

# SainSmart 2560+LCD1602 Keypad

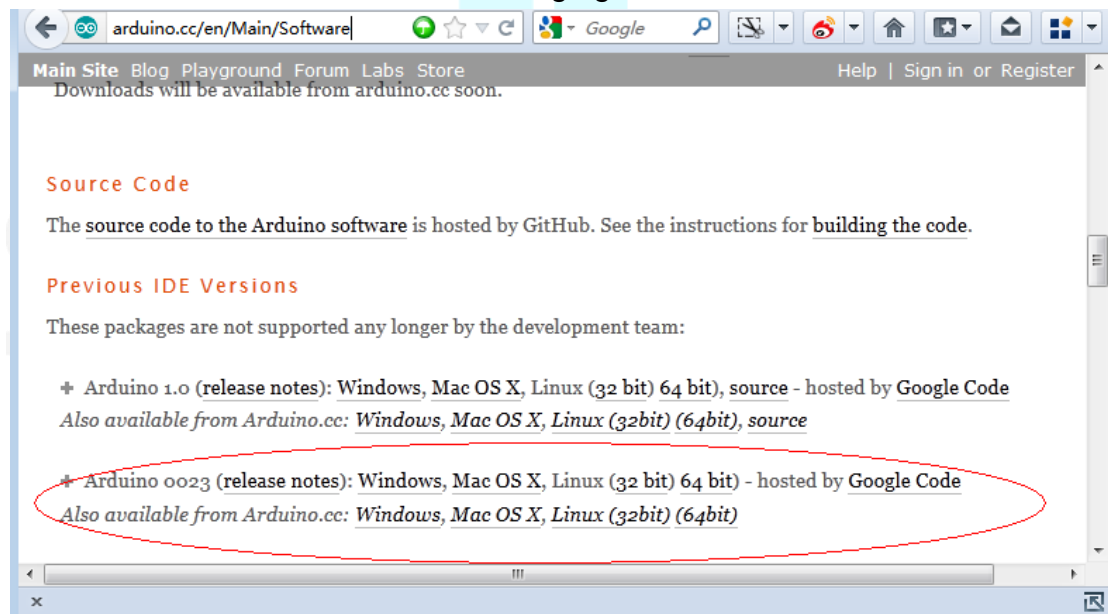
Things Needed: USB cable and the kit

User Manual:

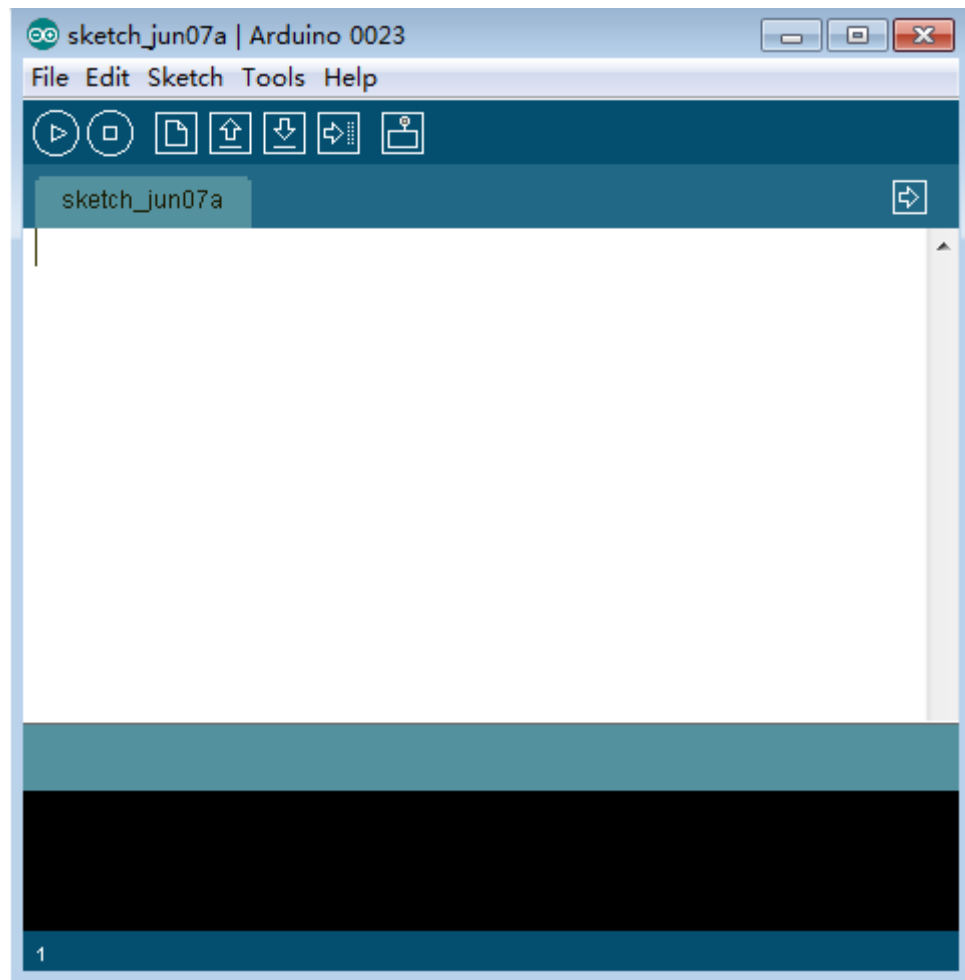
Mount the SainSmart 1602 LCD Keypad Shield on top of the Sainsmart 2560 and connect the headers like this:



