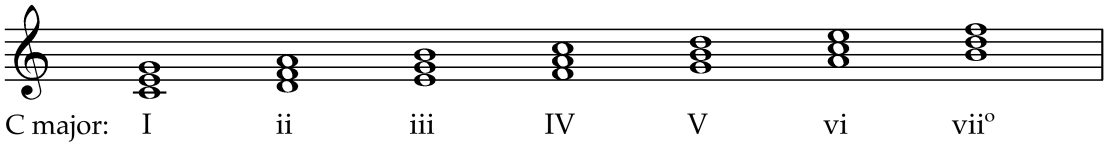
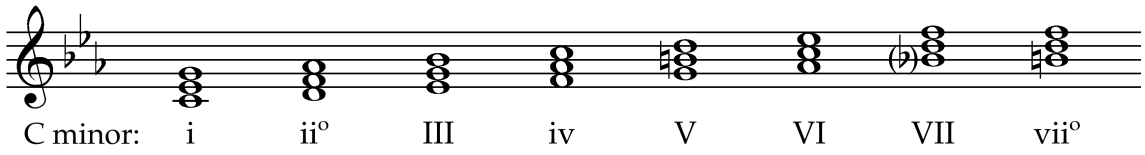
MU 1310 (Feurzeig) Roman Numeral Analysis

In tonal harmony, chords may be described by roman numerals (RNs). The numeral refers to the scale degree of the chord root.

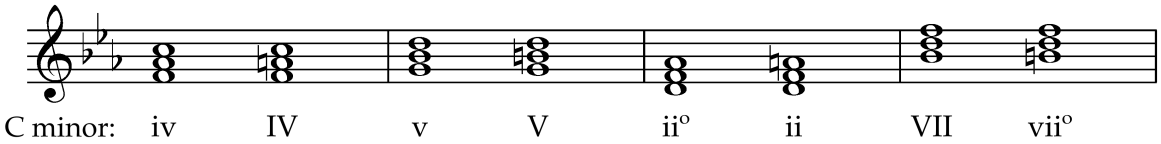
Quality. Major triads are labeled with upper-case RNs, minor triads with lower-case. Diminished triads are lowercase with the **º** symbol, and augmented triads are uppercase with the **+** symbol. Here are the diatonic (unaltered) triad qualities in major keys:



Minor keys, because of the dual options for scale degrees $\hat{6}$ and $\hat{7}$, have more available triad qualities. Below are the **most commonly** used triads in minor-key music.



Switch-hitter chords. Minor-key chords that include scale degrees $\hat{6}$ or $\hat{7}$have multiple triad options. Here are some that are likely to be encountered:



For most of these chord pairs, it is obvious from the RN what exact chord is intended is usually obvious, because the RN matches the chord quality. So (for example) a lowercase **v** indicates a minor triad on the dominant (which uses the notes of the natural minor) while an uppercase **V** indicates a major triad on the same root (which requires that the chord third—scale degree $\hat{7}$—is **raised** to the leading tone to produce the indicated quality). (Note: when writing by hand, use horizontal lines above and below upper-case RNs to distinguish them clearly from lower-case RNs.)

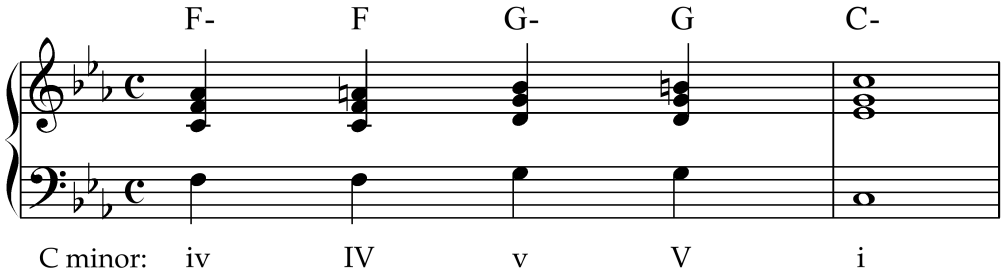
The two different versions of the chord on the seventh scale degree present a special case. When the upper-case **VII** is used, indicating a major triad, it is understood that the root is the **subtonic**. When the diminished label **viiº** is used, **it is understood that the root is the <u>leading tone</u>**. So when you see the RN vii° in minor, you must remember to raise scale degree $\hat{7}$ to the leading tone (just as in the major dominant, V) and build the chord on that root. It won't work to start on natural $\hat{7}$ (the subtonic) and then adjust the third and fifth to produce a diminished quality triad, because it is the chord root itself that must be changed.

