Learning / Research for Music

What is A Chord in Music? How To Build Chords and Chord Progressions

Chords: Where three or more notes play at the same time (It sets emotion in music).

Harmony: When two notes are played at the same time

Triads: The most common chords; They contain three notes from the major scale

   Major, Minor, diminished, and augmented

e.g.)   C   c   C$^+$ c^o

   Uppercase Lowercase Uppercase   Lowercase

Root: 1st note of scale, 3rd note of scale, 5th note of scale, etc.

   e.g.) C E G → If we move this shape around, we can get different chords in the key of C major

Intervals: the distance between two tones

Octave: the distance between one note and another note that's double its frequency

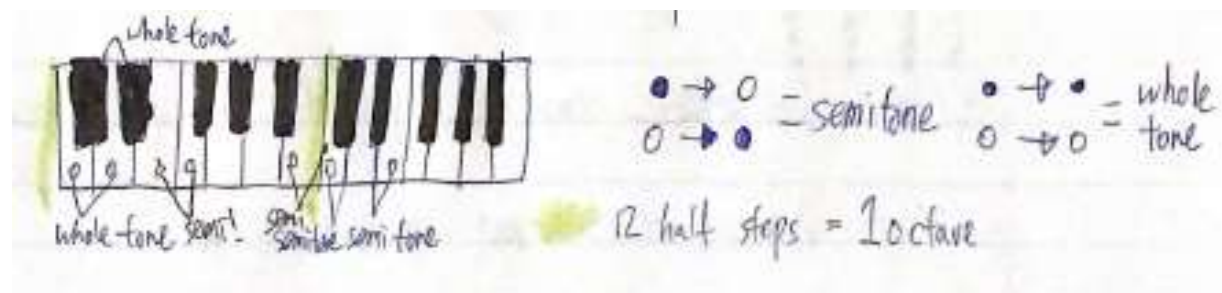   → Two musical notes that are eight tones apart on a scale

Formula for Major chords:

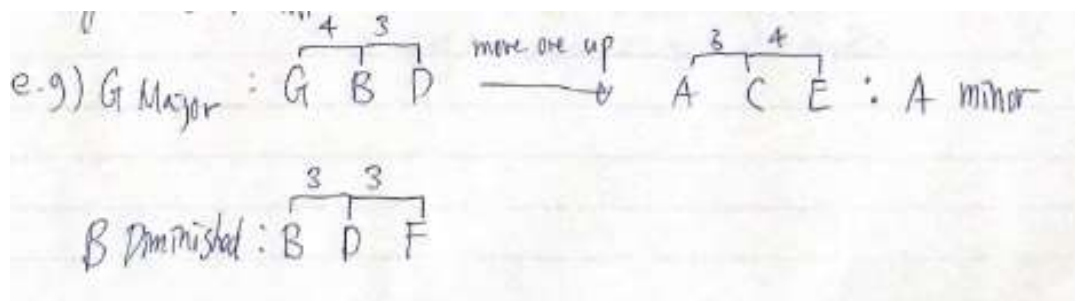4 semitones between the 1st two notes and 3 semitones between the 2nd two notes.

Formula for Minor chords:

3 semitones between the 1st two notes and 4 semitones between the 2nd two notes.

** You can flip the formula between Major and Minor by switching 3 and 4.

How to tell Major vs. Minor: Analyze the formula

Chord Qualities to a Major scale:

Ma – mi – mi – Ma – Ma – mi – dim.

Roman Numerals:

Uppercase: Major / Lowercase: Minor

Chord progressions can be played in any key; it follows the same structure.

Changing the key of the song (Transpose):

- It creates a different vibe.
- It matches a singer's voice better
- It syncs up two samples in your da.
- Instrumentalists may also find that a music piece is easier to play if it is in a different key.
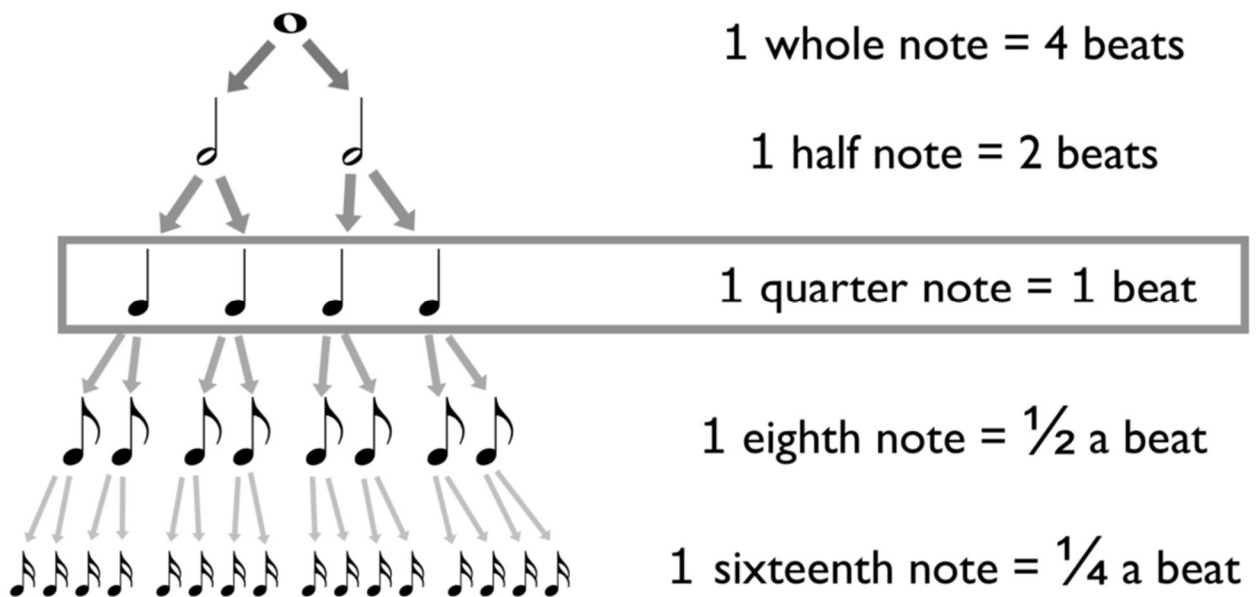
Beats:

