

# Harmony 101

For this tutorial, a piano and the knowledge of note names on the keyboard are necessary. A software simulation is fine, but it is very helpful to be able to play the notes to hear the difference in sound between types of chords (major, minor and dominant). The note names needn't be memorized - a reference diagram would be suitable.

## Basics

There are three types of chords - major, minor and dominant. Most songs consist primarily of major and minor chords. A song can have only major chords (somewhat common) or only minor chords (much less common) and many songs have a combination of both. Many songs will also have dominant (also called dominant seventh) chords, but when they are used, they are usually found at the end of a section or at the end of a song.

Major chords have a sound that could be called happy or calm.

Minor chords have a sound that could be called sad or bittersweet.

Dominant chords have a sound that could be called tense or unresolved. In most cases dominant chords will be followed by a major or minor chord.

In traditional music (classical, folk, popular), dominant chords played an important role in a song's harmonic structure. With the advent of rock and roll, it became less prevalent but was still used fairly extensively, especially in pop music in the second half of the 20<sup>th</sup> century. In 21<sup>st</sup> century pop and rock music, the dominant chord is much less common. In jazz, the dominant chord plays a major role and in the Blues, all of the chords are dominant.

## Chords, scales, intervals

All examples are based on the C major scale (all the white notes on the piano from C to C).

The notes of the C major scale are C, D, E, F, G, A, B, C (The first note is always repeated to finish a scale)

All scales have numbers assigned to each note (also called steps).

In the C major scale, these are the steps:

C=1, D=2, E=3, F=4, G=5, A=6, B=7

Playing C and D (either simultaneously or consecutively) creates an "interval" called a second. The intervals in the C scale starting on C are as follows:

C to D = second

C to E = third

C to F = fourth

C to G = fifth

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C to A = sixth

C to B = seventh

A chord is three or more notes consisting of two or more intervals. To build triads (3 note chords) on the steps of the C scale, a third is combined with a fifth. In the key of C starting on the first step of the scale, C, E, G (a third from C to E and a fifth from C to G) creates a C major chord. Any combination of C, E and G on the piano (or in any ensemble) is a C major chord. Because this chord is built on the first note or step of the C major scale, it's called a "one" chord. In common usage, chords are called mostly by their letter name but musicians will also refer to a chord's number name.

### Important note:

The notes C, E and G always form a C major chord but it is only a "one" chord when playing in the key of C. The C major chord will appear in other keys, but the "number name" will change. For example, in the key of G, C is a four chord (because C is four steps up from G) and in the key of F, C is a five chord (because C is five steps up from F).

### Understanding major and minor intervals and chords

A whole step on the keyboard is any two notes separated by one other note (white or black) and a half step are any two consecutive notes (white or black). In the C major scale, the whole steps are C to D, D to E, F to G, G to A and A to B (one black note in between) and the two half steps are E to F and B to C (no black note in between).

A chord built on the second note of the scale (D, F, A) is called a two chord and is a D minor chord. It is a minor chord because the distance between D and F (the third) is three half steps. In the C major chord, the distance between C and E (the third) is four half steps. The interval from C to E is called a major third (four half steps) and the interval from D to F is called a minor third (three half steps). The third in a chord determines whether it is major or minor.

### The six most common chords in C major

The chords built on the first six tones of the C major scale are listed below:

C major

D minor

E minor

F major

G major

A minor

The major chords are the one, four and five chords, while the minor chords are the two, three and six chords. Most simple songs (folk songs, many rock songs) use only the one, four and five chords. More complex songs use some of the minor chords listed above and the chords available to use in a song or

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piece of music in the key of C go well beyond these six chords. In traditional harmony, the one chord is called the tonic, the four chord is called the subdominant and the five chord is called the dominant.

The chord built on the seventh step is a special situation (a diminished chord). See the end of the section on dominant chords below for more on this chord.

### Dominant seventh chords

In the key of C, the dominant chord is built on the five chord (G). The five chord consists of G, B and D and to that, F is added to make it a dominant seventh chord. Dominant seventh chords are also called five seven chords or just sevenths. In the key of C, because G is our five chord and has been modified to be a dominant chord, it's called a "G seven" (written G7). Songs in the key of C can and will have seventh chords other than G7 (A7, D7, E7 and others).

### Chord naming and notating conventions

A major chord is usually called by its name only (ie, C, F, G). A major chord can also have the description "major" added (ie, C major, etc) but it's assumed that the letter name only means it's a major chord. In our example in the key of C, we would notate the major chords as follows:  
C, F, G

A minor chord needs to have the description minor added (ie, D minor, E minor, A minor). In our example in the key of C, the minor chords would be notated as follows:  
Dm, Em, Am

A dominant seventh chord needs to have the description seven added (G seven). In our example in the key of C, the dominant chord would be notated as follows:  
G7

As noted before, in the key of C, references to the dominant seventh, the "five seven" and "G seven" all refer to the chord G7 built using G, B, D and F.

When you read lyrics with chords, these are the most common notations you will see.

Note that the G chord appears twice in the above example as both a major chord and a dominant chord. This is because using the dominant chord is optional. The dominant seventh chord provides tension that is usually resolved by following it with a one chord (G7 to C) in the key of C. Playing a G chord instead of a G7 doesn't sound "wrong", just a little different. This explains why songs can have a five chord that is not dominant and still sound "right".

### Important note

The chord built on the seventh note of the scale is a diminished chord that can be considered a form of G7. In its basic form using only the notes of the C major scale, it includes three of the four notes of G7

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(B, F and D) but in reality, there is a fourth note to this chord (Ab). Using the Ab will still create the sound of a G7, especially when a G is added to the chord. This creates a G seven flat nine (written G7b9) and we are now in the realm of jazz voicings and advanced harmony. That is why in the section above listing the chords built on the steps of the C major scale, it is called a “special situation”.

### Important notes

Any three note chord is called a triad. Traditional harmony instruction refers to four types of triads: major, minor, augmented and diminished. While this is correct, it is important to understand that the most common chords in music are major, minor and dominant chords. Augmented and diminished chords are actually variations of dominant seventh chords and in their basic form are seldom used as the sound they create is somewhat “dated”.

In traditional harmony, the one chord is called the tonic, the five chord the dominant and the four chord the subdominant. In general usage among most musicians, only the name of the fifth (the dominant) is commonly used. Also, in traditional written harmony, roman numerals are used to indicate the numeric position of the chord (one chord = I, five chord = V, etc). This is occasionally used in written music (especially jazz charts) but is not very common.

### Slash chords

Often you will see in a chord sheet or sheet music a “slash chord”, ie, C/G or Dm/A, etc. This means simply the bass note should be the note following the slash. In most cases, you can ignore the slash and just play the chord in front of the slash. For example, when you see C/G, just play a C chord. If you are playing a piano and can form a chord with your right hand, then playing the note after the slash in the bass (C chord in the right hand and G in the bass) will result in a more complex sound which is usually closer to the original recording.

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