Lead-sheet symbols vs. roman numerals. Unlike lead-sheet symbols, which are absolute, roman numerals are **relative to a key (tonic)**. This can be a specific key, as in "The **ii chord** in the key of F major is G minor." Or RN's may describe general harmonic relationships that apply generically to any key, for example: "In the 12-bar blues, the second phrase moves to the **IV chord**."

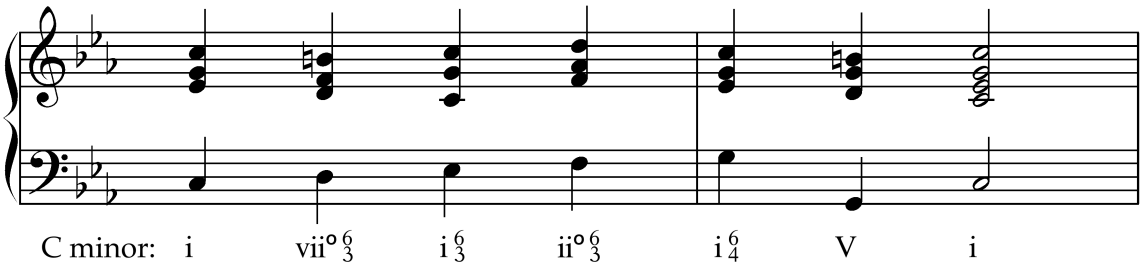
Note these differences between roman numerals and lead-sheet chord symbols:

- Lead-sheet chord roots are always written with **capital** letters, regardless of quality. RN's change case according to quality.
- RNs are relative to a key, while lead-sheet symbols are **independent** of key and key signature.

In this example, the lead-sheet symbol **F–** is necessary to call forth an F minor triad: it does not matter that A-flat is already in the key signature. The A-flat is not added "for free"; if you write simply the chord symbol **F**, you are calling for an F **major** triad, regardless of key, even though the requisite A-natural contradicts the key signature.



Inversions. Inversions in RN analysis are indicated with figured-bass numbers: 6 or 6/3 for first inversion triads, 6/4 for second inversion triads.

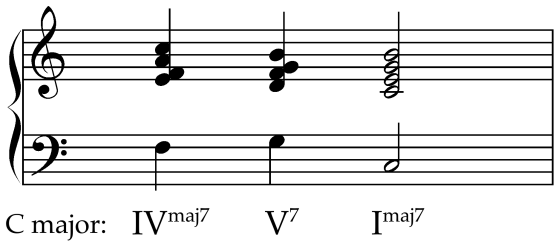


Seventh chord qualities. A roman numeral with a 7 superscript indicates a root position seventh chord.

lowercase w/7, e.g. **ii^{7}**	minor seventh
lowercase w/o7, e.g. **vii^{o7}**	diminished seventh
lowercase w/ø7, e.g. **vii^{ø7}**	half-diminished seventh

The situation with dominant seventh and major seventh qualities is a little more complicated. Most analysts use the same symbol for both; whether the chord is major seventh or dominant seventh quality is determined by the notes in the key signature. In major keys, for instance, V^7 is naturally dominant-seventh quality I^7 and IV^7 are naturally major-seventh quality. The quality is implicit, and the RN does not explicitly name it.

In this course, however, we will use unique designations: a **7** with no other qualification will mean a dominant quality, while a major-seventh chord will be indicated **maj7**, as illustrated here:



Any of the relevant figured-bass inversion indications (6/5/3, 6/4/3, 6/4/2, or their abbreviaions) added to an RN indicates an inverted seventh chord.

Pro tip. Don't confuse **IV** (the subdominant chord) and **vi** (the submediant chord)! Or in minor keys, **iv** vs. **VI**.