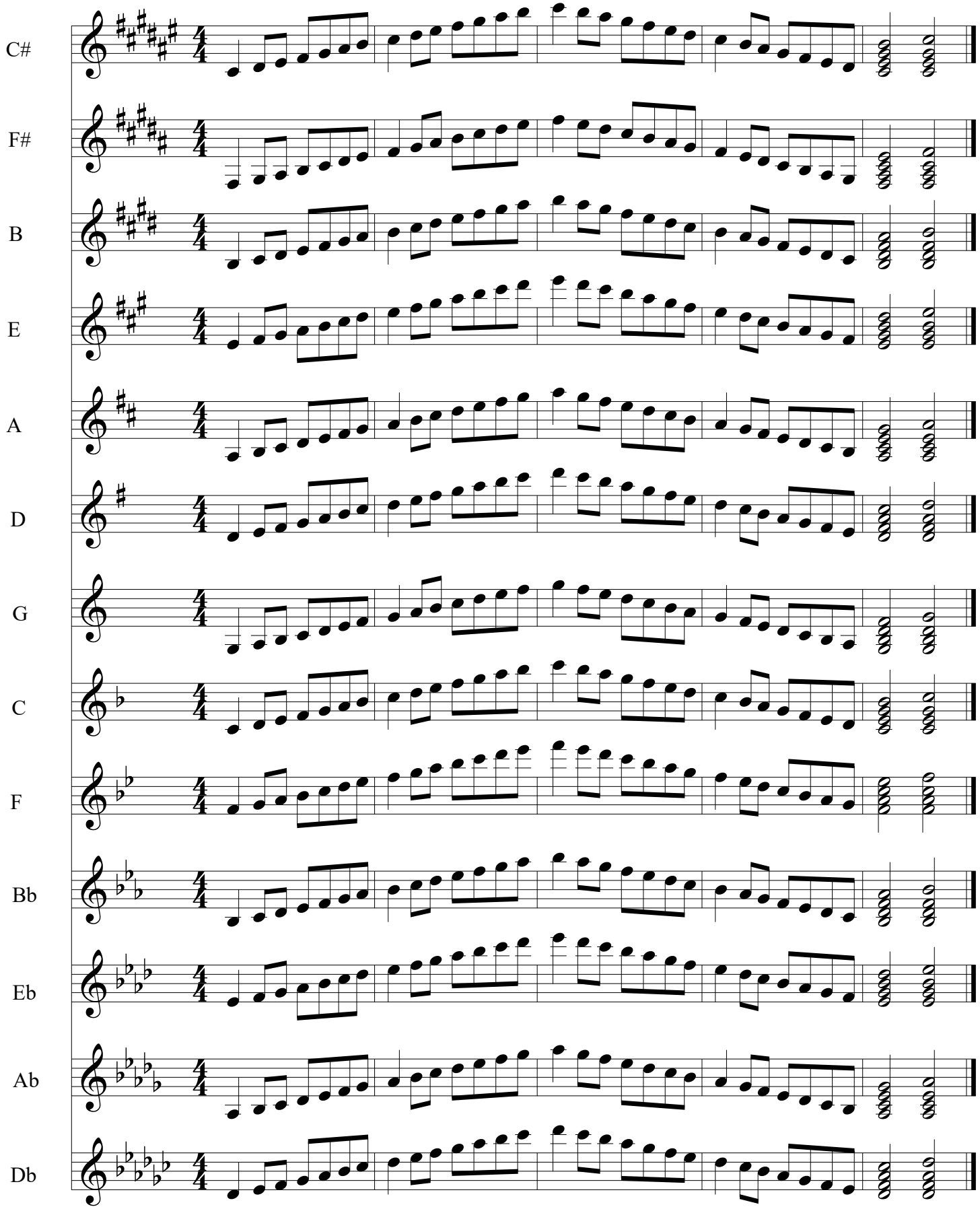
Mixolydian Mode from Major key sign- add 1 flat

X7 - X



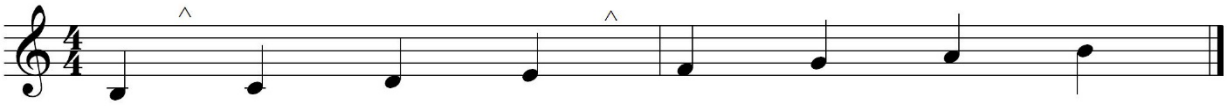
Mixolydian Mode- Advanced

X7 - X



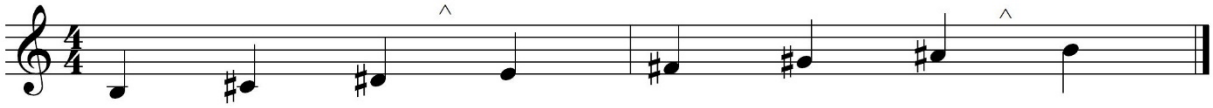
The Locrian Mode

The pattern of whole and half-steps for the Locrian mode is as follows:
(^ is a ½ step). The Locrian mode is a “diminished sounding” mode.



[half- steps between 1^2 and 4^5]

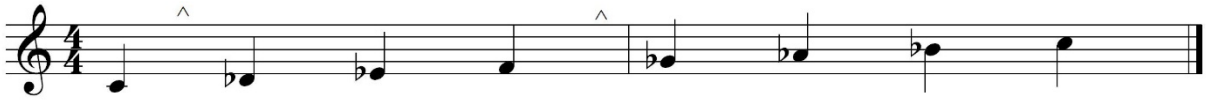
Compare this pattern to that of B Major:



[half-steps between 3^4 and 7^8]

There are several ways to find the notes of Locrian mode:

1. Play a diatonic scale (play all the note names in order) and put half-steps between 1^2, and 4^5.
   For example, for C Locrian, play all the note names from C to C adding accidentals to make ½ steps in the correct spots for Locrian mode.



2. You can take the tonic, then from the key signature of that tonic's major scale you add 5 flats. For example, if finding key sign for F Locrian, go from F major (1 flat) and add 5 flats to key sign; F Locrian has 6 flats in the key sign. For F# Locrian, go from F# major (6 sharps) and add 5 flats to key sign; F# Locrian has 1 sharp in the key sign.

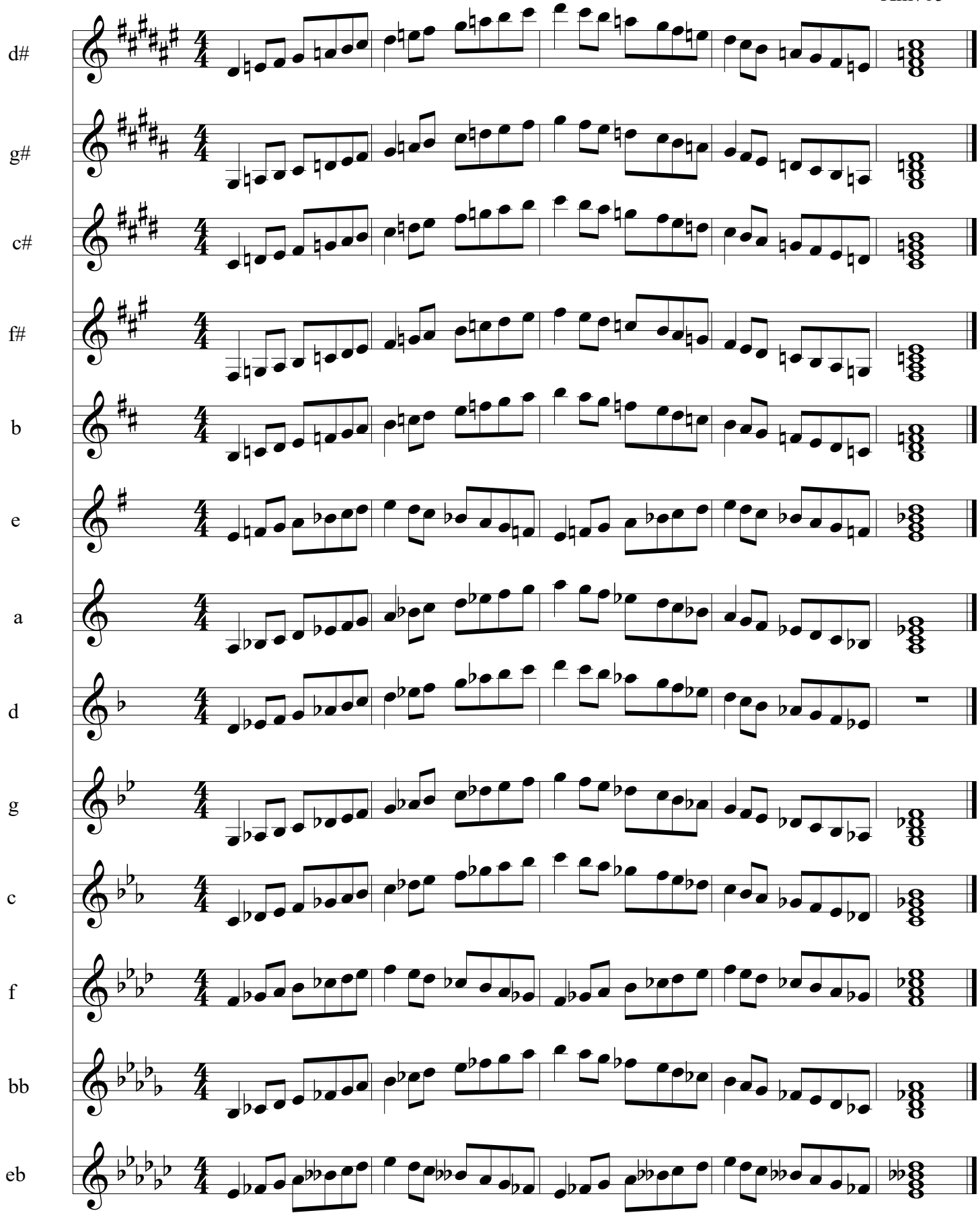
3. You can just raise or lower steps of the Major or natural minor scale. To find the Locrian mode from the Major scale, LOWER the 2nd, 3rd, 5th, 6th, and 7th steps of the scale ½ step. To find the Locrian mode from the natural minor scale, LOWER the 2nd and 5th steps of the ½ step.