Then connect it to your computer using a USB cable as you normally would. Next, set up your development environment. Go to the Arduino website: [www.arduino.cc](http://www.arduino.cc) and click up a software link and download the Arduino software Arduino 0023. See the following figure:



When finish the download, unzip the “arduino0023.zip”, open the software and this application will pop up like this:

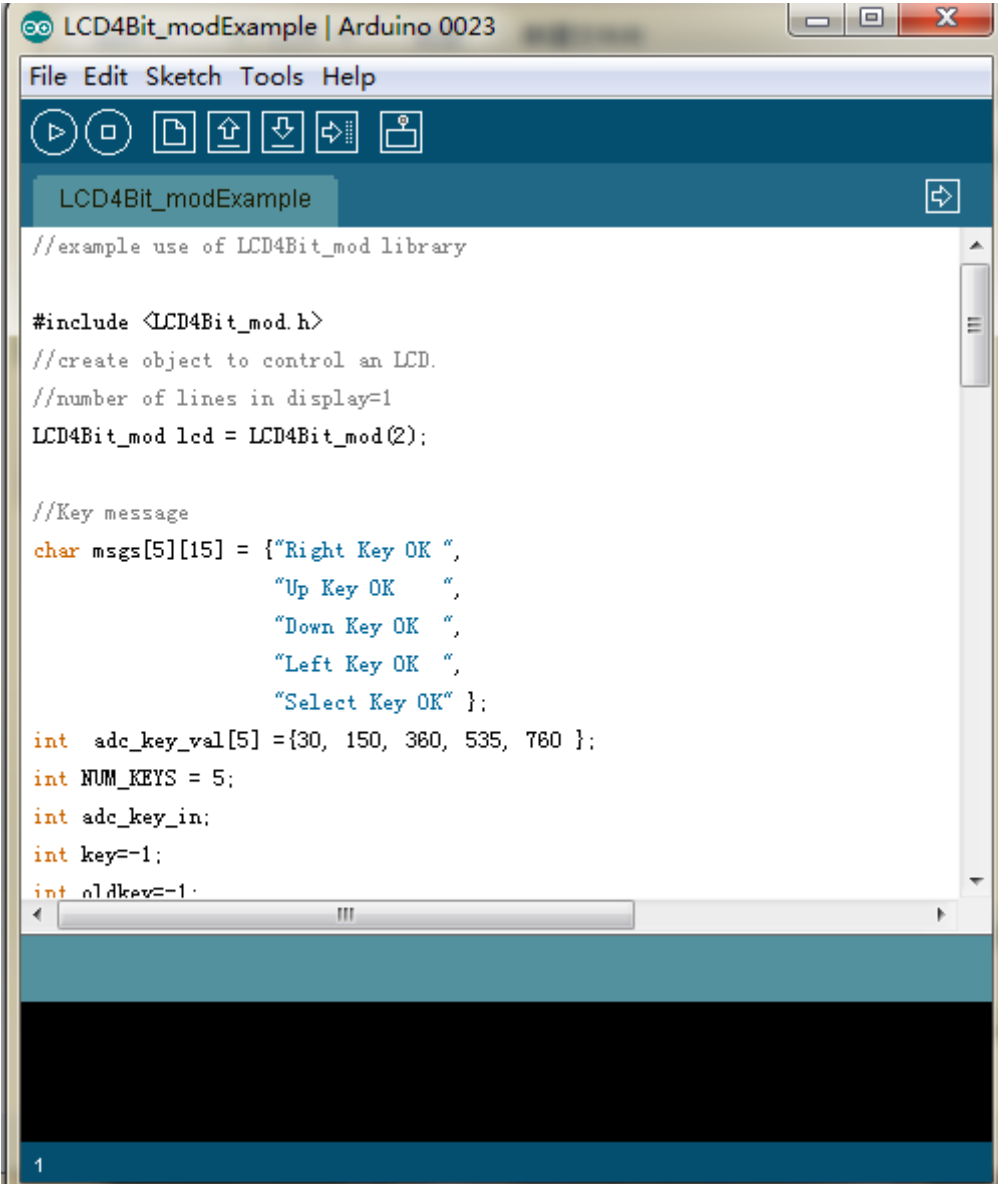


Then download the document “LCDkeypad.rar” provided by Sainsmart , unzip it and put it under the “libraries” file. The path will be like this:

