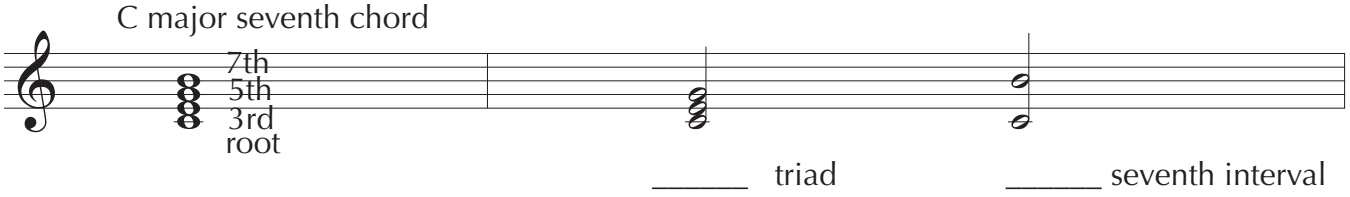
Building Seventh Chords

Using Triads and Intervals

You can create a seventh chord by stacking a triad and a seventh interval.

Major Seventh Chords

In the first blank space below, write whether the triad (C-E-G) is major, minor or diminished.
In the next blank space, write whether the seventh interval (C-B) is major, minor or diminished.



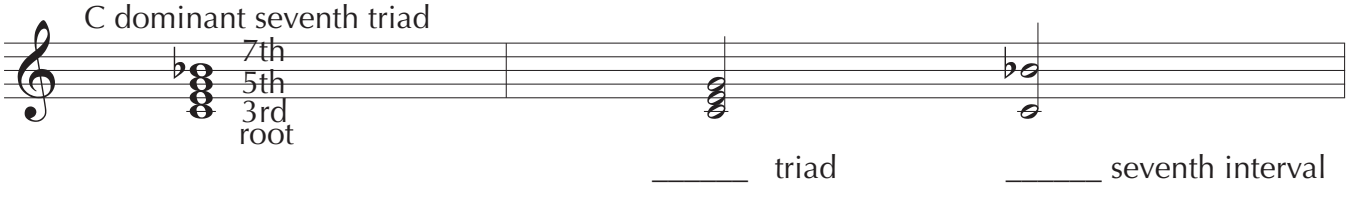
You'll see the symbol for major seventh chords written a couple different ways.
Here are a few examples: C maj7, C M7, C△7

Practice Assignment - Find all major seventh chords at the piano by stacking the correct triad and seventh interval, starting on the following notes:
C G D A E B | F Bb Eb Ab Db Gb

You can change a major seventh chord to a dominant seventh chord by lowering the 7th (top note) by one half step.

Dominant Seventh Chords

In the first blank space below, write whether the triad (C-E-G) is major, minor or diminished.
In the next blank space, write whether the seventh interval (C-B♭) is major, minor or diminished.



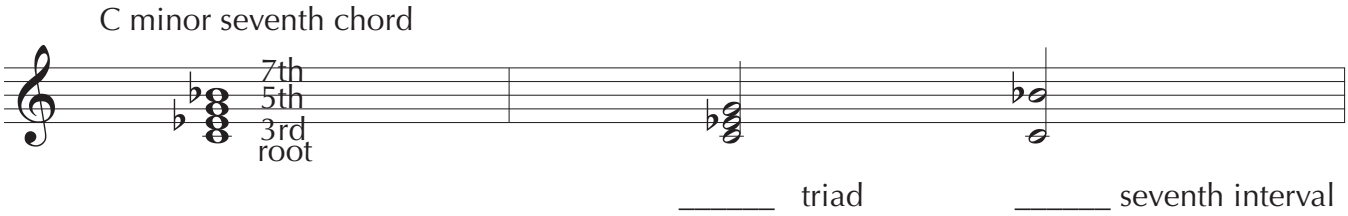
The symbol for dominant seventh chords is always the same. It's always just the root and the number 7. Here are a few examples of dominant seventh chords: G7, D7, A7, E7.

Practice Assignment - Find all dominant seventh chords at the piano by stacking the correct triad and seventh interval, starting on the following notes:
C G D A E B | F Bb Eb Ab Db Gb

You can change a dominant seventh chord to a minor seventh chord by lowering the 3rd (second lowest note) by one half step.

Minor Seventh Chords

In the first blank space below, write whether the triad (C-E♭-G) is major, minor or diminished.
In the next blank space, write whether the seventh interval (C-B♭) is major, minor or diminished.



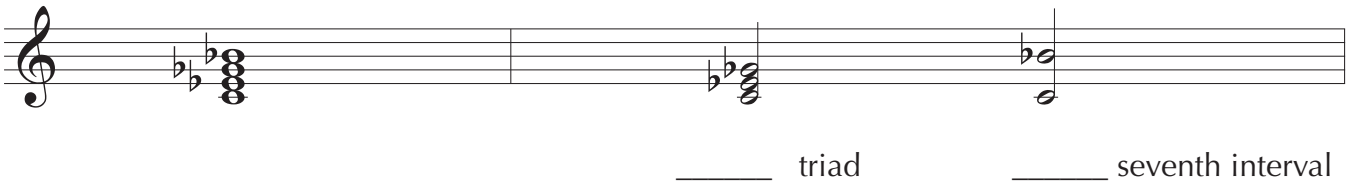
You'll see the symbol for minor seventh chords written in a couple different ways.
Here are a few examples: C min7, C m7, C-7

Practice Assignment - Find all minor seventh chords at the piano by stacking the correct triad and seventh interval, starting on the following notes:
C G D A E B | F Bb Eb Ab Db Gb

You can change a minor seventh chord to a half-diminished seventh chord by lowering the 5th (second highest note) by one half step.

Half-Diminished Seventh Chords

In the first blank space below, write whether the triad (C-E♭-G♭) is major, minor or diminished.
In the next blank space, write whether the seventh interval (C-B♭) is major, minor or diminished.



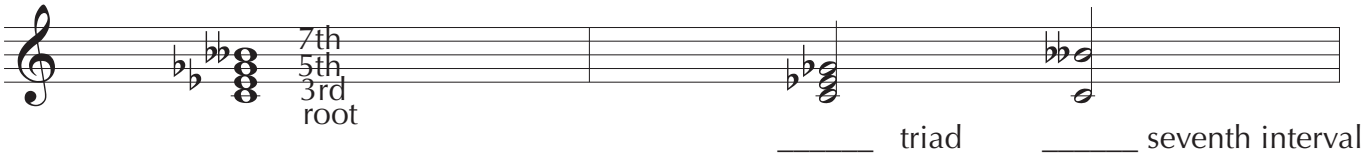
You'll see the symbol for half-diminished seventh chords written in a couple different ways.
Here are a few examples: C min7♭5, C half-dim7, C-7♭5, C∅7

Practice Assignment - Find all half-diminished seventh chords at the piano by stacking the correct triad and seventh interval, starting on the following notes:
C G D A E B | F Bb Eb Ab Db Gb

You can change a half-diminished seventh chord to a fully-diminished seventh chord by lowering the 7th (top note) by one half step again (remember we lowered it once already, so now it's double-flatted).

Fully-Diminished Seventh Chords

In the first blank space below, write whether the triad (C-E♭-G♭) is major, minor or diminished.
In the next blank space, write whether the seventh interval (C-B𝄫) is major, minor or diminished.

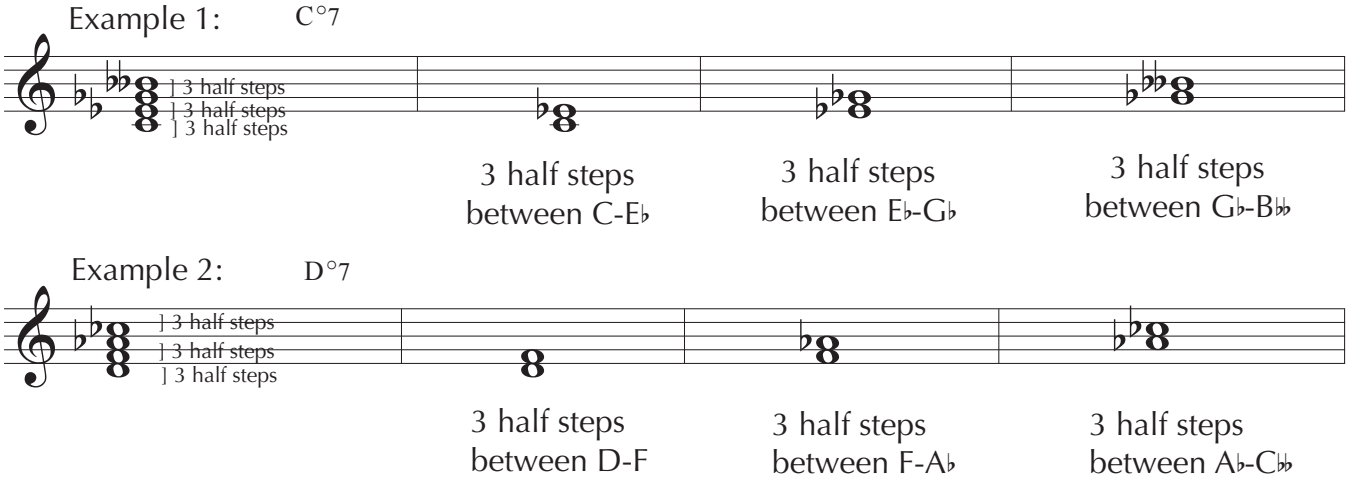


You'll see the symbol for fully-diminished seventh chords written a couple different ways. Here are a few examples: C dim7, C○7

Special Note About Fully-Diminished Chords

1. Quick Method to Find Diminished Chords: Count 3 Half Steps

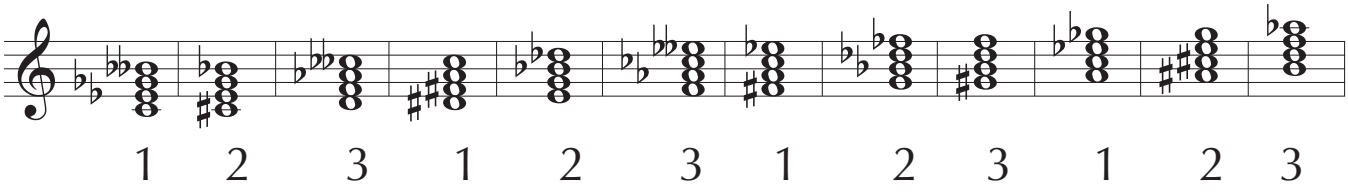
In all the previous examples, we built seventh chords by finding the correct triad and seventh intervals. In fully-diminished chords, all notes of the chords are 3 half notes apart. It can be easier to identify fully-diminished chords by counting up 3 half steps between each note of the chord, starting at the root.



Practice Assignment - Find all fully-diminished seventh chords at the piano by counting up three half steps between notes, starting on the root. Start on the following notes:
C G D A E B | F Bb Eb Ab Db Gb

2. Repeating Chords

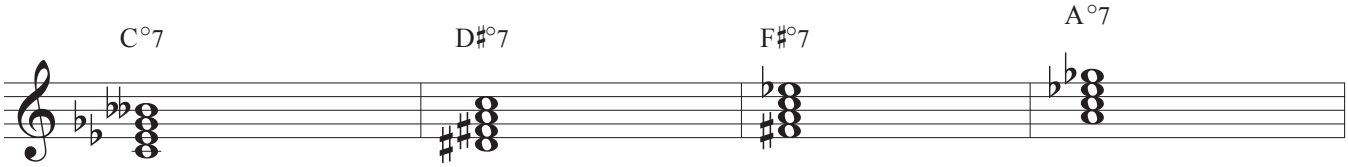
Play a diminished chord at the piano starting on C, and move the chord shape up by half steps.



Notice that after you play the first three diminished chords, (starting on the roots C, C♯, D), the notes in the chords start repeating.

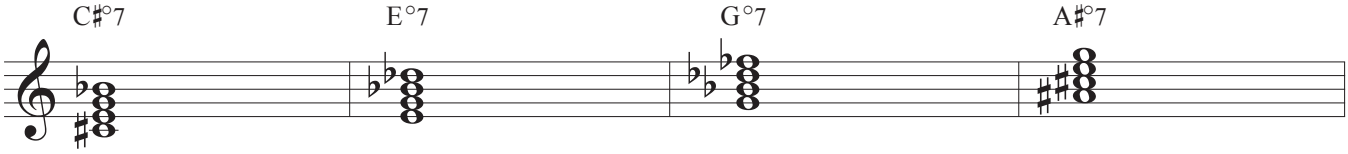
Group 1: Fully-Diminished Chords

For instance, all the chords labeled "1" have the exact same four notes* C, E♭ (D♯), G♭ (F♯) and A (B𝄫).



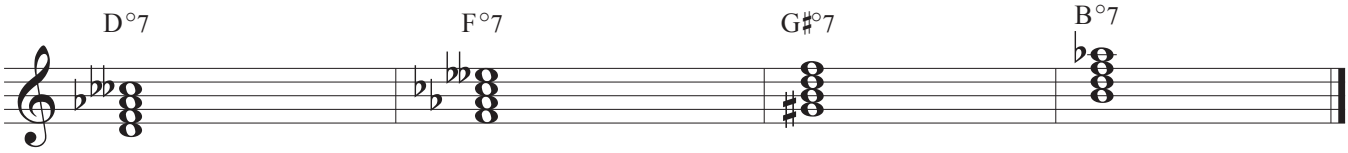
Group 2: Fully-Diminished Chords

All the chords labeled "2" share the same notes, C♯, E (F♭), G, and B♭ (A♯).



Group 3: Fully-Diminished Chords

All the chords labeld "3" share the same notes, D (E𝄫), F (E𝄫), A♭ (G♯), B (C𝄫).



So in reality, there are only three unique fully-diminished chords.

Each group is simply four inversions of the same chord. Remember that inversion means re-stacking the same notes of a chord. Each inversion has the exact same notes, they just start on different notes.

*Remember that E♭ and D♯ are the same note, G♭ and F♯ are the same note, and A and B𝄫 are the same. When a note can be spelled two different ways (like E♭ vs. D♯), we call it "enharmonic spelling".