4. You can play the scale with the key signature of the Major scale a minor 2nd above. For example, b Locrian has the key signature of C major.

Use a metronome! A steady pulse is crucial for pattern learning!

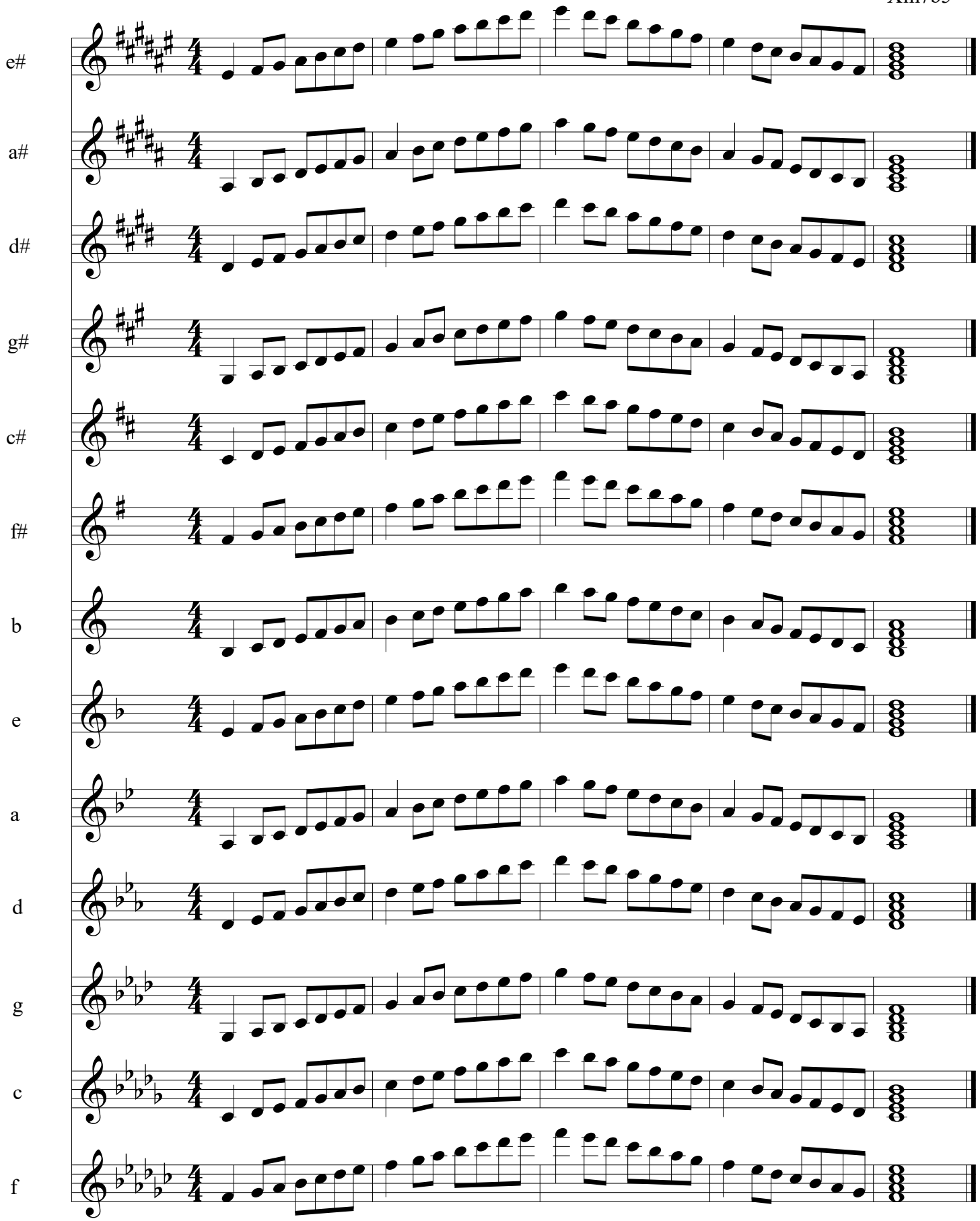
The Locrian mode from natural minor

Xm7b5



Locrian Mode- Advanced

Xm7b5

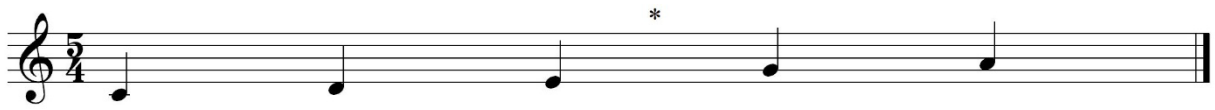


The Pentatonic Scales

Pentatonic scales use 5 notes of the major or minor scale, hence "penta-" for 5.

The **Major Pentatonic** uses these steps from the Major scale. (* 1 ½ step)

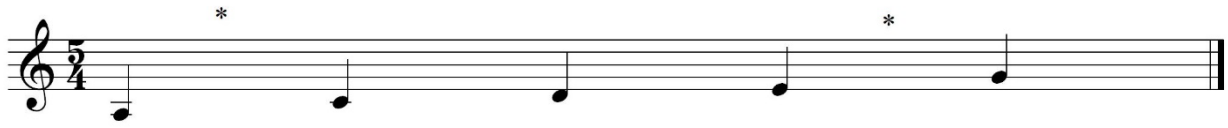
1-2-3*5-6



C Major Pentatonic

The **minor Pentatonic** uses these steps from the Natural minor scale: (* 1 ½ step)

1*3-4-5*7



A minor Pentatonic

Note that the Minor Pentatonic uses the same 5 notes as its "Relative" Major Pentatonic. "Relatives" are keys that have the same key signature.

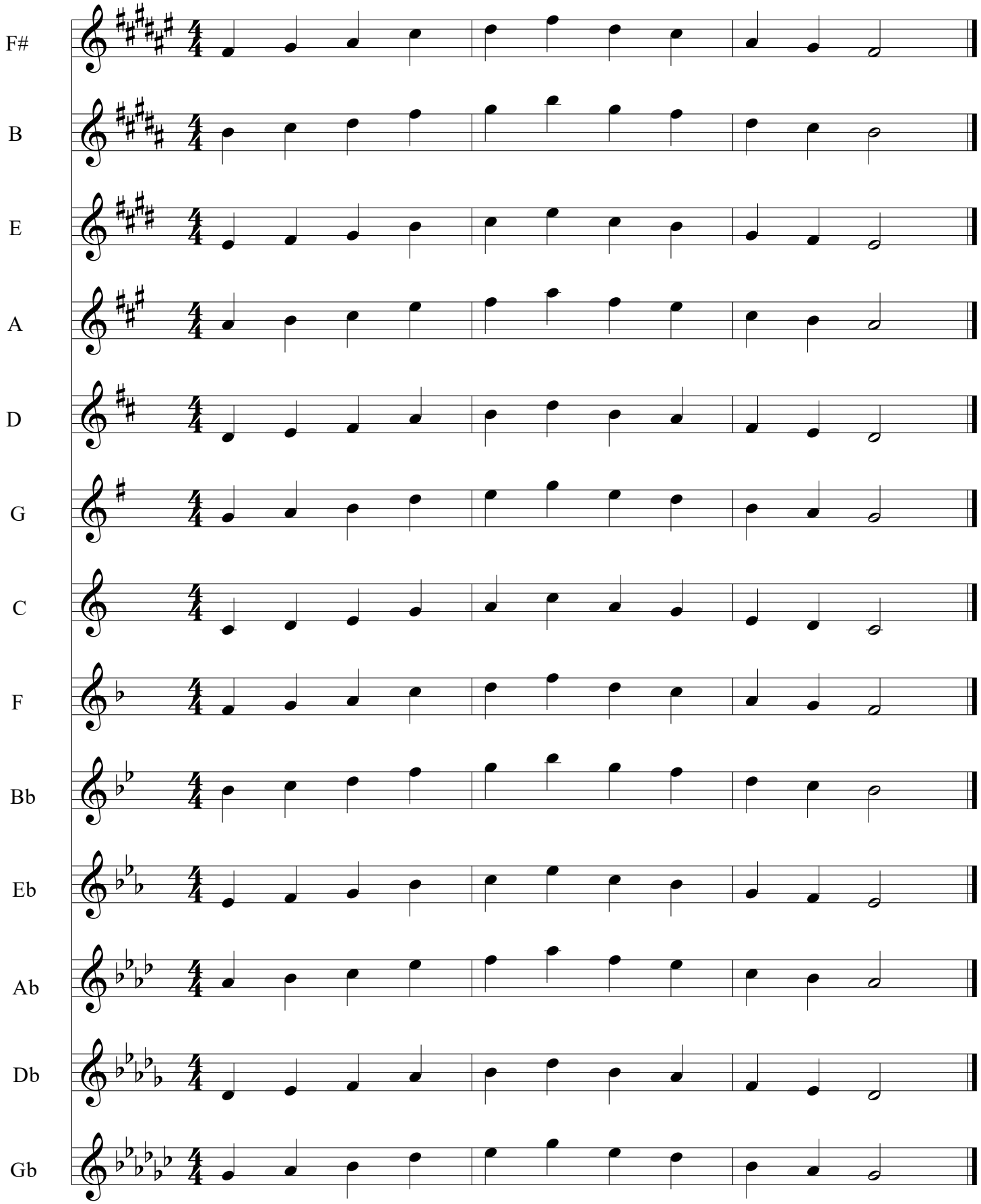
C Major/a minor both have no flats or sharps.