[\arduino-0023\libraries\LCD4Bit\\_mod\examples\LCD4Bit\\_modExample](#)

Here we have “LCD4Bit\_modExample.pde”, click it and it will show like this:

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```
//example use of LCD4Bit_mod library

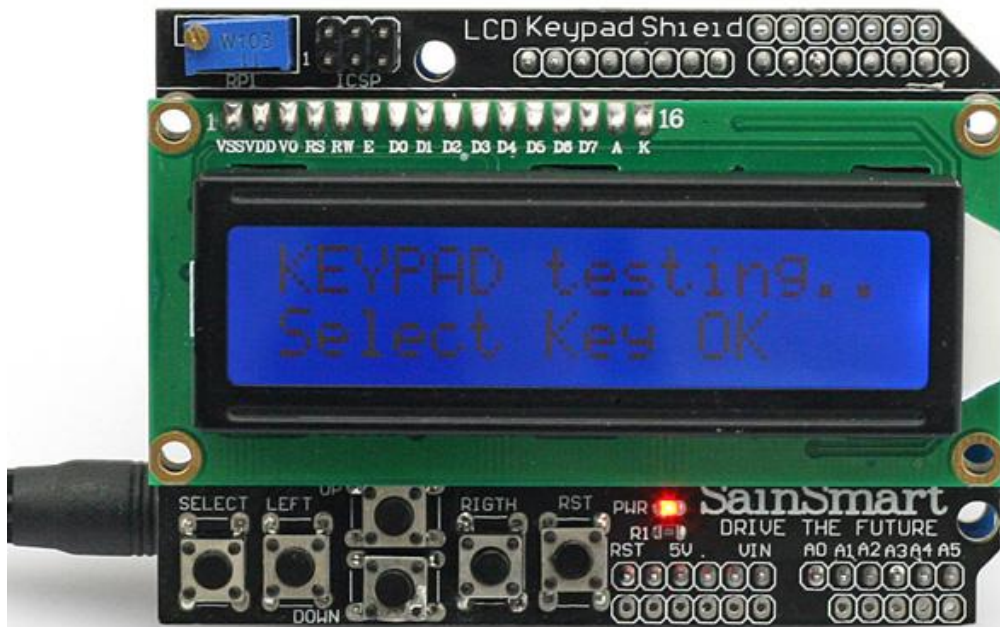
#include <LCD4Bit_mod.h>
//create object to control an LCD.
//number of lines in display=1
LCD4Bit_mod lcd = LCD4Bit_mod(2);

