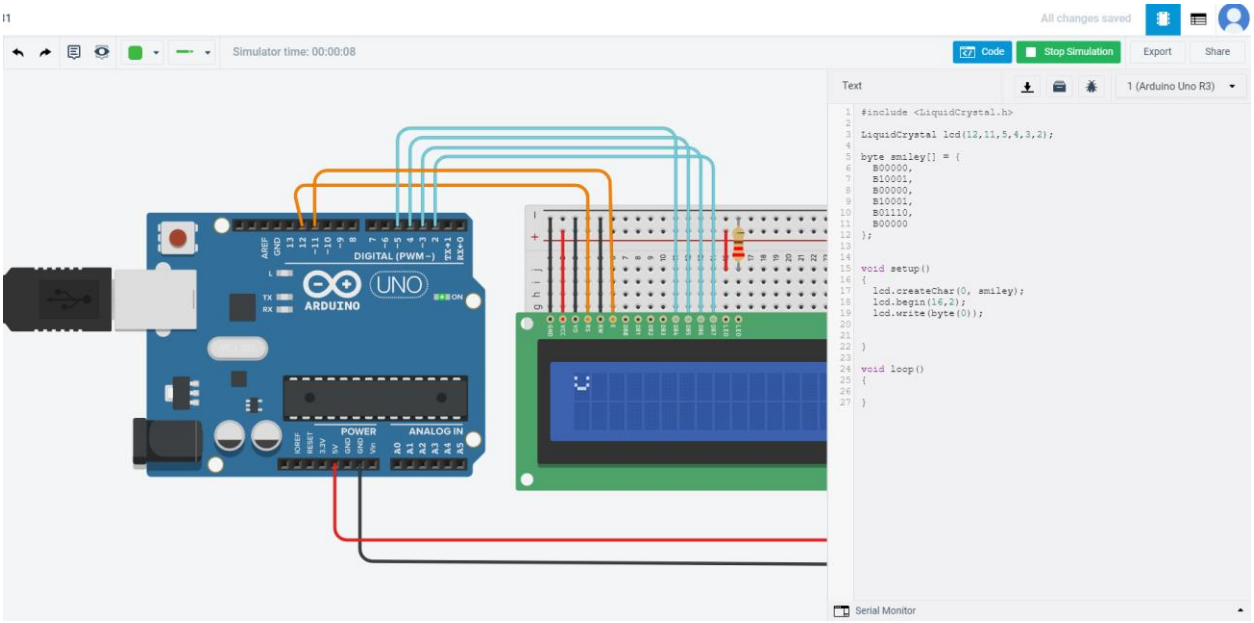
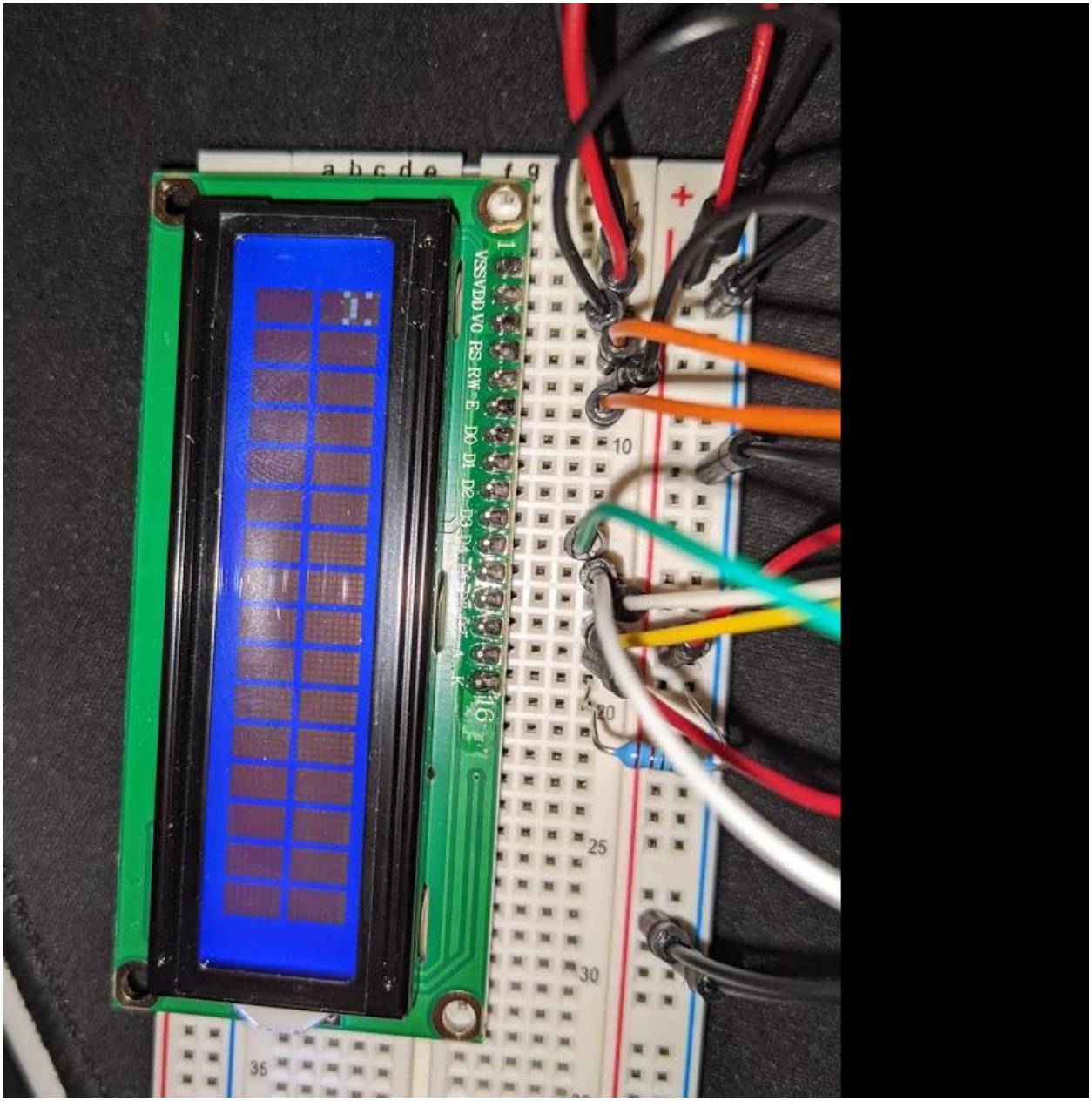