F Major/d minor both have 1 flat.

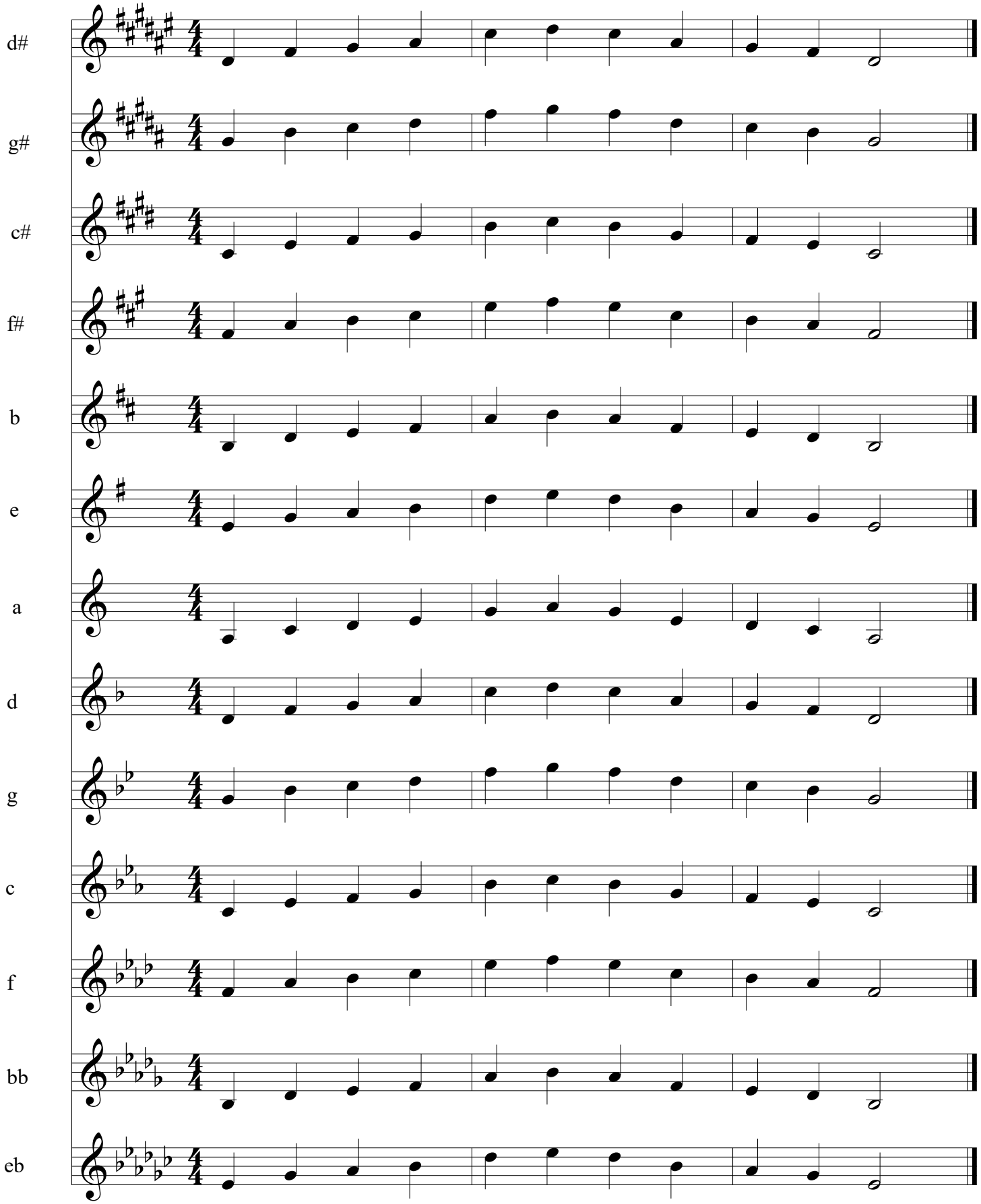
G Major/e minor both have 1 sharp, etc.

Practice the pentatonic scales through your playable range. Use a metronome!

Pentatonic Scales- Major (1-2-3*5-6 of Major)



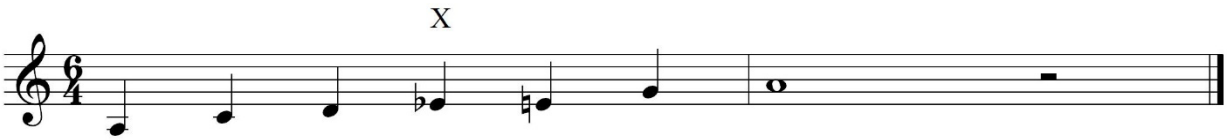
Pentatonic Scales- minor (1*3-4-5*7 of natural minor)



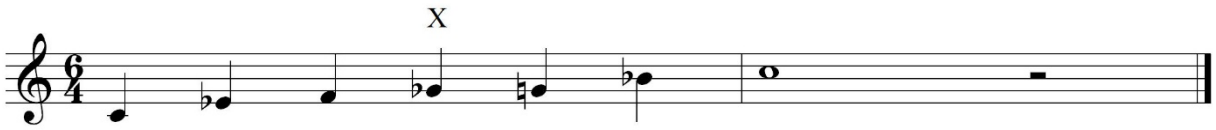
The Blues Scale

The blues scale is essentially a minor pentatonic scale with an added flat fifth. Starting with a Major scale, the blues scale formula is 1, b3, 4, b5, 5, b7. From a minor scale, the blues scale formula is 1, 3, 4, b5, 5, 7. The easiest way to remember this scale is to think of it as the minor pentatonic and simply learn where the added "Blue" notes is added.

(**X** is the b5 or "Blue" note)



A Blues (a minor pentatonic with added b5 Blue note)

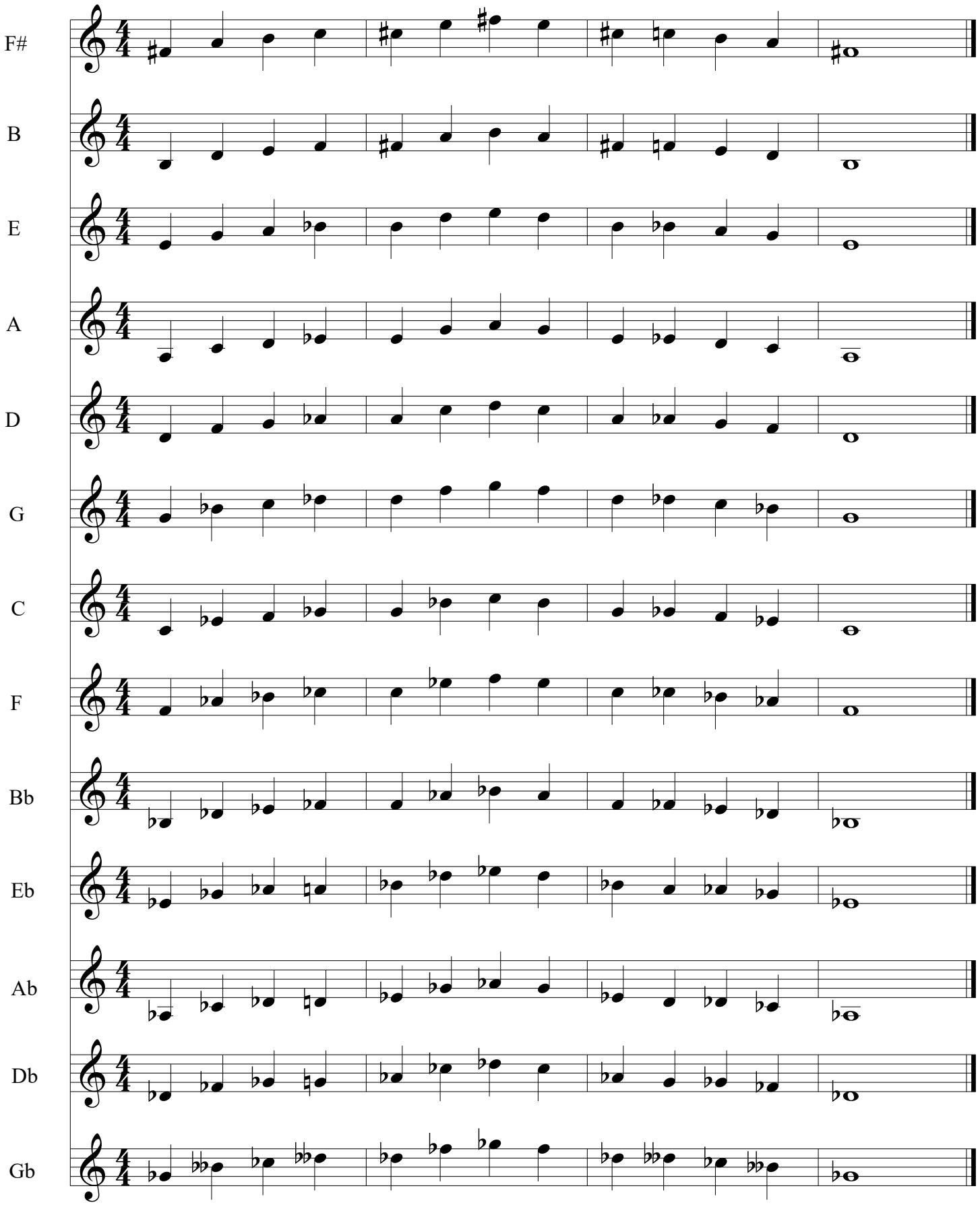


C Blues (c minor pentatonic with added b5 Blue note)

