

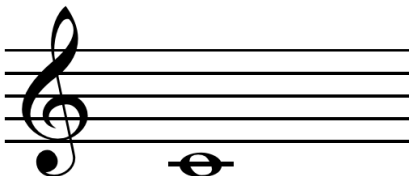
# Let's Make Music – Crib Sheet

## Table of Note Names (low to high)

Table of computer notes, by name							
Low ←				→ High			
note_B0	note_B1	note_B2	note_B3	note_B4	note_B5	note_B6	note_B7
note_C1	note_C2	note_C3	note_C4	note_C5	note_C6	note_C7	note_C8
note_CS1	note_CS2	note_CS3	note_CS4	note_CS5	note_CS6	note_CS7	note_CS8
note_DF1	note_DF2	note_DF3	note_DF4	note_DF5	note_DF6	note_DF7	note_DF8
note_D1	note_D2	note_D3	note_D4	note_D5	note_D6	note_D7	note_D8
note_DS1	note_DS2	note_DS3	note_DS4	note_DS5	note_DS6	note_DS7	note_DS8
note_EF1	note_EF2	note_EF3	note_EF4	note_EF5	note_EF6	note_EF7	note_EF8
note_E1	note_E2	note_E3	note_E4	note_E5	note_E6	note_E7	
note_F1	note_F2	note_F3	note_F4	note_F5	note_F6	note_F7	
note_FS1	note_FS2	note_FS3	note_FS4	note_FS5	note_FS6	note_FS7	
note_GF1	note_GF2	note_GF3	note_GF4	note_GF5	note_GF6	note_GF7	
note_G1	note_G2	note_G3	note_G4	note_G5	note_G6	note_G7	
note_GS1	note_GS2	note_GS3	note_GS4	note_GS5	note_GS6	note_GS7	
note_AF1	note_AF2	note_AF3	note_AF4	note_AF5	note_AF6	note_AF7	
note_A1	note_A2	note_A3	note_A4	note_A5	note_A6	note_A7	
note_AS1	note_AS2	note_AS3	note_AS4	note_AS5	note_AS6	note_AS7	
note_BF1	note_BF2	note_BF3	note_BF4	note_BF5	note_BF6	note_BF7	

To note:

- Sharps and flats are indicated by the note being modified with an “S” or “F”, respectively. E.g. note\_A3 flat is note\_AF3, note\_F6 sharp is note\_FS6, etc.
- “note\_C4” is middle C, That is:



## Scale Orientation

### C Major musical scale

### Computer note names















## C Major



C D E F G A B C

etc. ↑  
 ← note\_C5  
 ← note\_B4  
 ← note\_A4  
 ← note\_G4  
 ← note\_F4  
 ← note\_E4  
 ← note\_D4  
 ← note\_C4 (middle C)  
 ← etc. ↓

## Table of Computer Note & Rest Duration Names, Values, Beats & Symbols

Note duration name	Note/Rest duration time computer name	Note/Rest values	Note/Rest value	Number of beats	Note symbol	Rest symbol
Semi-brieve	semib	Whole note/rest	1	4 beats		
Dotted minim	dot_minim	Three quarter note/rest	$\frac{3}{4}$	3 beats		
Minim	minim	Half note/rest	$\frac{1}{2}$	2 beats		
Crotchet	crot	Quarter note/rest	$\frac{1}{4}$	1 beat		
Quaver	quav	Eight note/rest	$\frac{1}{8}$	1/2 beat		
Semi-quaver	semiq	Sixteenth note/rest	$\frac{1}{16}$	1/4 beat		
Demi-semi-quaver	demi_semiq	Thirty second note/rest	$\frac{1}{32}$	1/8 beat		

Durations may be compounded and/or arithmetically adjusted in all music commands (play, trill & rest/wait). For example,

```

play(note_AS5, crot + quav);           // 1.5 beats
play(note_C6, quav + semiq);           // 0.75 beats
play(note_B2, semib * 1.5);             // 6 beats
play(note_FS4, crot + semiq);           // 1.25 beats
play(note_DF3, quav + quav);           // 1 beat
play(note_D6, crot / 3);                // 1/3 beat
play(note_DS4, dot_minim + minim);     // 5 beats
rest(quav + semiq);                     // 0.75 beats
rest(crot + semiq);                     // 1.25 beats
rest(semib * 1.75);                     // 7 beats
rest(demi_semiq);                       // 1/8 beats
trill(note_BF3, note_B3, crot + quav); // 1.5 beats
wait(3);                                // wait 3 seconds

```

## In-built Sketch Tempos

Sketch Tempo Names	Number Beats per Minute	Other Sketch Names	Comments
grave	40		<p>The time interval for a crotchet is automatically calculated by the <code>set_tempo</code> function as: <math>60/\text{tempo}</math> beats per seconds.</p> <p>Other notes are then calculated based on the crotchet value.</p> <p>Use <code>set_tempo</code> to change tempo value for notes and rests.</p> <p>Note that any tempo value may be set, e.g.</p> <pre>set_tempo(default_tempo * 1.5); set_tempo(190); set_tempo(adagio * 2); set_tempo(95); etc.</pre>
largo	46		
lento	52		
adagio	56		
larghetto	60		
adagietto	66		
andante	72		
andantino	80		
maestroso	88		
moderato	100		
allegretto	104		
animato	120	default_tempo	
allegro	132		
allegro_assai	144		
vivace	160		
presto	184		
prestissimo	208		

## Music commands

Command	Parameters	Description	Examples
play	note name, note duration time	Plays the given note for the given duration. Time duration can be given explicitly as seconds/fraction of seconds or as a computer note/rest value, see table above - Computer Note & Rest Name Values.	<pre>play(note_C4, minim); play(note_FS3, 3.5); // play for 3.5 beats</pre>
rest	rest duration time	Rests for the given duration (period of silence). Time duration can be given explicitly as seconds/fraction of seconds or as a computer note/rest name value.	<pre>rest(crot); // rest for 1 beat rest(minim + quav); rest(demi_semiq);</pre>
set_tempo	beats per minute	Sets the tempo for playing notes/rests. The 'default_tempo' is 120 beats per minute (animato). The currently set tempo may be queried at any time by reference to the variable 'current_tempo'.	<pre>set_tempo(default_tempo); set_tempo(default_tempo * 1.5); set_tempo(allegro); set_tempo(135);</pre>
trill	note_1, note_2, note duration	performs a trill with the given two notes for the given duration, eg <ul style="list-style-type: none"> <li>trill(note_C4, note_DF4, minim),</li> <li>trill(note_E3, note_F3, quav),</li> <li>etc.</li> </ul> <p>By default and OOTB, the trill performs eight note changes per crotchet, or part thereof, depending on the duration given in its function call, irrespective of the tempo set. If fewer or more note changes per crotchet are required then reset the definition 'trills_per_crotchet'.</p>	<pre>trill(note_C4, note_CS4, crot); // trill up trill(note_ note_EF2, D2, minim); // trill down trill(note_D5, note_E5, quav); // trill up</pre>
wait	duration time	The computer will wait for the given duration time (seconds) during which time no new commands can be executed. Note that any lights set to flash will continue to flash while the wait command is pending.	<pre>wait(3.5); // wait for 3.5 seconds wait(0.25); // wait for ¼ second wait(crot); // wait for 1 beat</pre>

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