Exercise 1 rory lange

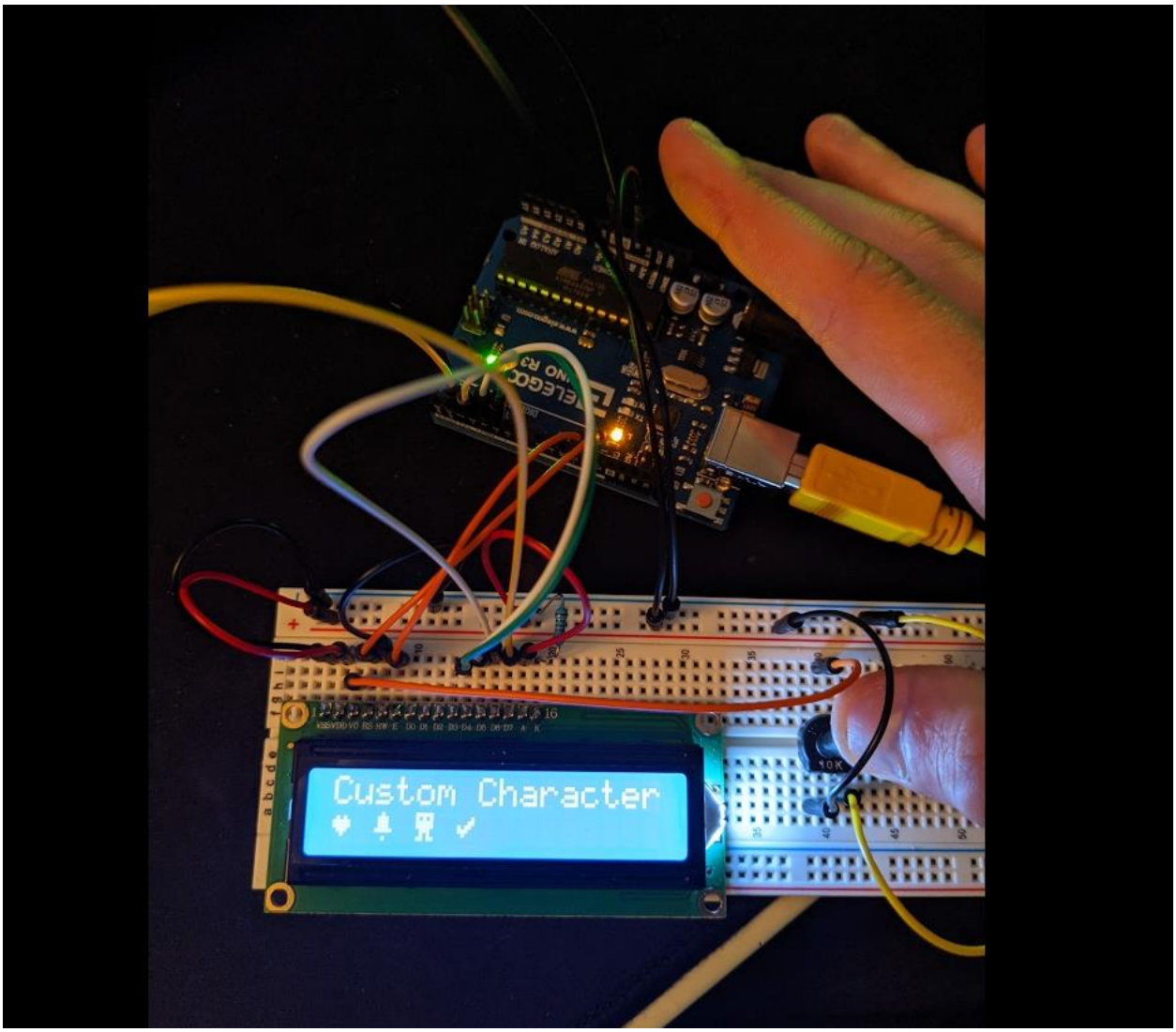


Exercise 2