The standard Blues Progression is I-IV-V, so for Bb (concert) Blues, trumpeters on Bb trumpet need to know C-F-G Blues scales. For F (concert) Blues, trumpeters of B trumpet would need to know G-C-D Blues scales.

Practice the Blues scales through your playable range. Use a metronome!

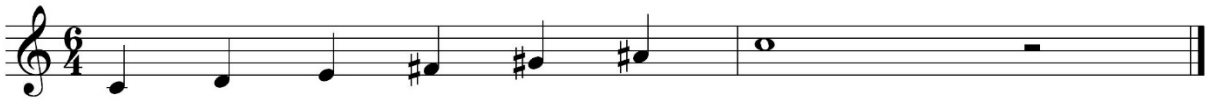
Blues Scales- X7



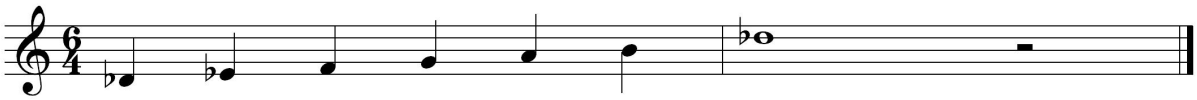
The Whole Tone Scale

The Whole Tone Scale is made up exclusively from Whole steps. Because of this, there are only 2 distinct whole tone scales (scales with a unique collection of notes); all other whole tone scales are just various modes (start at a different place in the scale) of these two scales.

The two distinct Whole Tone scales are the C and Db Whole Tone scales: (- whole step)



C Whole Tone Scale



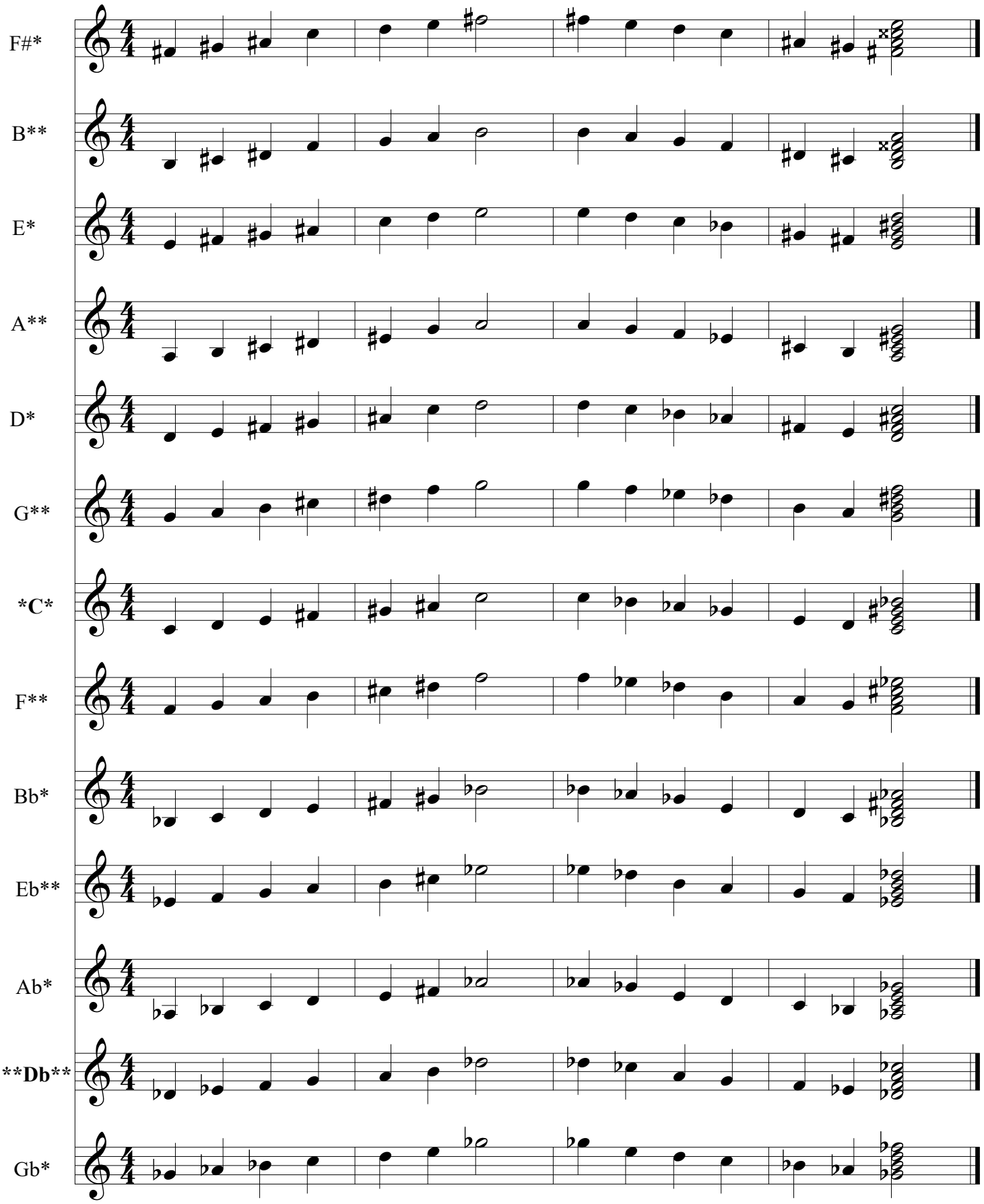
Db Whole Tone Scale

The chord derived from a Whole Tone Scale is V7#5, but the scale can be used over a V7 chord.

Practice the Whole Tone (focus on C and Db) scales through your playable range. Use a metronome!

Whole Tone Scales

V7#5 (V7)



The Diminished Scales

Diminished scales use eight notes (sometimes called the Octatonic Scale) of alternating whole and half-steps.

There are two modes of diminished scales- the whole-step/half-step diminished scaled, and the half-step/whole-step diminished scale.

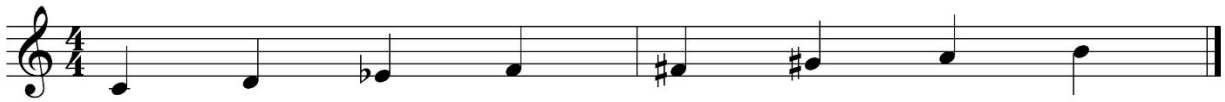
There are only three distinct sets of pitches that make up diminished scales, with each set containing the same set of eight pitches. Each set repeats at the interval of a minor third. For example, start the C whole-half diminished pattern on C, Eb, F# or A and you will generate the same set of pitches.

The three distinct sets of pitches for diminished scales begin on the following pitches:

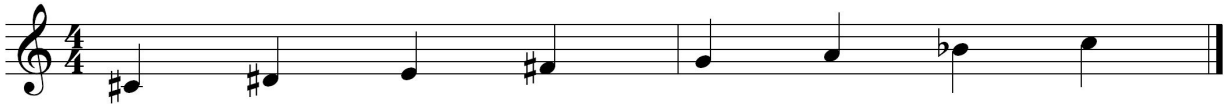
C, C#, and D

The **whole-step/half-step diminished scale** uses the following pattern. (- 1 step, ^ ½ step, * 1 ½ step)

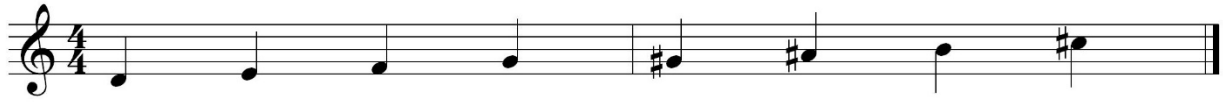
1-2^3-5^6-7^8



C whole-half diminished: **C-**D^**Eb**-F^**F#-**G#^**A**-B



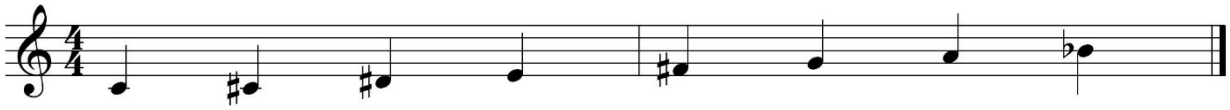
C# whole-half diminished: **C#-**D#^**E**-F#^**G**-A^**Bb**-C



