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Music theory for Beginner Musicians

Learning the language

Notes

The Sequence of notes

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

That is the sequence of notes followed in western music. It is true throughout any western musical instrument.

If you start from C note, move through the sequence of notes, get to the C note one octave higher and the note sequence continues.

After G# comes A A#... A to G are the alphabets used. All alphabets except E and B have sharps.

Sharps

is pronounced as 'sharp'. All alphabets except B and E have a corresponding note with a sharp. **Sharp means raising a note by a half step.**

A# just means raise A by a half step - the note after A. On the piano it will be the black key after the white key for A. On the guitar it will be the note played on the immediate next fret after A note, on the same string. (For example, in standard tuning, 3rd string 2nd fret is A. 3rd string 3rd fret is A#)

Flats

Flat means lower the note by a half step. Gb refers to the note that comes just before G in the note sequence.

Writing the note sequence in the beginning, using flats instead of sharps will look like this :

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

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Enharmonic

Bb and A# are called **enharmonic**. They refer to the same note, the same pitch. (For example, A# can be called Bb. The 3rd string 3rd fret note on the guitar can be called A# or Bb)

In certain situations E is referred to as Fb and B as Cb.

Using alphabets A to G and alphabets with sharp, gives us a total of 12 notes in an octave.

Practice

1. Remember the chord sequence. Both in terms of sharps and flats. Remember which alphabets don't have a sharp note and which don't have a flat note.
2. Try writing the sequence from Bb to Bb using alphabets and flats.
3. How would you rewrite G# using a flat?
4. How would you rewrite E using a flat? (Hint : Lowering F by a half step gives us E)
5. Sharp of which note is same as Cb?
6. Write the note sequence starting from C#.

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Interval naming

Root - minor 2nd - major 2nd - minor 3rd -major 3rd - perfect 4th - tritone (flat five / sharp four) - perfect 5th - minor 6th (sharp five) - major 6th - minor 7th - major 7th – octave

Intervals are the distance each note has from the root. It is similar to referring to Someone as sitting next to Somebody (minor 2nd is the note just after the root). Or as the eighth person from Somebody (fifth is the interval the eighth note makes with the root).

Consider the note sequence that runs from C to C: **C C# D D# E F F# G G# A A# B C**

Below, we write the interval that each note forms with respect to the root note C

root	r	C
minor 2nd	m2	C#
Major 2nd	M2	D
minor 3rd	m3	D#
Major 3rd	M3	E
Perfect fourth	4	F
Sharp 4th	#4 / b5	F#
Fifth	5	G
Minor 6th	m6	G#
Major 6th	M6	A
Minor 7th	m7	A#
Major 7th	M7	B
Root	R	C

R → root. Small letter m → minor. Caps M → major

Looking at the above table, we know that

- C# is the minor 2nd with respect to C
- D is Major 2nd note
- D# is minor 3rd note and so on.

Example: G to G and the interval names

Below is the note sequence starting from C and G, along with the interval sequence. Twelve notes from C to B, G to F#, corresponds to the twelve intervals within an octave.

C	C#	D	D#	E	F	F#	G	G#	A	A#	B	C
R	m2	M2	m3	M3	4	#4/b5	5	m6	M6	m7	M7	Root
G	G#	A	A#	B	C	C#	D	D#	E	F	F#	G

R → root. Small letter m → minor. Caps M → major

The interval naming is a way of identifying the note sequence with respect to the root. Depending on the note we start as the root, the immediate next note will be a minor 2^{nd}, the note after will be a major 2^{nd} etc... till the root one octave high.

Why not just 1,2,3?

Why two of each?

What is the advantage of naming as minor and major of 2^{nd} and 3^{rd}, perfect and sharp versions of fourth note etc? Why not just count the notes as 1, 2, 3 ...?

In scales and chords and other places in western music theory, we find that it is most often **one of the two 2^{nd} or 3^{rd} or 4^{th} or 6^{th} or 7^{th} note that is chosen** from the sequence of notes, to form the scale.

For example in the case of scales, after the root, the second position can be occupied by a minor second or a major second. The third position can be occupied by a minor or a major third note etc.

So naming them as groups of two is a more natural way to identify them and use them further.

e.g. The major scale is made of root – major 2^{nd} – major 3^{rd} – perfect 4^{th} – fifth – major 6^{th} – major 7^{th} – root.

We see that each of the 2,3,4,6,7 positions are represented by one of the two options.

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Tone and semi tone

T – tone

S – semi tone

Semi tone is the distance between adjacent notes. E and F are one semi tone apart.

Tone is the distance between two notes with a note in between. E and F# are a tone apart.

Similar to saying, the person who is immediately next to Someone (semi tone). Or the person who sits after the one who is sitting immediately next to Someone (tone)

What is the use of tone and semi tone?

Scales can be described in terms of tones and semi tones. It is a way to communicate in music, describing a note in terms of how far it is from another note.

In the section that explains the major scale, the first definition of the major scale is made using tones and semi tones.

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Scales

Chromatic scale

All the notes

Consider the note sequence:

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

The second A is an octave higher than the first A. The frequency (in Hz) of the second A is twice that of the first.

These notes are also called the **chromatic scale**. In this case, the chromatic scale runs from A to A.

C chromatic scale

If we choose to write chromatic scale starting from C, it will be:

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

This is C chromatic scale. Starts from C; C is the root note.