//Key message
char msgs[5][15] = {"Right Key OK ",
                   "Up Key OK   ",
                   "Down Key OK ",
                   "Left Key OK  ",
                   "Select Key OK" };
int  adc_key_val[5] = {30, 150, 380, 535, 760 };
int NUM_KEYS = 5;
int adc_key_in;
int key=-1;
int oldkey=-1;
```

Next click up the "upload", then you will have the software in the Sainsamrt UNO and we can test the button function on LCD.

Press select key, "Select Key OK:"

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Press left key, "Left Key OK "



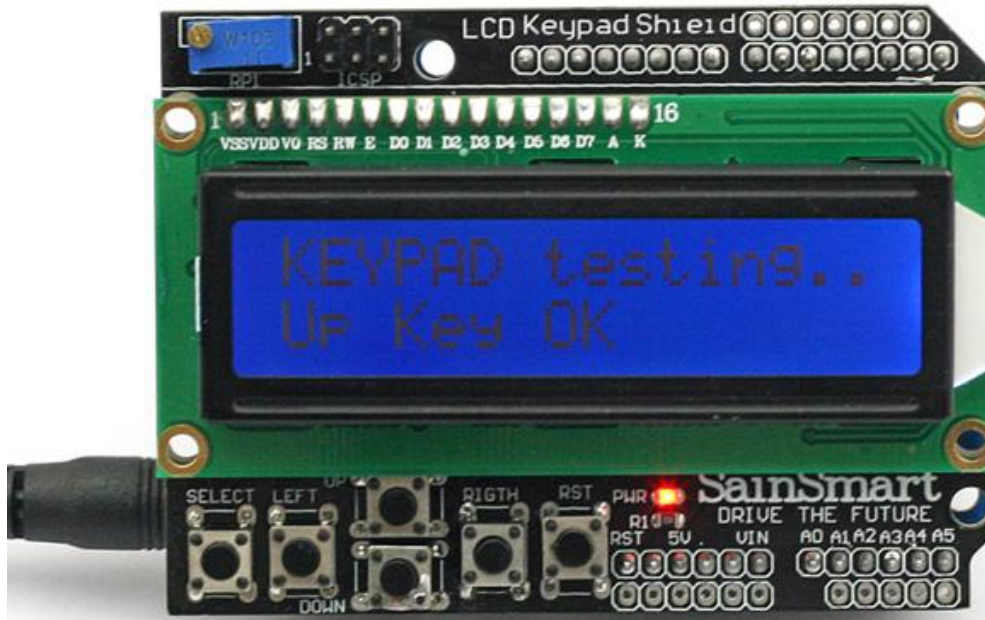
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Press up key, "Up Key OK ",



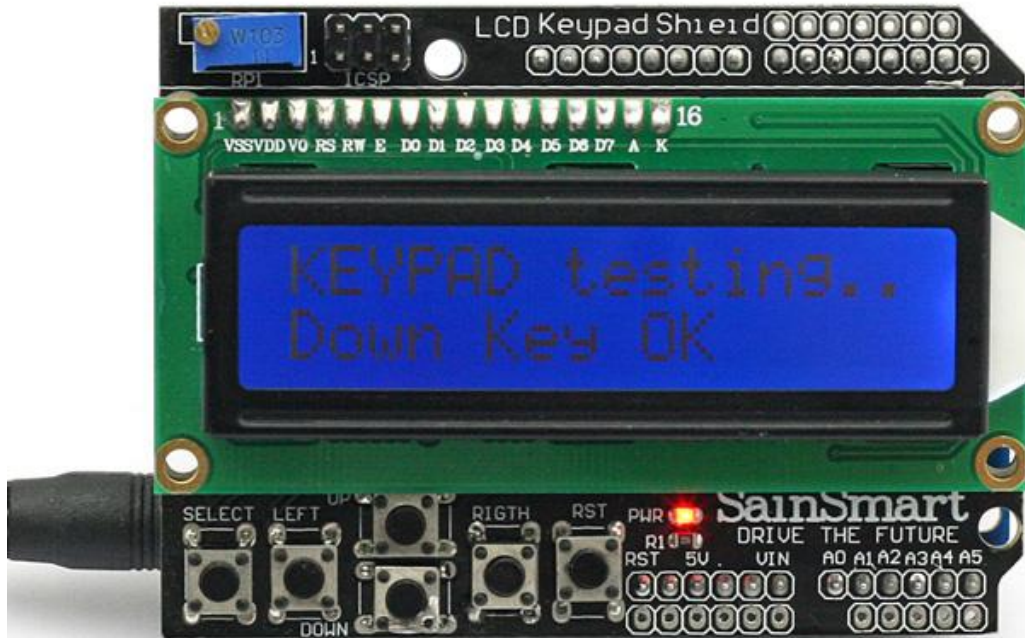
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Press down key, "Down Key OK",

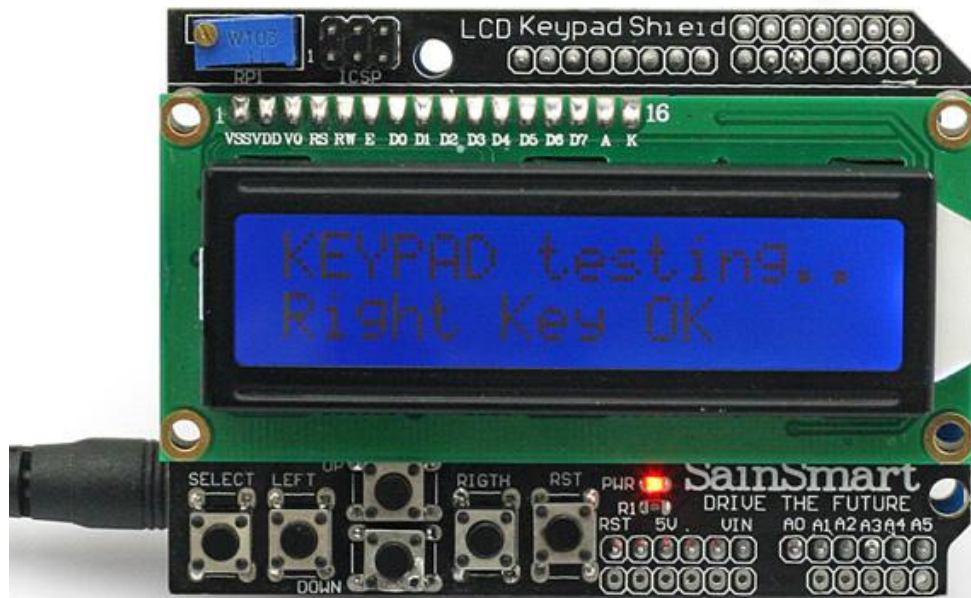
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Press right key, "Right Key OK ",

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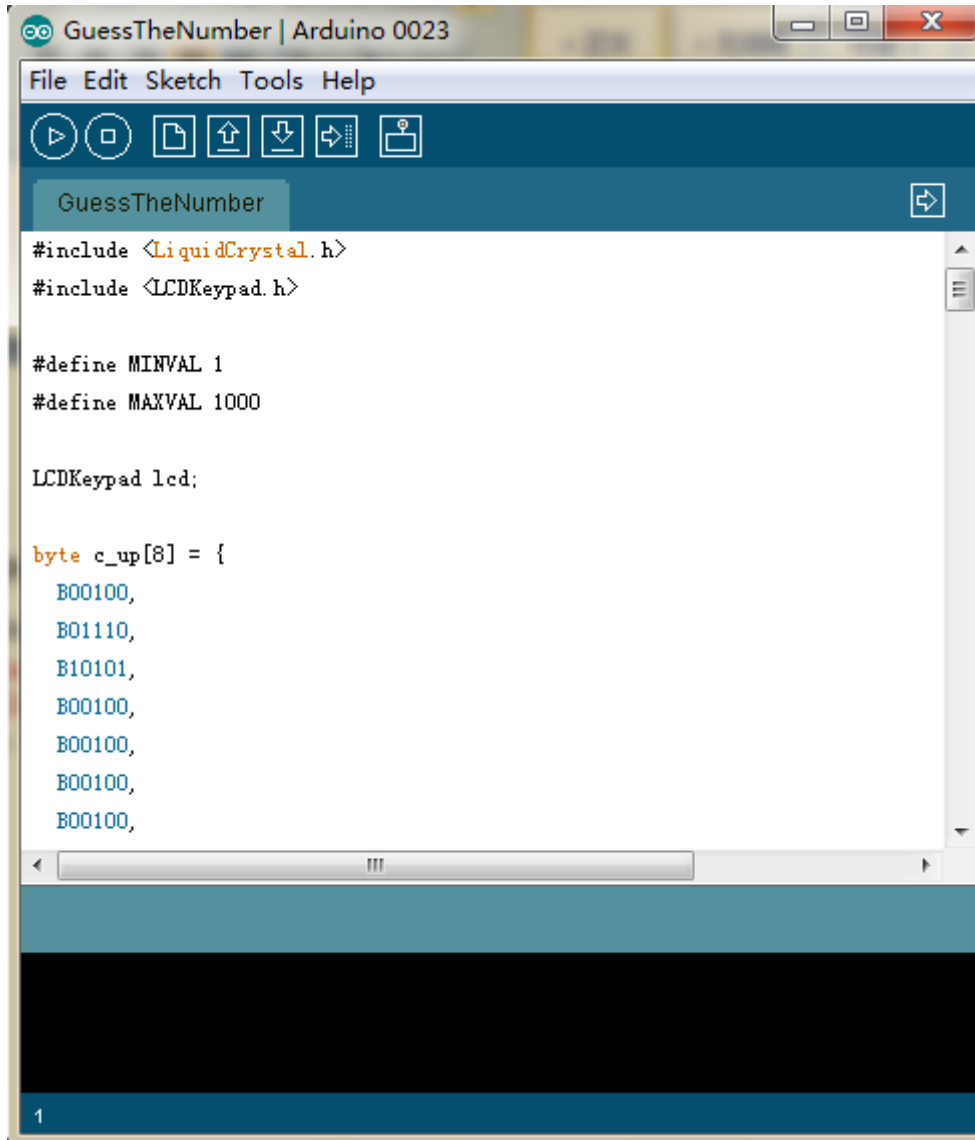
We also have “GuessTheNumber.pde”, the path will be like this:

[\arduino-0023\libraries\LCDKeypad\examples\GuessTheNumber,](#)

Click it and it will show like this:

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```
GuessTheNumber | Arduino 0023
File Edit Sketch Tools Help

GuessTheNumber

#include <LiquidCrystal.h>
#include <LCDKeypad.h>

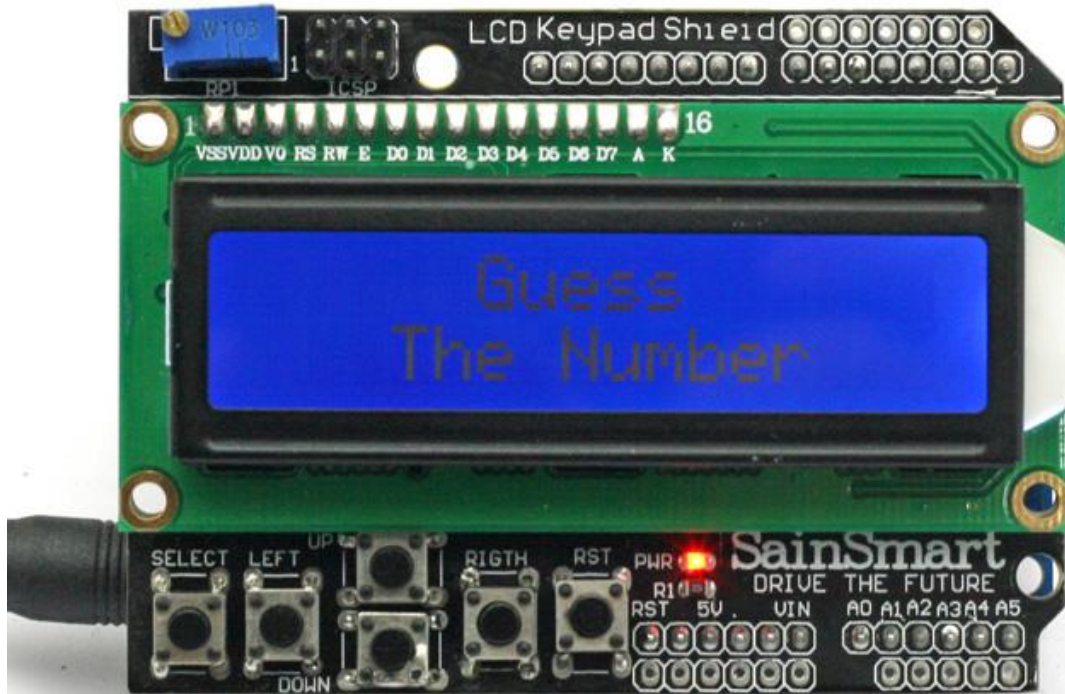
#define MINVAL 1
#define MAXVAL 1000

LCDKeypad lcd;

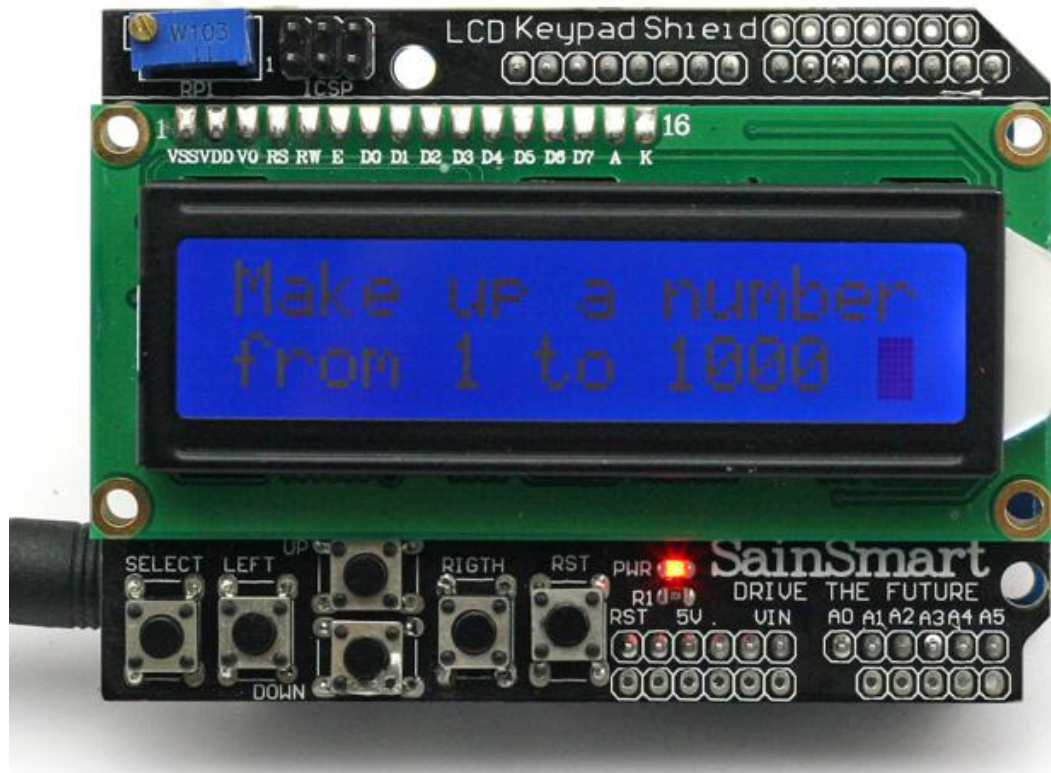
byte c_up[8] = {
  B00100,
  B01110,
  B10101,
  B00100,
  B00100,
  B00100,
  B00100,
  B00100,
}
```