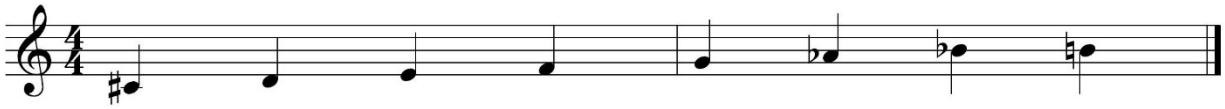
D whole-half diminished: **D**-E^**F**-G^**G#-**A#^**B**-C#

The **half-step/whole-step diminished scale** uses the following pattern. (- 1 step, ^ ½ step, * 1 ½ step)

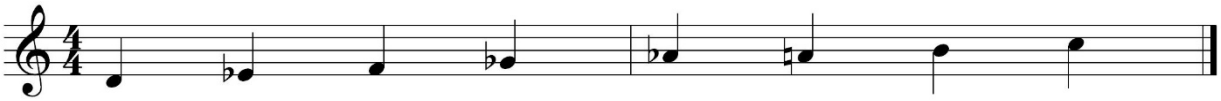
1^2-3^4-5^6-7^8



C half-whole diminished: C^C#-**D#^**E-**F#^**G-**A**^Bb

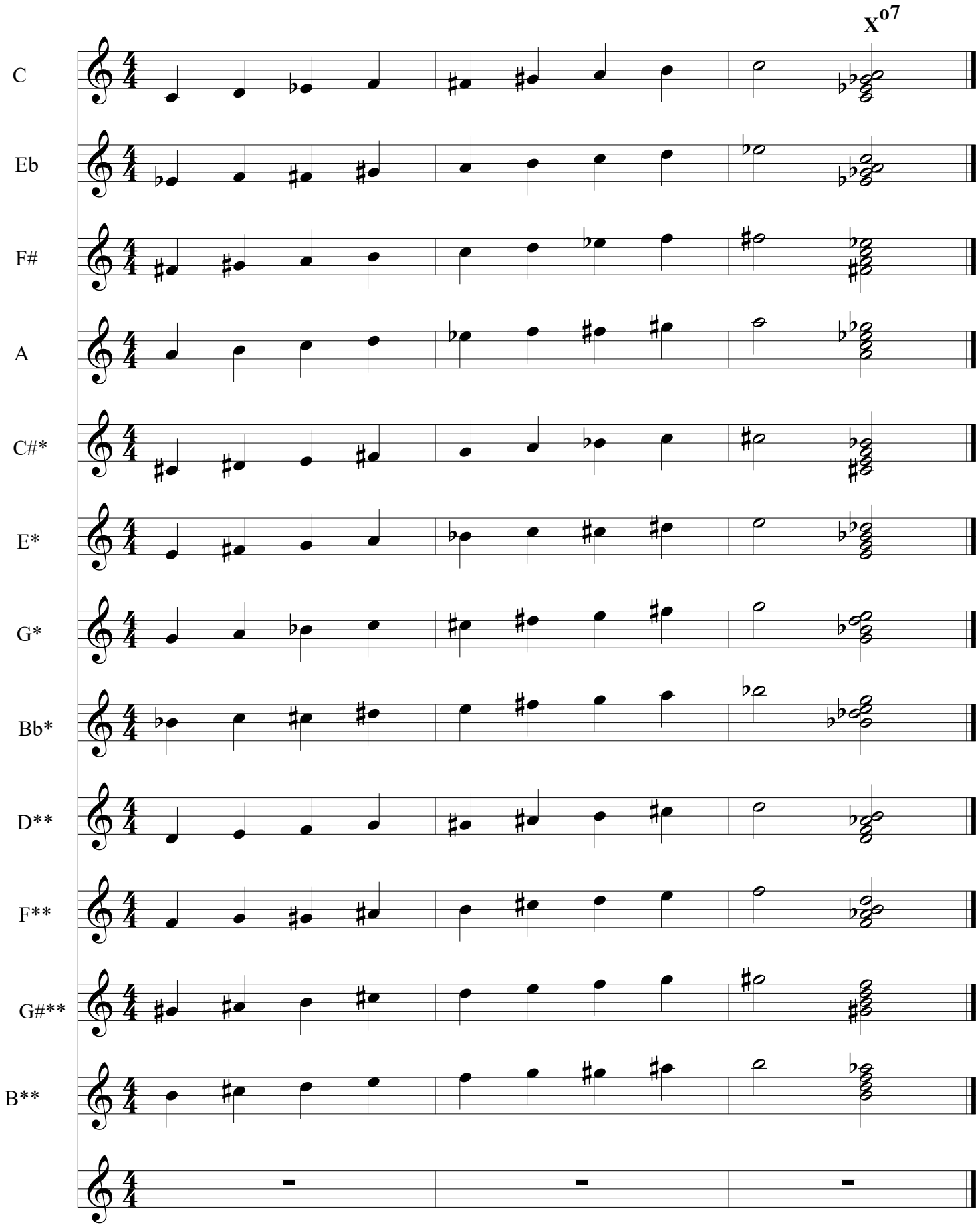


C# half-whole diminished: C#^D-**E**^F-**G**^Ab(G#)-**Bb**^B

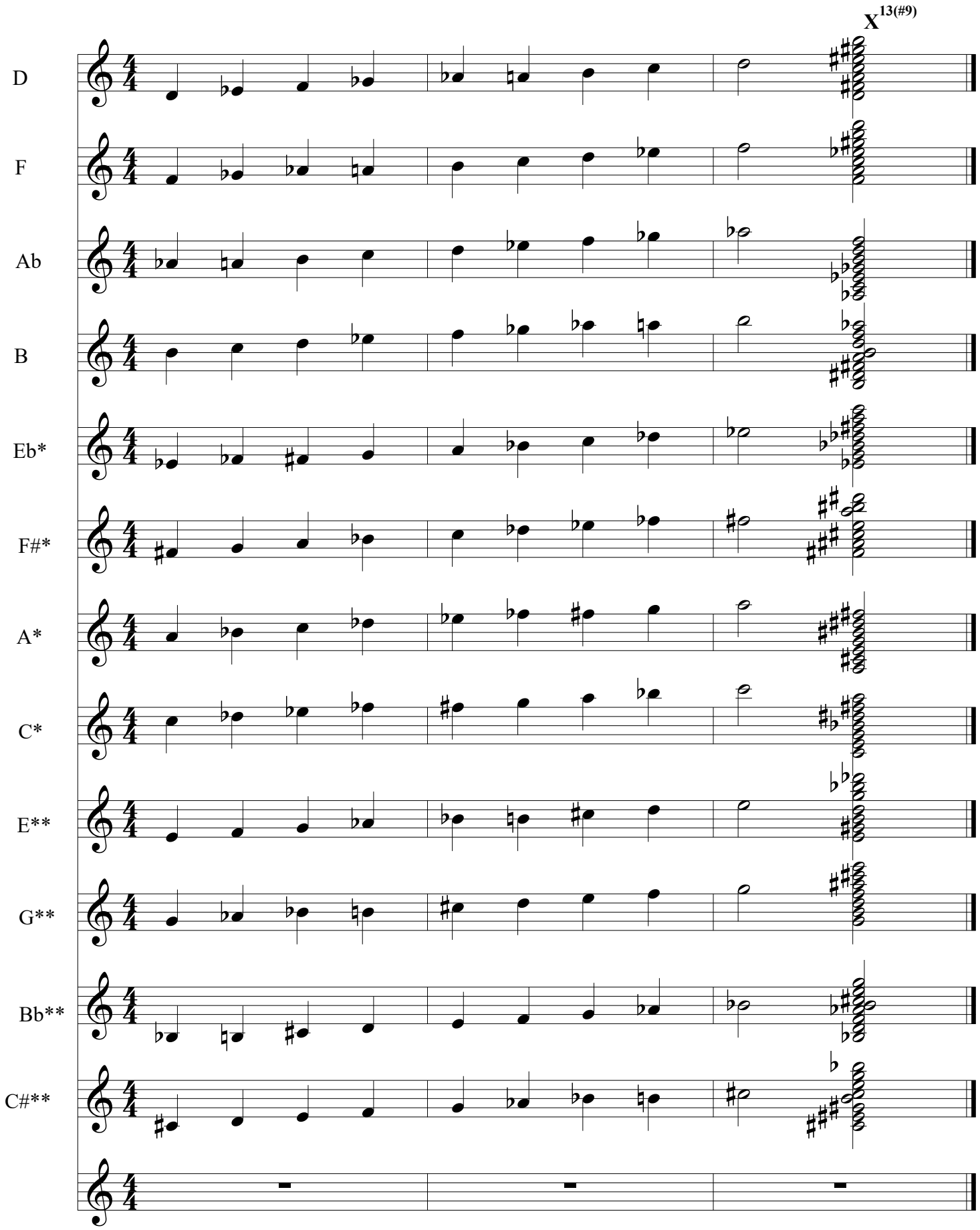


D half-whole diminished: D^Eb-**F**^Gb-**Ab**^A-**B**^C

Whole/Half Diminished Scales



Half/Whole Diminished Scales

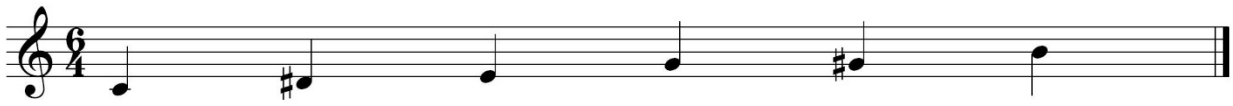


The Augmented Scales

Augmented scales use six notes with alternating minor thirds and half-steps. It generates augmented harmony.

