ARDUINO CHEAT SHEET
For more information visit: http://arduino.cc/en/Reference/

Structure
/* Each Arduino sketch must contain the following two functions. */
void setup()
{
  /* this code runs once at the beginning of the code execution. */
}

void loop()
{
  /* this code runs repeatedly over and over as long as the board is powered. */
}

Comments
// this is a single line
/* this is a multiline */

Setup
pinMode(pin, [INPUT \ OUTPUT \ INPUT_PUL-
LUP]);
/* Sets the mode of the digital I/O pin. It can be set as an input, output, or an input with an internal pull-up resistor. */

Control Structures
if(condition)
{
  // if condition is TRUE, do something here
}
else
{
  // otherwise, do this
}

for(initialization; condition; increment)
{
  // do this
}
/* The ‘for’ statement is used to repeat a block of statements enclosed in curly braces. An increment counter is usually used to increment and terminate the loop. */

Digital I/O
digitalWrite(pin, val);
/* val = HIGH or LOW write a HIGH or a LOW value to a digital pin. */
int var = digitalRead(pin);
/* Reads the value from a specified digital pin, either HIGH or LOW. */

Analog I/O
analogWrite(pin, val);
/* Writes an analog value to a pin. val = integer value from 0 to 255 */
int var = analogRead(pin);
/* Reads the value from the specified analog pin. */

Advanced I/O
tone(pin, freq);
/* Generates a square wave of the specified frequency to a pin. Pin must be one of the PWM (-) pins. */
tone(pin, freq, duration);
/* Generates a square wave of the specified frequency to a pin for a duration in milliseconds. Pin must be one of the PWM (-) pins. */
noTone(pin);
/* Turns off the tone on the pin. */

Time
delay(time_ms);
/* Pauses the program for the amount of time (in milliseconds). */
delayMicroseconds(time_us);
/* Pauses the program for the amount of time (in microseconds). */
millis();
/* Returns the number of milliseconds since the board began running the current program. max: 4,294,967,295 */
micros();
/* Returns the number of microseconds since the board began running the current program. max: 4,294,967,295 */

Data Types
void // nothing is returned
boolean // 0, 1, false, true
char // 8 bits: ASCII character
byte // 8 bits: 0 to 255, unsigned
int // 16 bits: 32,768 to 32,767, signed
long // 32 bits: 2,147,483,648 to 2,147,483,647, signed */
float // 32 bits, signed decimal

Constants
HIGH \ LOW INPUT\OUTPUT true \ false

Mathematical Operators
= // assignment
+ // addition
- // subtraction
* // multiplication
/ // division
% // modulus

Logical Operators
== // boolean equal to
!= // not equal to
< // less than
> // greater than
<= // less than or equal to
>= // greater than or equal to
&& // Boolean AND
|| // Boolean OR
! // Boolean NOT

Bitwise Operators
& // bitwise AND
| // bitwise OR
^ // bitwise XOR
~ // bitwise INVERT

Var << n // bitwise shift left by n bits
Var >> n // bitwise shift right by n bits

Libraries
#include <libraryname.h>
/* this provides access to special additional functions for things such as servo motors, SD card, wifi, or bluetooth. */

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RedBoard:

LilyPad ProtoSnap Simple: