

## Chord to Note

Example 1: Print all chords in C major and C minor.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py C -a
I : ['C', 'E', 'G']
bII : ['D', 'F', 'A']
II : ['D', 'F', 'A']
II7 : ['D', 'F', 'A', 'C']
III : ['E', 'G', 'B']
IV : ['F', 'A', 'C']
V : ['G', 'B', 'D']
V7 : ['G', 'B', 'D', 'F']
bVI : ['A', 'C', 'E']
GerVI : ['A', 'C', 'E', 'F#']
FrVI : ['A', 'C', 'D', 'F#']
ItVI : ['A', 'C', 'F#']
VI : ['A', 'C', 'E']
VII : ['B', 'D', 'F']
VII7 : ['B', 'D', 'F', 'A']

C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py c -a
I : ['C', 'E', 'G']
I+ : ['C', 'E', 'G']
bII : ['D', 'F', 'A']
II : ['D', 'F', 'A']
II7 : ['D', 'F', 'A', 'C']
III : ['E', 'G', 'B']
IV : ['F', 'A', 'C']
IV+ : ['F', 'A', 'C']
V : ['G', 'B', 'D']
V+ : ['G', 'B', 'D']
V7 : ['G', 'B', 'D', 'F']
VI : ['A', 'C', 'E']
GerVI : ['A', 'C', 'E', 'F#']
FrVI : ['A', 'C', 'D', 'F#']
ItVI : ['A', 'C', 'F#']
VII : ['B', 'D', 'F']
VII7 : ['B', 'D', 'F']
VII7 : ['B', 'D', 'F', 'A']
```

Example 2: Print all chords in F# major and F# minor.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py F+ -a
I : ['F#', 'A#', 'C#']
bII : ['G', 'B', 'D']
II : ['G#', 'B', 'D#']
II7 : ['G#', 'B', 'D#', 'F#']
III : ['A#', 'C#', 'E#']
IV : ['B', 'D#', 'F#']
V : ['C#', 'E#', 'G#']
V7 : ['C#', 'E#', 'G#', 'B']
bVI : ['D', 'F#', 'A']
GerVI : ['D', 'F#', 'A', 'B#']
FrVI : ['D', 'F#', 'G#', 'B#']
ItVI : ['D', 'F#', 'B#']
VI : ['D#', 'F#', 'A#']
VII : ['E#', 'G#', 'B']
VIIdim : ['E#', 'G#', 'B', 'D']

C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py f+ -a
I : ['F#', 'A', 'C#']
I+ : ['F#', 'A#', 'C#']
bII : ['G', 'B', 'D']
II : ['G#', 'B', 'D']
II7 : ['G#', 'B', 'D', 'F#']
III : ['A', 'C#', 'E']
IV : ['B', 'D', 'F#']
IV+ : ['B', 'D#', 'F#']
V : ['C#', 'E', 'G#']
V+ : ['C#', 'E#', 'G#']
V7 : ['C#', 'E#', 'G#', 'B']
VI : ['D', 'F#', 'A']
GerVI : ['D', 'F#', 'A', 'B#']
FrVI : ['D', 'F#', 'G#', 'B#']
ItVI : ['D', 'F#', 'B#']
VII : ['B', 'G#', 'B']
VIIdim : ['E#', 'G#', 'B']
VIIdim7 : ['E#', 'G#', 'B', 'D']
```

Example 3: Print all chords in Db major and Db minor.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py D- -a
I : ['D b', 'F', 'A b']
bII : ['E b', 'G b', 'B b']
II : ['E b', 'G b', 'B b']
II7 : ['E b', 'G b', 'B b', 'D b']
III : ['F', 'A b', 'C']
IV : ['G b', 'B b', 'D b']
V : ['A b', 'C', 'E b']
V7 : ['A b', 'C', 'E b', 'G b']
bVI : ['B b', 'D b', 'F b']
GerVI : ['B b', 'D b', 'F b', 'G']
FrVI : ['B b', 'D b', 'E b', 'G']
ItVI : ['B b', 'D b', 'G']
VI : ['B b', 'D b', 'F']
VII dim : ['C', 'E b', 'G b']
VII dim7 : ['C', 'E b', 'G b', 'B b']

