In atonal music, we refer to pitch classes as numbers: C = 0; C-sharp / D-flat = 1; D = 2; D-sharp / E-flat = 3; E = 4; E# / F = 5; F-sharp / G-flat = 6; G = 7; G-sharp / A-flat = 8; A = 9; A-sharp / B-flat = 10 (or t); B = 11 (or e). To illustrate, here is the 12-tone row (see way later in the course) of Alban Berg's Lyric Suite for String Quartet with the pitch-class numbers provided:



There are four ways of thinking about intervals in atonal music: ordered pitch intervals, unordered pitch intervals, ordered pitch-class intervals, and unordered pitch-class intervals. I've reproduced the Lyric Suite row below showing ordered pitch intervals--the number of half steps from one note to another with regard to direction: + = "up" and - = "down":



Here is the Lyric Suite row again showing unordered pitch intervals--the number of half steps from one note to another without regard for direction:



For ordered pitch class intervals, think of the pitch class number of the first note as "x"; think of the second pitch class as "y"; the ordered pitch-class interval is y-x (mod) 12. Mod 12 maps pitch classes onto a clock; 1 below noon is 11, so -1 = 11; 2 below noon is 10 or -2 = 10, etc. So from the F to the E below, the F = "x" = 5 and the E = "y" = 4. 4-5 = -1 = 11.



The unordered pitch class interval between two pitch class is y-x (mod 12) or x-y (mod 12) whichever is smaller. Or simply think of the closer possible distance between the pitch classes.