The **augmented scale** uses the following pattern. (- 1 step, ^ ½ step, * 1 ½ step)

1*2^3*5^6



C augmented

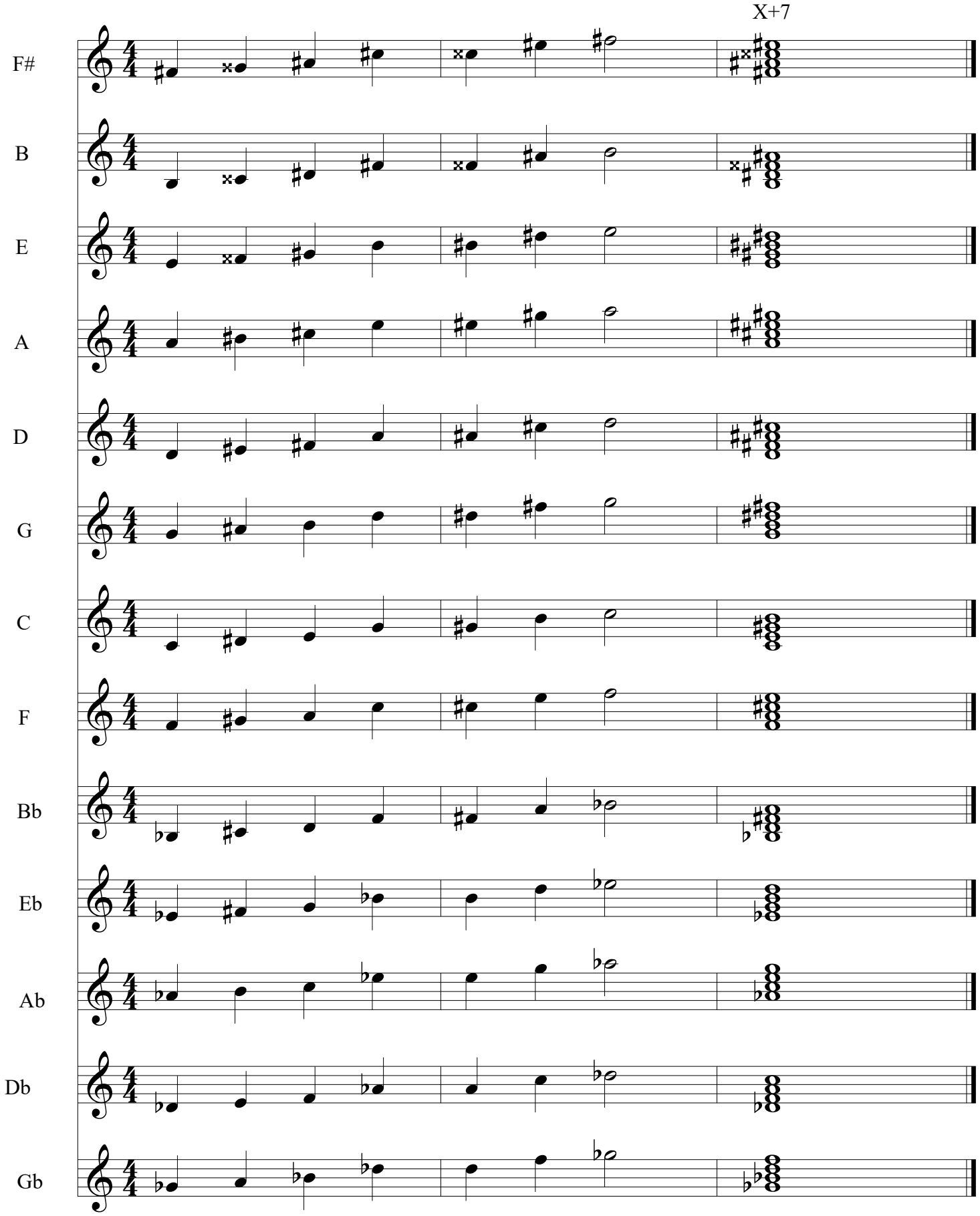
One way to build the scale is to start with an augmented triad, then add a note ½ step below each step of the triad.

C augmented: **C***D#^**E***G^**G#***B

C augmented: C E G#

D# G B

Augmented Scales- X+7, XMaj7$^{(\#5)}$, X7$^{(\#5B9)}$



The BeBop scales

Bebop scales add a note (typically a chromatic passing tone) to any common seven tone scale in order to make it an eight-tone scale. Having eight notes enables the primary chord tones to continuously fall on the strong beats (downbeats) of the rhythm when the scale is played sequentially. This is unlike common seven note scales in which the chord tones do not all naturally fall on the downbeats due to the odd number of notes. These bebop scales are frequently used in jazz improvisation. Jazz educator David Baker nicknamed these scales the "bebop scales" because they were used often by jazz artists from the Bebop Era.

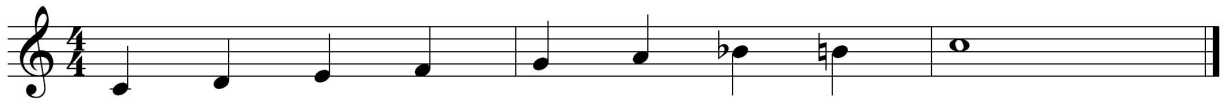
Bebop scales consist of traditional scales with an added passing tone. Generally, any scale of seven notes may be modified by the addition of an additional note to accomplish the same effect allowing chord tones to naturally stay on the beat. The modifier "bebop" is reserved to indicate those scales most frequently used—and popularized—during the bebop era.

The BeBop Dominant is the most commonly used and recognized bebop scale.

- Whole step

^ Half-step

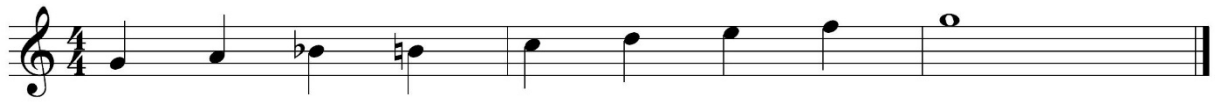
BeBop Dominant: 1-2-3^4-5-6^b7^7^8. For example,



The BeBop Dominant is essentially a Mixolodian scale with an added major seventh scale degree.

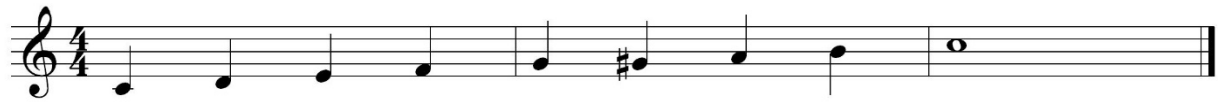
The BeBop Dorian scale is a mode of the BeBop Dominant- begin the BeBop Dominant on the 5th step of the scale.

BeBop Dorian: 1-2^b3^3^4-5-6^b7-8. For example,

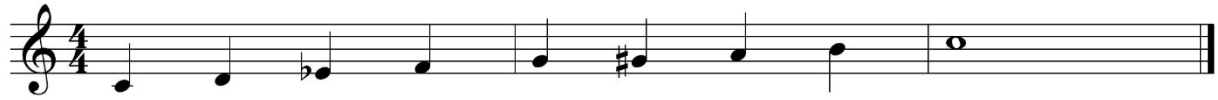


Both the BeBop Major and BeBop Melodic Minor add a chromatic passing tone between the fifth and sixth scale degrees.