C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py d- -a
I : ['D b', 'F b', 'A b']
I+ : ['D b', 'F', 'A b']
bII : ['E b', 'G b', 'B b']
II dim : ['E b', 'G b', 'B b']
II7 : ['E b', 'G b', 'B b', 'D b']
III : ['F b', 'A b', 'C b']
IV : ['G b', 'B b', 'D b']
IV+ : ['G b', 'B b', 'D b']
V : ['A b', 'C b', 'E b']
V+ : ['A b', 'C', 'E b']
V7 : ['A b', 'C', 'E b', 'G b']
VI : ['B b', 'D b', 'F b']
GerVI : ['B b', 'D b', 'F b', 'G']
FrVI : ['B b', 'D b', 'E b', 'G']
ItVI : ['B b', 'D b', 'G']
VII : ['C b', 'E b', 'G b']
VII dim : ['C', 'E b', 'G b']
VII dim7 : ['C', 'E b', 'G b', 'B b']
```

Example 4: Print all chords in Dbb major and Dbb minor.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py D-- -a
I : ['D b b', 'F b', 'A b b']
bII : unable to print the chord because of there are notes with more than 2 accidentals.
II : ['E b b', 'G b b', 'B b b']
II7 : ['E b b', 'G b b', 'B b b', 'D b b']
III : ['F b', 'A b b', 'C b']
IV : ['G b b', 'B b b', 'D b b']
V : ['A b b', 'C b', 'E b b']
V7 : ['A b b', 'C b', 'E b b', 'G b b']
bVI : unable to print the chord because of there are notes with more than 2 accidentals.
GerVI : unable to print the chord because of there are notes with more than 2 accidentals.
FrVI : unable to print the chord because of there are notes with more than 2 accidentals.
ItVI : unable to print the chord because of there are notes with more than 2 accidentals.
VI : ['B b b', 'D b b', 'F b']
VIIdim : ['C b', 'E b b', 'G b b']
VIIdim7 : unable to print the chord because of there are notes with more than 2 accidentals.

C:\Users\User\Documents\chord-identification\src\TickStart>python3 chord_to_note.py d-- -a
I : ['D b b', 'F b b', 'A b b']
I+ : ['D b b', 'F b', 'A b b']
bII : unable to print the chord because of there are notes with more than 2 accidentals.
IIIdim : unable to print the chord because of there are notes with more than 2 accidentals.
II7 : unable to print the chord because of there are notes with more than 2 accidentals.
III : ['F b b', 'A b b', 'C b b']
IV : unable to print the chord because of there are notes with more than 2 accidentals.
IV+ : ['G b b', 'B b b', 'D b b']
V : ['A b b', 'C b b', 'E b b']
V+ : ['A b b', 'C b', 'E b b']
V7 : ['A b b', 'C b', 'E b b', 'G b b']
VI : unable to print the chord because of there are notes with more than 2 accidentals.
GerVI : unable to print the chord because of there are notes with more than 2 accidentals.
FrVI : unable to print the chord because of there are notes with more than 2 accidentals.
ItVI : unable to print the chord because of there are notes with more than 2 accidentals.
VII : ['C b b', 'E b b', 'G b b']
VIIdim : ['C b', 'E b b', 'G b b']
VIIdim7 : unable to print the chord because of there are notes with more than 2 accidentals.
```

## Notes to Chord

Example 5: Print all possible chords for

a) C, E, G

b) C, Eb, G

c) C, Eb, G#

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C E G
I chord in C major; Chord notes : ['C', 'E', 'G']
bII chord in B major; Chord notes : ['C', 'E', 'G']
IV chord in G major; Chord notes : ['C', 'E', 'G']
V chord in F major; Chord notes : ['C', 'E', 'G']
bVI chord in E major; Chord notes : ['C', 'E', 'G']
I+ chord in c minor; Chord notes : ['C', 'E', 'G']
bII chord in b minor; Chord notes : ['C', 'E', 'G']
III chord in a minor; Chord notes : ['C', 'E', 'G']
IV+ chord in g minor; Chord notes : ['C', 'E', 'G']
V+ chord in f minor; Chord notes : ['C', 'E', 'G']
VI chord in e minor; Chord notes : ['C', 'E', 'G']
VII chord in d minor; Chord notes : ['C', 'E', 'G']
--- Total 12 chords ---
--- Used 0.002788543701171875 seconds ---

