

Teaching a computer to output useable musical chord progressions, either by generating them itself or receiving guidelines form basic user input.

I IV V I
I I6 IV V7 I
V i V i V7 i
I vii*6 I6 I V64 I6 I V43 I6
I ii*6 V64--53 I
I vi IV ii7 V7/V V I
I V7/III III ii*6 i64 V64 i V7/iv iv V I

I --> anywhere
ii --> V, I64
iii --> vi, IV
IV --> V, ii, I
V --> I, vi, IV6
vi --> IV, ii, V
vii --> I6

Example output level 1:

Output : I IV V I

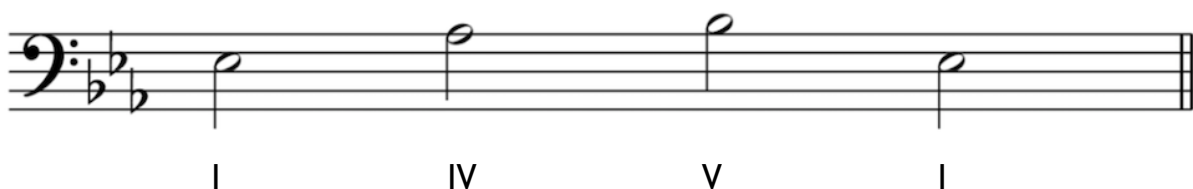
Example output level 2 (Add possible notes for the bass line progression, based on an inputed key):

Key: EbM

Output: I IV V I Eb Ab Bb Eb

Example output level 3 (providing a visual representation of the output)

Output:



Example output level 4: (teaching a computer the basic rules of part writing, allowing it to output a full visual representation of all voices)

C: I IV V I

The image shows a musical score for a simple harmonic exercise in C major. It consists of two staves, treble and bass clef, with a grand staff bracket on the left. The music is in common time (C) and contains four measures. The notes are: Measure 1: C4, E4, G4 (treble) and C3, E3, G3 (bass); Measure 2: F4, A4, C5 (treble) and F3, A3, C4 (bass); Measure 3: G4, B4, D5 (treble) and G3, B3, D4 (bass); Measure 4: C5, E5, G5 (treble) and C4, E4, G4 (bass). Below the staves, the chord labels are: C: I IV V I.

Example output level 5: (teaching a computer the more complex rules of part writing, allowing it to add suspensions, different embellishments, and possibly applied chords).

D: I V^7/IV IV V^7 I I vii_5^6 vi ii_5^6 V^7 I

The image shows a musical score for a more complex harmonic exercise in D major. It consists of two staves, treble and bass clef, with a grand staff bracket on the left. The music is in common time (C) and contains ten measures. The notes are: Measure 1: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 2: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 3: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 4: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 5: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 6: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 7: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 8: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 9: D4, F#4, A4 (treble) and D3, F#3, A3 (bass); Measure 10: D4, F#4, A4 (treble) and D3, F#3, A3 (bass). Below the staves, the chord labels are: D: I V^7/IV IV V^7 I I vii_5^6 vi ii_5^6 V^7 I.

Example output level 6:

A collection of audio files for different pitches, allowing a program to play the examples that it makes.

Example output level 7:

David Cope: 'You pushed the button and out came hundreds and thousands of sonatas'

Tim Adams

Composer David Cope has spent the last 30 years teaching computers to create classical music

- [Hear an example from David Cope's Emily Howell project](#)
- [Download an Emmy Bach-style invention](#)