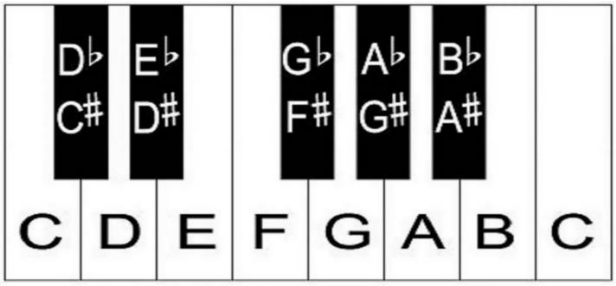
Intervals

The distance between two notes is called an interval. There are intervals that can be major or minor (2^{nd}, 3^{rd},6^{th} and 7^{th}) and intervals that are called perfect (4^{th}, 5^{th}). When an interval of a 4^{th} or 5^{th} is altered by a semitone higher or lower, then it's called diminished and augmented respectively.

Here's a diagram of all the notes on the piano, to help you learn all the intervals between any two notes:



Scales

In western music, scales are shaped with specific intervals between notes in the range of an octave (for example from C to C).
The most basic scales used in pop music are the major and the minor scale, both of which consist of 7 notes.
In the case of the major scale, the intervals used are:
`Tone – tone – semitone – tone – tone – tone - semitone`
For minor, it's:
`Tone – semitone – tone – tone – semitone – tone - tone`

It's important to learn these intervals, instead of learning for example an A major scale by heart. By learning the principles of how a major/minor scale is shaped, you can apply them to any key.
The accidentals (sharps - ***#*** and flats - ***b***) you see written in key signatures are just the way notes are shaped to create these specific intervals that will make the scale sound major or minor.

You will notice that specific major scales have the same accidentals as specific minor scales. These couples are called **relative scales**. For example, C major has the same accidentals as A minor (all white keys on the piano!). This shows that they use the same intervals in a different order. If you play an octave of white keys starting from C, you hear the C major scale. If you play an octave of only white keys starting from A, you hear the A minor scale. This of course works the same way for all major and minor scales that are apart by a minor 3^{rd}. More simply put, if you move down a minor 3^{rd} from the tonic of a major scale, you find its relative minor. For example, G major – E minor, A major – F# minor etc.
Here's a list of all relative major and minor scales, although it's good to practice estimating them yourself:

C - Am	D - Bm	E – C#m	F - Dm	G - Em	A – F#m
B – G#m	Db - Bbm	Eb - Cm	Gb - Ebm	Ab - Fm	Bb - Gm

Chords

We know that a scale usually consists of 7 notes. From each of these seven notes there are specific chords shaped.
In their simplest form, chords are created by stacking three notes of the scale on top of each other. The interval between these notes is a third. From our theory, we know that intervals like the second, the third, the sixth and the seventh can either be major or minor (For example, C-Eb is a minor third, A-F# is a minor third while A-F is a major third etc). In the case of chords, the nature of the thirds used is decided by the key signature and the intervals our scale dictates.

In a major scale, the chords that are shaped from every note are as follows:

I	**II**	**III**	**IV**	**V**	**VI**	**VII**
Major	minor	minor	Major	Major	minor	Diminished

And in a minor scale:

I	**II**	**III**	**IV**	**V**	**VI**	**VII**
minor	Half-diminished	Major	minor	minor*	Major	Major

*Although not explained by the accidentals of a minor scale, the V often appears as a major chord in pop/western European music.

Relationship between chords in a scale

As mentioned earlier in the paragraph about scales, it's important that you don't learn these by heart for a specific key, but you learn the logic behind chords and how they're shaped.
When learning a song, and although it might seem confusing at first, it's more helpful to try and learn the roman numerals that correspond to the notes of a scale, rather than learn the chords by heart. This way, you don't just learn the song, but you'll notice that the song will make more sense to you. This of course is strongly connected to how a chord or a chord transition *feels*.
This is not some hippie mystical thing. Although hard to explain without getting into too much detail, most people are quite familiar with specific chord transitions and harmony movements, because they've heard them so much in the music that they like. We know the sound, but we might have not connected it to the theory.
The strongest example is maybe the transition from the V chord to the I in a major scale. It carries the feeling of conclusion in a song, or the feeling of landing. In a similar way, learning songs by analysing the relationship between the chords, helps us grow a more complete instinct about how these chords *feel* in a specific harmonic environment.
While studying songs this way, you'll notice that many songs use the same **chord progression**, sometimes with small variations.
The most commonly used chords in a pop song are the I, the IV, the V and the VI (F, Bb, C and Dm, if we're in the key of F).
As a reference, here's a list of songs that use these chords of the major scale:

- Jason Mraz-I'm yours
- Adele-Someone like you
- Ben E. King – Stand by me
- Led Zeppelin – D'yer M'aker
- John Legend – All of me
- Luis Fonsi – Despacito

Note:
To make it easier in keeping notes or writing scores, degrees of a scale are often written in capitals or lowercase letters to indicate major or minor respectively. In this way, a major scale would look like this:
I – ii – iii – IV – V – iv – vii