BeBop Major: 1-2-3^4-5^#5^6-7^8. For example,

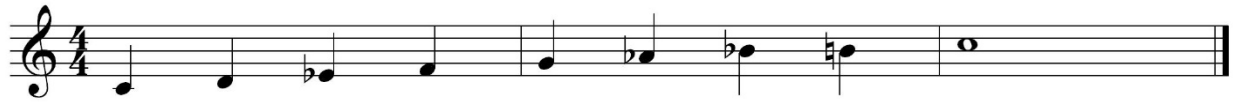


BeBop Melodic Minor: 1-2^3-4-5^#5^6-7^8. For example,



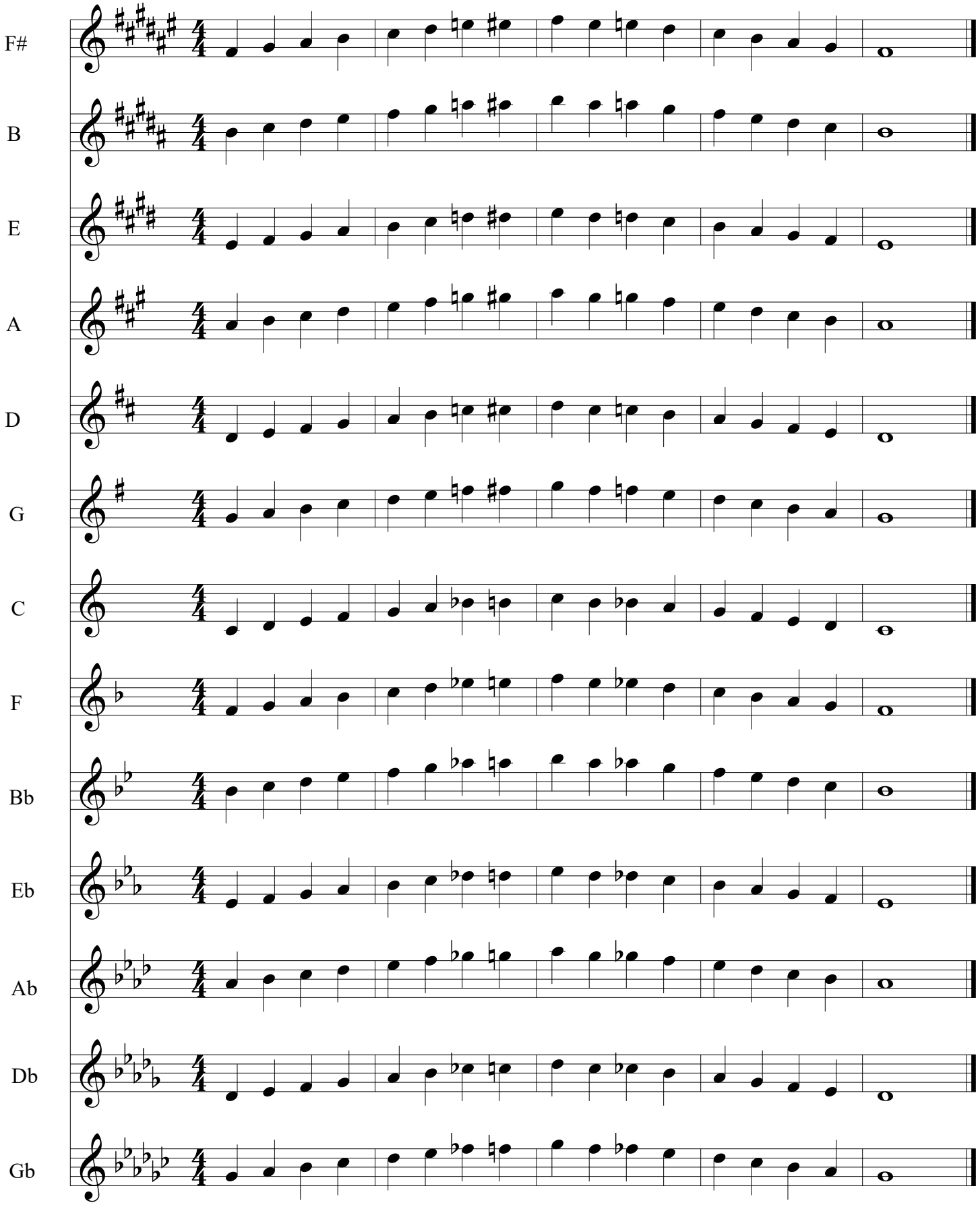
The BeBop Harmonic Minor scale is derived from the harmonic minor scale and has a chromatic passing note added (an additional ♯7) between the 7th and 1st scale degrees.

BeBop Harmoninc Minor: 1-2^3-4-5^6-7^#7^8. For example,

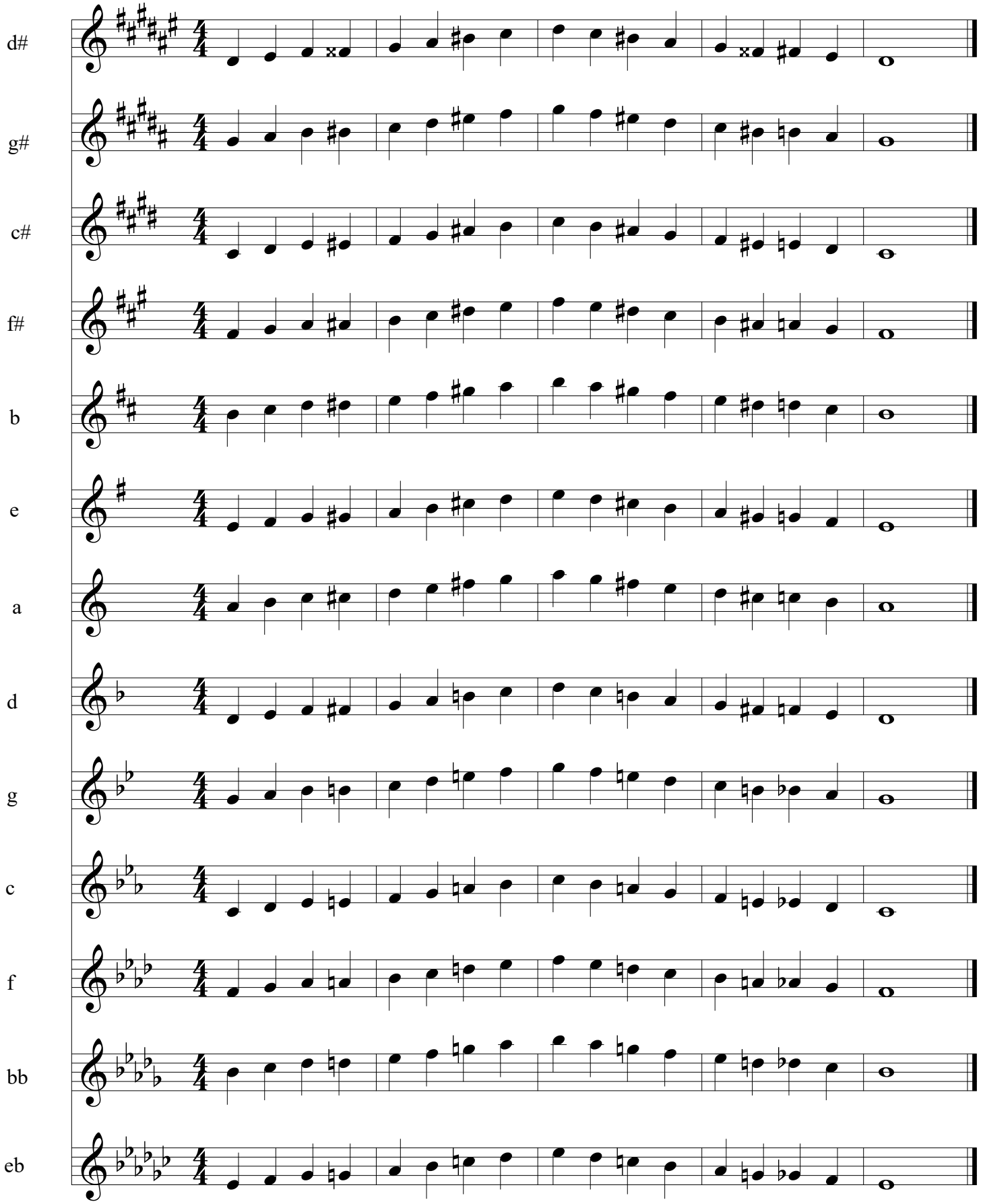


Practice the Bebop scales through your playable range. Use a metronome!