Next click up the “upload”, then you will have the software in the Sainsamrt UNO and we can test the “Guess The Number” sketch, it will show like this:

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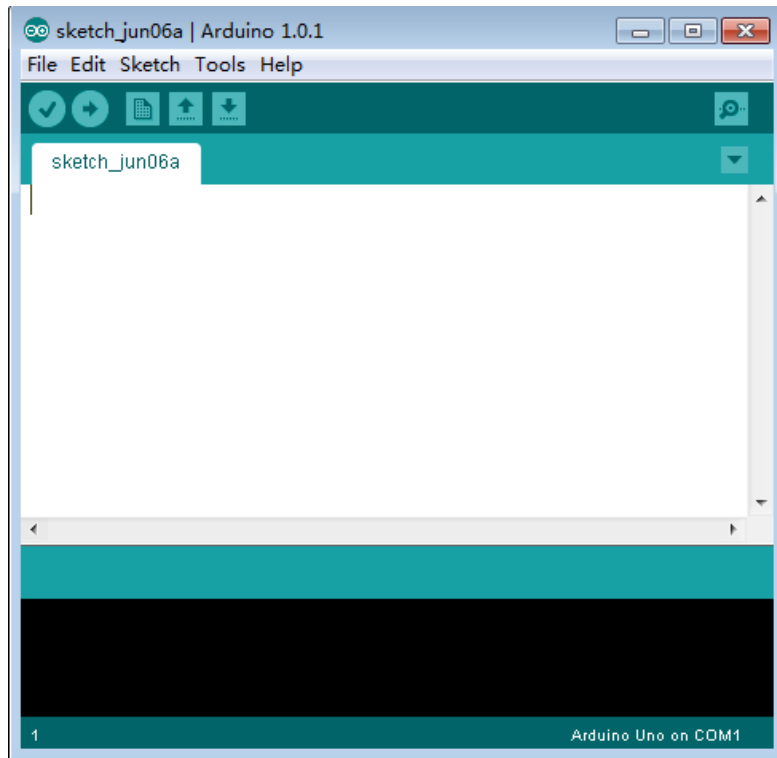
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Press the corresponding button according to the display content and finally you will get the number in mind.

