Let's Make Music – Crib Sheet

Table of Notes Names (low to high)

Table of computer notes, by name							
low ←							→ high
B0	B1	B2	B3	B4	B5	B6	B7
C1	C2	C3	C4	C5	C6	C7	C8
CS1/DF1	CS2/DF2	CS3/DF3	CS4/DF4	CS5/DF5	CS6/DF6	CS7/DF7	CS8/DF8
D1	D2	D3	D4	D5	D6	D7	D8
DS1/EF1	DS2/EF2	DS3/EF3	DS4/EF4	DS5/EF5	DS6/EF6	DS7/EF7	DS8/EF8
E1	E2	E3	E4	E5	E6	E7	
F1	F2	F3	F4	F5	F6	F7	
FS1/GF1	FS2/GF2	FS3/GF3	FS4/GF4	FS5/GF5	FS6/GF6	FS7/GF7	
G1	G2	G3	G4	G5	G6	G7	
GS1/AF1	GS2/AF2	GS3/AF3	GS4/AF4	GS5/AF5	GS6/AF6	GS7/AF7	
A1	A2	A3	A4	A5	A6	A7	
AS1/BF1	AS2/BF2	AS3/BF3	AS4/BF4	AS5/BF5	AS6/BF6	AS7/BF7	

To note:

1. Sharps and flats are indicated by the note being modified with an "S" or "F", respectively. E.g. A3 flat is AF3, F6 sharp is FS6, etc.

2. "**C4**" is middle C, That is:
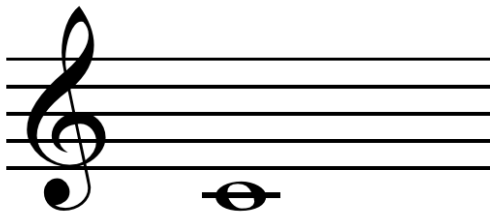
C Major musical scale	Computer note name

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Table of Computer Note & Rest 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	𝐨	▬
Dotted minim	`dot_minim`	Three quarter note/rest	¾	3 beats	♩.	▬·
Minim	`minim`	Half note/rest	½	2 beats	♩	▬
Crotchet	`crot`	Quarter note/rest	¼	1 beat	♩	𝄽
Quaver	`quav`	Eight note/rest	1/8	1/2 beat	♪	𝄾
Semi-quaver	`semiq`	Sixteenth note/rest	1/16	1/4 beat	♪	𝄿
Demi-semi-quaver	`demi_semiq`	Thirty second note/rest	1/32	1/8 beat	♪	𝅀

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

```
play(AS5, crot + quav);      // 1.5 beats
play(C6, quav + semiq);      // 0.75 beats
play(B2, semib * 1.5);       // 6 beats
play(FS4, crot + semiq);     // 1.25 beats
play(DF3, quav + quav);      // 1 beat
play(D6, crot / 3);          // 1/3 beat
play(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(BF3, B3, crot + quav); // 1.5 beats
etc.
```

In-built computer tempos

Computer tempo names	Number beats per minute	Other computer names	Comments
grave	40		
largo	46		
lento	52		The time interval for a crotch is automatically calculated as: 60/tempo.
adagio	56		
larghetto	60		
adagietto	66		Other notes are then calculated based on the crotchet value.
andante	72		
andantino	80		
maestroso	88		Use set_tempo to change tempo value for notes and rests.
moderato	100		
allegretto	104		Note that any tempo value may be set, e.g.
animato	120	default_tempo	
allegro	132		`set_tempo(default_tempo * 1.5);`
allegro_assai	144		`set_tempo(190);`
vivace	160		`set_tempo(adagio * 2);`
presto	184		`set_tempo(95);`
prestissimo	208		etc.

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.	`play(C4, minim);` `play(FS3, 3.5); // play for 3.5 beats`
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.	`rest(crot);` `rest(minim+quav);` `rest(4);`
set_tempo	tempo time	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'.	`set_tempo(default_tempo);` `set_tempo(default_tempo * 1.5);` `set_tempo(allegro);`
trill	note_1, note_2, note duration	performs a trill with the given two notes for the given duration, eg `trill(C4, CS4, minim)`, `trill(E3, F3, quav)`, etc. 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`'.	`trill(C4, CS4, crot);` `trill(E2, F2, minim);` `trill(D5, E5, quav);`
wait	duration time	The computer will wait for the given duration time 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.	`wait(3.5);` `wait(0.25);` `wait(crot); // wait for 1 beat`

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