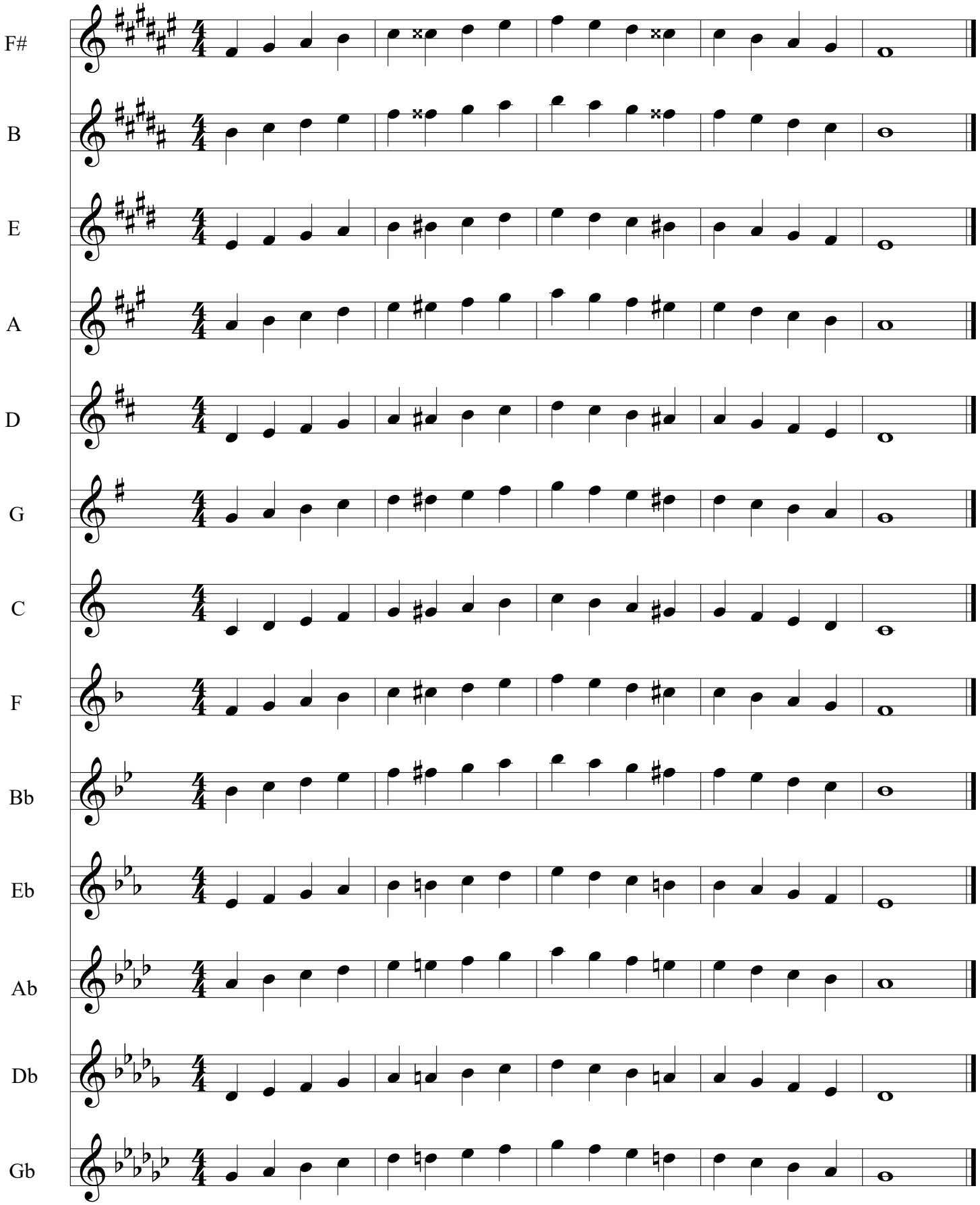
BeBop- BeBop Dominant Scales



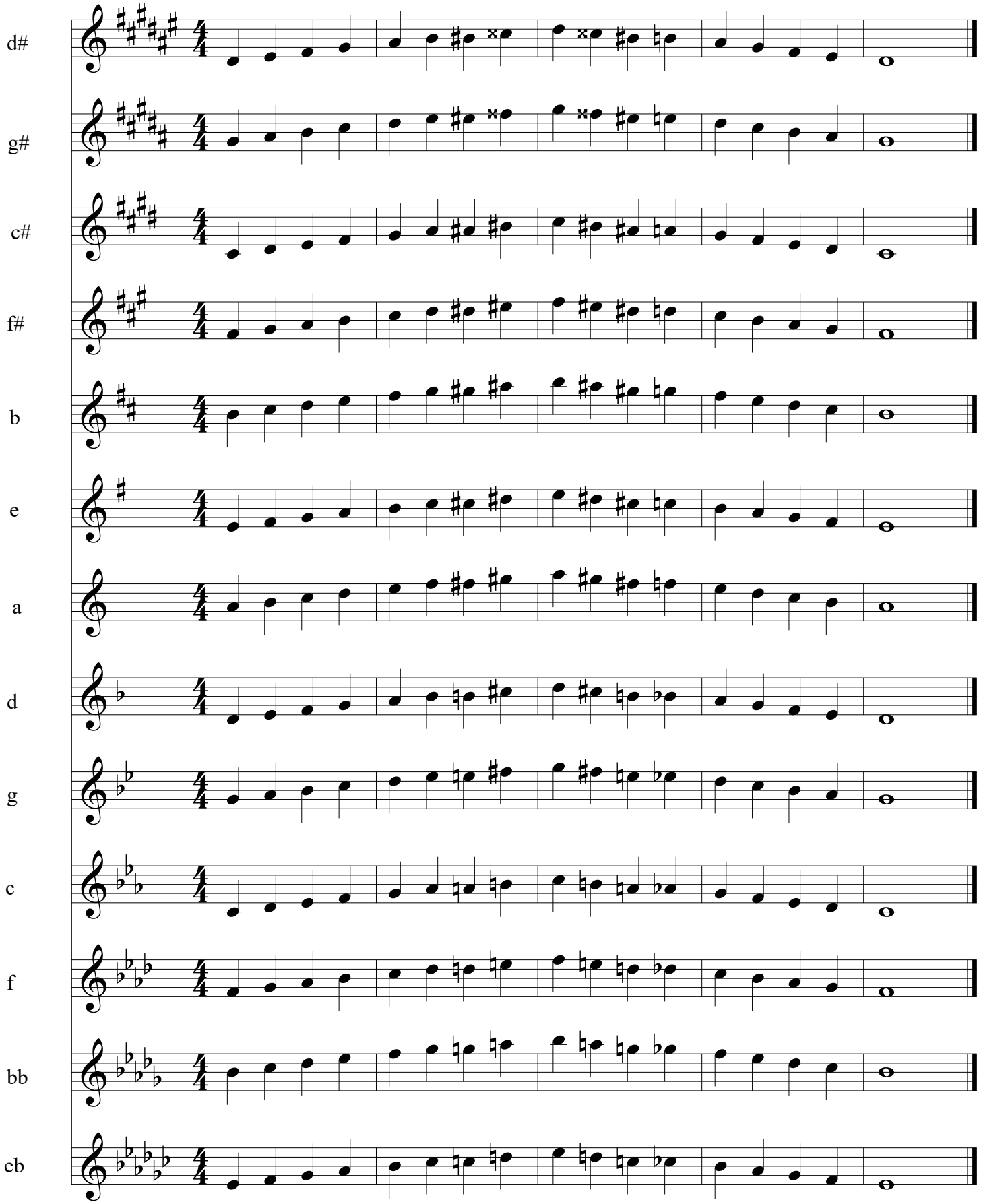
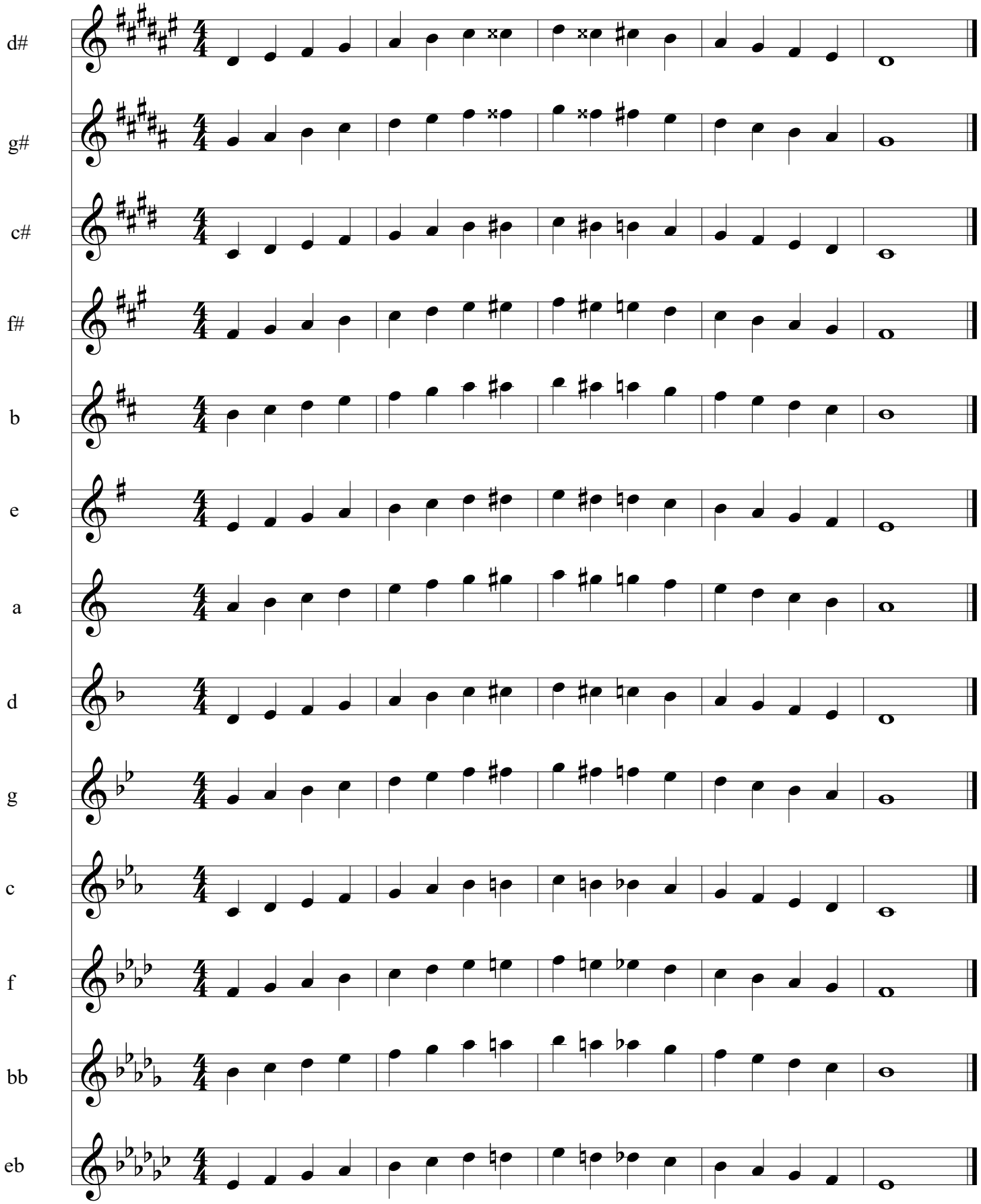
BeBop- BeBop Dorian Scales



BeBop- BeBop Major Scales



BeBop- BeBop Melodic Minor Scales



BeBop- BeBop Harmonic Minor Scales