We still have “Key\_Grab.ino”, Go to the Arduino website: [www.arduino.cc](http://www.arduino.cc) and click up a software link and download the Arduino software Arduino 1.0.1.

When finish the download, unzip the “arduino1.0.1zip”, open the software and this application will pop up like this:

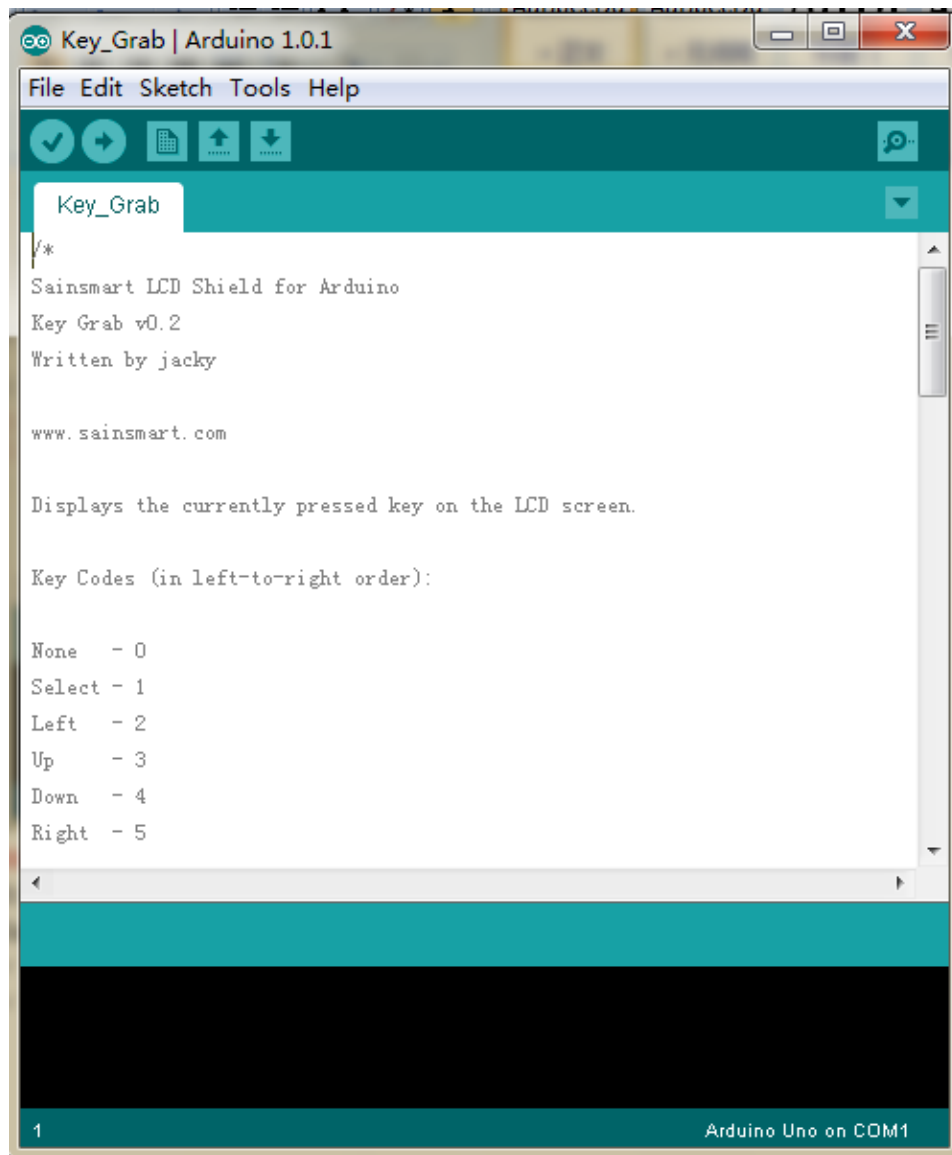


The path will be like this:

**D:\arduino-1.0.1-windows\arduino-1.0.1\libraries\lcdkey\examples\Key\_Grab**

open arduino 1.0.1 software and click up this sketch, it will show like this:

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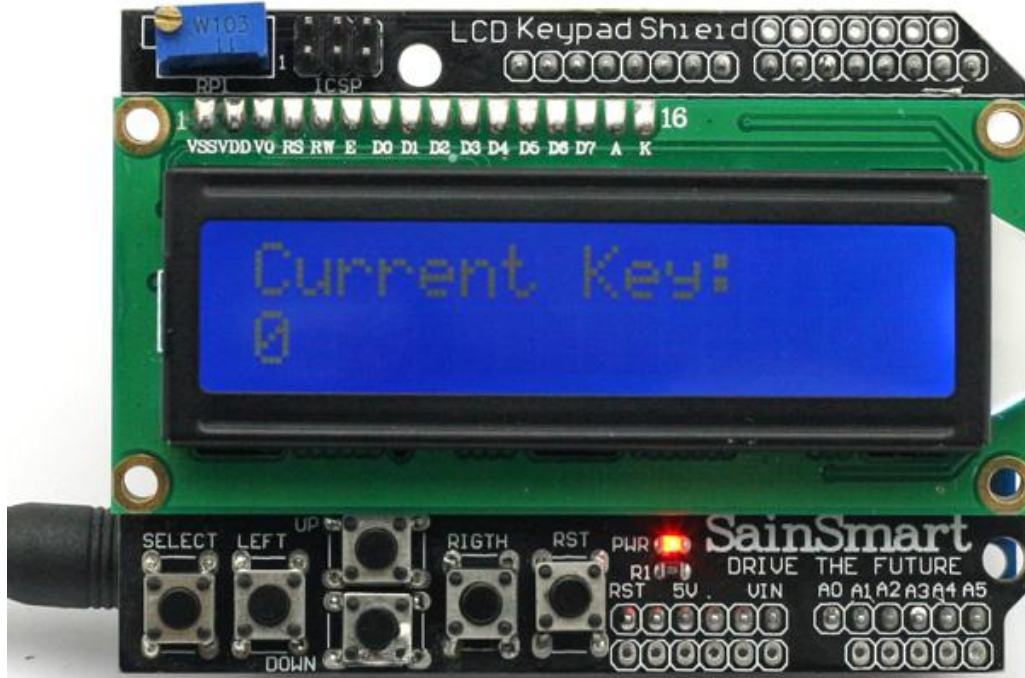
Next click up the “upload”, then you will have the software in the Sainsamrt UNO and we can test the “Key\_Grab” sketch, it will show like this:

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Press on select button, "0" in the above picture will be "1", left button will be "2", up button will be "3", down button will be "4", right button will be "5", ret button will be "6".

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