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2.2 Roman Numerals

Roman Numerals

Roman numerals (i, ii, etc.) indicate 2 things:

1. Which **scale degree** (step of the scale for the key) the **root** of the chord is **AND**
2. The **quality** (major, minor, etc.) of the chord:

Triads:

- **major** = upper case roman numeral, like IV
- **minor** = lower case roman numeral, like iii
- **augmented** = upper case roman numeral with +, like III+
- **diminished** = lower case roman numeral with a small circle, like vii°

Seventh chords:

- **major seventh** = uppercase with M7
- **major-minor seventh** = uppercase with 7
- **minor seventh** = lower case with 7
- **half-diminished seventh** = lowercase with a slashed circle and 7
- **fully-diminished seventh** = lowercase with a circle and 7

Triads in major keys

C major: I ii iii IV V vi vii°

Seventh chords in major keys

I^{M7} ii⁷ iii⁷ IV^{M7} V⁷ vi⁷ vii^{°7}

Triads in minor keys

d minor: i ii° III* iv V! VI vii°

Seventh chords in minor keys

i⁷ ii^{°7} III^{M7} iv⁷ V⁷ VI^{M7} vii^{°7}

* - These are most common chord qualities. Because of variations in the 6th and 7th scale steps in minor, the III chord is sometimes augmented, and the VII (major) triad built on the subtonic note (a whole step below tonic) is sometimes used.

! - NOTICE that in **minor** you must **write in the leading tone** for the dominant and leading-tone harmonies!

Inversion Symbols

Inversion symbols are arabic numerals used with roman numerals to indicate chord inversion.

The numbers are the same as the standard abbreviations for figured bass inversions (6=first inversion triad, etc.); see 2.1 *Chord Inversions and Figured Bass*.

Inversion symbols **never have accidentals** since the roman numeral already indicates the chord quality.

d minor examples: i⁶ III⁶ iv⁴ vii^{°6}

6 means first inversion;
third on bottom

second inversion 7th chord;
fifth on bottom

Notice the small circle;
2nd inversion 7th chord;
third of chord on bottom

Analyzing with Roman Numerals

When **analyzing with roman numerals**, always go through these steps:

1. **STACK-OF-THIRDS:** Reorder the notes in a single octave so that they form a stack of only thirds.
You may have to try several notes on the bottom before you find the "stack-of-thirds" formation.
2. **Determine the root.** The **bottom** note of the stack-of-thirds formation is always the **root**.
3. **Write the roman numeral** corresponding to the root. Use the correct chord quality (lower case, upper case, etc.).
4. **Add an inversion symbol** if the root is not on the bottom in the music.