It is a constant pulse that does not change.

Beats are organized into sections → These are called measures.
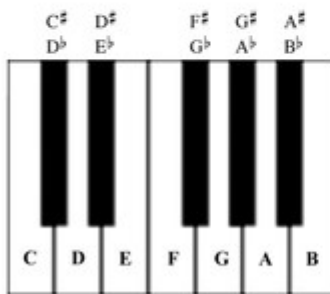
Measures are separated by bar lines

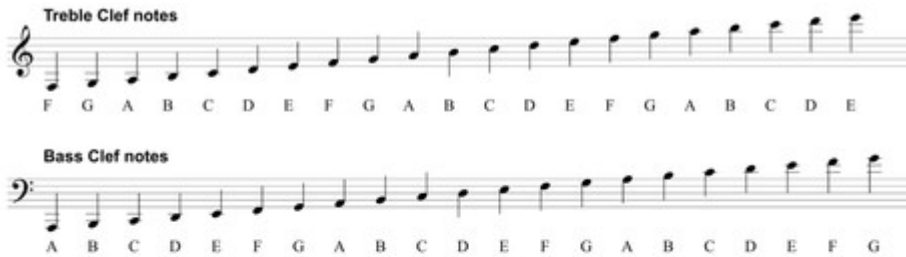The most common way is four beats per measure. →   4/4

1 whole note = 4 beats

1 half note = 2 beats

1 quarter note = 1 beat

1 eighth note = ½ a beat

1 sixteenth note = ¼ a beat

For example, 12/8, twelve beats per measure is twice fast as 4/4.

Repetition signs:

|::|, | |, %   → If you see these signs on sheet music, it is related to repeating the specific part between the bars

Treble Clef notes

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

Bass Clef notes

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

C♯ D♯   F♯ G♯ A♯
D♭ E♭   G♭ A♭ B♭

| C | D | E | F | G | A | B |

♯ - Sharps - black notes to the **right** (sharp things point up!)
♭ - Flats - black notes to the **left** (flat tyres go down!)

Note			Rest	Value
Quaver	♪ or ♫ (in pairs)		𝄾	1/2 each
Crotchet	♩		𝄽	1
Minim	𝅗𝅥		▬	2
Dotted Minim	𝅗𝅥.		▬ᵛ	2 + (1/2 x 2) = 3
Semibreve	𝅝		▬	4

Sweetwater | **Music Theory Cheat Sheet**

Circle of Fifths

Major Keys
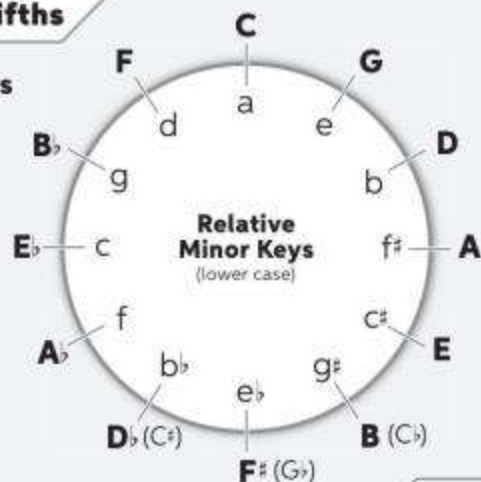(UPPER CASE)

C
F G
a
d e
B♭ D
g b
Relative Minor Keys
(lower case)
E♭ — c f♯ — A
f c♯
A♭ E
b♭ g♯
e♭
D♭ (C♯) B (C♭)
F♯ (G♭)

Key Signatures

Staff	Major	Minor	# of Flats		Staff	Major	Minor	# of Sharps
	F	d	1 flat	C (no flats no sharps)		G	e	1 sharp
	B♭	g	2 flats			D	b	2 sharps
	E♭	c	3 flats			A	f♯	3 sharps
	A♭	f	4 flats			E	c♯	4 sharps
	D♭	b♭	5 flats			B	g♯	5 sharps
	G♭	e♭	6 flats			F♯	d♯	6 sharps
	C♭	a♭	7 flats			C♯	a♯	7 sharps

The elements of music domain we had to consider for building an algorithm: chords and how to label the chords in a number list (for easier representation of chord progressions), chord qualities (implemented within the chord, major vs. minor), line (it's a sequence of chord), structure of the song (Intro, verse, pre-chorus, chorus, outro, etc.), the