C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C E- G
II chord in Bb major; Chord notes : ['C', 'Eb', 'G']
III chord in Ab major; Chord notes : ['C', 'Eb', 'G']
VI chord in Eb major; Chord notes : ['C', 'Eb', 'G']
I chord in c minor; Chord notes : ['C', 'Eb', 'G']
IV chord in g minor; Chord notes : ['C', 'Eb', 'G']
V chord in f minor; Chord notes : ['C', 'Eb', 'G']
--- Total 6 chords ---
--- Used 0.003713369369506836 seconds ---

C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C E- G+
II chord in Bb major; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
III chord in Ab major; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
VI chord in Eb major; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
I chord in c minor; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
IV chord in g minor; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
V chord in f minor; Chord notes : ['C', 'Eb', 'G']; Missing notes : ['G']
VII dim chord in Db major; Chord notes : ['C', 'Eb', 'Gb']; Missing notes : ['Gb']
II dim chord in bb minor; Chord notes : ['C', 'Eb', 'Gb']; Missing notes : ['Gb']
VII dim chord in db minor; Chord notes : ['C', 'Eb', 'Gb']; Missing notes : ['Gb']
--- Total 9 chords ---
--- Used 0.008011579513549805 seconds ---
```

Example 6: Print all possible chords for

a) C, Ab

b) C, A#

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C A-
I chord in Ab major; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
bII chord in G major; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
IV chord in Eb major; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
V chord in Db major; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
bVI chord in C major; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
I+ chord in ab minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
bII chord in g minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
III chord in f minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
IV+ chord in eb minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
V+ chord in db minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
VI chord in c minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
VII chord in bb minor; Chord notes : ['Ab', 'C', 'Eb']; Missing notes : ['Eb']
--- Total 12 chords ---
--- Used 0.00505518913269043 seconds ---

C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C A+
ItVI chord in E major; Chord notes : ['C', 'E', 'A#']; Missing notes : ['E']
ItVI chord in e minor; Chord notes : ['C', 'E', 'A#']; Missing notes : ['E']
--- Total 2 chords ---
--- Used 0.0047855377197265625 seconds ---
```

Example 7: Print all possible chords for C##, D, E and F#.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C++ D E F+
ItVI chord in G# major; Chord notes : ['E', 'G# ', 'C# # ']; Missing notes : ['G# ']
ItVI chord in g# minor; Chord notes : ['E', 'G# ', 'C# # ']; Missing notes : ['G# ']
I chord in D major; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
bII chord in C# major; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
IV chord in A major; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
V chord in G major; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
bVI chord in F# major; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
I+ chord in d minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
bII chord in c# minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
III chord in b minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
IV+ chord in a minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
V+ chord in g minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
VI chord in f# minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
VII chord in e minor; Chord notes : ['D', 'F# ', 'A']; Missing notes : ['A']
--- Total 14 chords ---
--- Used 0.01600503921508789 seconds ---
```

Example 8: Print all possible chords for D, D# and D##.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py D D+ D++
--- Total 0 chords ---
--- Used 0.0 seconds ---
```

Example 9: Print all possible chords for Cb and Abb, with the specification of Cb major.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C- A--
I chord in A b b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
bII chord in G b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
IV chord in E b b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
V chord in D b b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
bVI chord in C b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
I+ chord in a b b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
bII chord in g b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
III chord in f b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
IV+ chord in e b b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
V+ chord in d b b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
VI chord in c b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
VII chord in b b b minor; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
--- Total 12 chords ---
--- Used 0.013907194137573242 seconds ---

C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py C- A-- -C-
bVI chord in C b major; Chord notes : ['A b b ', 'C b ', 'E b b ']; Missing notes : ['E b b ']
--- Total 1 chords ---
--- Used 0.003988981246948242 seconds ---
```

Example 10: Print all possible chords for Dbb, Ebb and Fb.

```
C:\Users\User\Documents\chord-identification\src\TickStart>python3 note_to_chord.py D-- E-- F-
I chord in D b b major; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
bII chord in C b major; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
IV chord in A b b major; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
V chord in G b b major; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
bVI chord in F b major; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
I+ chord in d b b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
bII chord in c b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
III chord in b b b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
IV+ chord in a b b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
V+ chord in g b b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
VI chord in f b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
VII chord in e b b minor; Chord notes : ['D b b ', 'F b ', 'A b b ']; Missing notes : ['A b b ']
--- Total 12 chords ---
--- Used 0.015741586685180664 seconds ---
```