Major scale from the chromatic scale

The chromatic scale has all the notes possible, while other scales are formed by selecting some of the notes from the note sequence or chromatic scale.

From the chromatic scale, we get the major scale when we choose the following intervals (see interval naming section):

root – major 2nd – major 3rd – perfect 4th – fifth – major 6th – major 7th

Root	Major 2nd	Major 3rd	4th	5th	Major 6th	Major 7th	Root
C	D	E	F	G	A	B	C

Next section explains the major scale in detail.

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The Major scale

Major scale as a pattern of intervals

We can define the scale notes in terms of the intervals they form with respect to the root. Below we will find the intervals the notes in the major scale form with its root

It is given that the C major scale has all the notes without any sharps or flats. With this information, we find the intervals each note of C major scale makes with C.

Once the intervals of C major scale are found, we can use it to find any major scale.

A scale defined in terms of the interval naming gives us a pattern which we can then use to find the scale from any root.

The intervals of C major scale

Notes of c major	**NOT in c major**
C – Root	C# - minor 2nd
D – major 2nd	D# - minor 3rd
E – major 3rd	
F – perfect 4th	F# - sharp fourth
G – fifth	G# - sharp fifth/minor sixth
A – major 6th	A# - minor 7th
B – major 7th	

The intervals to C D E F G A B C are given on the left most column. The notes from the sequence or chromatic scale, which are not present in the c major scale are written in the column to the right of the first column.

The major scale has the following intervals:

Root - M2 - M3 - perfect 4th - 5th - M6th - M7 - Root

(Remember that we us capital ‘M’ for Major and lower caps ‘m’ for minor.)

We have the intervals of the C major scale, which can now be used to **find the major scale starting from any note.**

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Example: The D major scale

The sequence of notes from D to D: **D D# E F F# G G# A A# B C C# D**

Root	r	D
minor 2nd	m2	D#
Major 2nd	M2	E
minor 3rd	m3	F
Major 3rd	M3	F#
Perfect 4th	4	G
Sharp fourth	4#	G#
Fifth	5	A
minor 6th	m6	A#
Major 6th	M6	B
minor 7th	m7	C
Major 7th	M7	C#
Root	R	D

To get the D major scale, select the notes based on the intervals present in the major scale : **Root M2 M3 perfect 4th 5th M6th M7 Root**

The D Major scale:

Root	Major 2nd	Major 3rd	4th	5th	Major 6th	Major 7th	Root
D	E	F#	G	A	B	C#	D

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Major scale as a pattern of tone and semi tone

C major scale : C - D - E - F - G - A - B – C

Between C and C# there is a semitone interval – the immediate next note

Between C and D there is a tone interval – note after leaving one in between

Let us find out the Tone and Semitone pattern of major scale :

Between C and D – Tone (T)

D and E – Tone

E and F – Semitone (S)

F and G – Tone

G and A – Tone

A and B – Tone

B and C - Semitone

The pattern for a major scale is T T ST T T T ST

To find G major scale, we have to just start from G and find the remaining notes based on the pattern.

G, then for the second note, leave a **tone** – A. Leave a tone from A to get the third note – B. Leave a semitone – C. Leave a tone – D. Leave a tone – E. Leave a tone F#

G major scale is G A B C D E F# G

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The Natural Minor Scale

Minor scale as a pattern of intervals

It is given that the 6th mode of the major scale (also known as Aeolian) is a natural minor scale. By sixth mode, we mean the sequence of notes starting from the 6th note.

For example, the 6th mode of C major scale (C D E F G A B C) is the **A natural minor scale: A B C D E F G A**

Find the intervals each note of the A minor scale forms with the root A.

A scale defined in terms of the interval naming gives us a pattern which can be used to find that scale from any root we want.

The intervals of the A minor scale

Notes in the scale	**NOT in the scale**
A – Root	A# - minor 2nd
B – major 2nd	
C – minor 3rd	C# - major 3rd
D – perfect 4th	D# - sharp fourth
E – fifth	
F – minor 6th	F# - major 6th
G – minor 7th	G# - major 7th
A – octave	

We now have the intervals each note of the A minor scale makes with the root.

The intervals of the minor scale: **Root - M2 - m3 - perfect 4th - 5th - m6th - m7 - Root**

(Remember that we us capital ‘M’ for Major and lower caps ‘m’ for minor.)

Using the interval relation found above, we can find natural minor scales from any note we wish.

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Example: The E♭ minor scale

The sequence of notes from E♭ to E♭

Root	r	E♭
minor 2nd	m2	E
Major 2nd	M2	F
minor 3rd	m3	G♭
Major 3rd	M3	G
Perfect 4th	4	A♭
Sharp fourth	4#	A
Fifth	5	B♭
minor 6th	m6	B / C♭
Major 6th	M6	C
minor 7th	m7	D♭
Major 7th	M7	D
Root	R	E♭

To get the E♭ minor scale, select the notes based on the intervals present in the minor scale : **Root - M2 - m3 - perfect 4th - 5th - m6th - m7 – Root**

The E♭ minor scale :

Root	Major 2nd	minor 3rd	4th	5th	minor 6th	minor 7th	Root
E♭	F	G♭	A♭	B♭	C♭	D♭	E♭

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Chords

Chord spelling

Chords have three or more notes in it. The notes in a chord can be referred to using the interval each note forms with the root note of the chord.

The chord notes written as the name of the interval the note forms with the root note of the chord is referred to as the **Chord Spelling**.