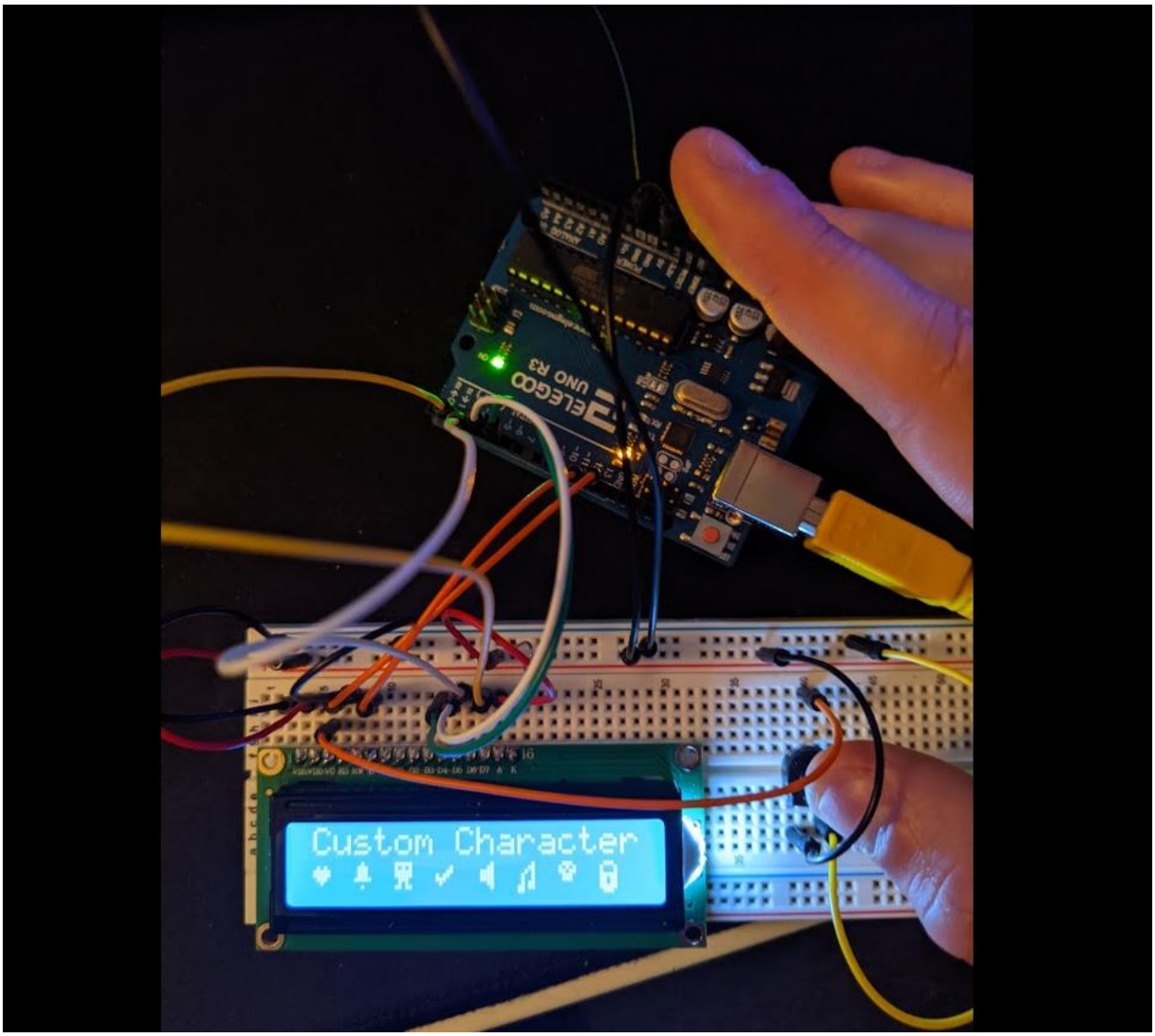

a b c d e f g
VSS VDD V0 RS RW E D0 D1 D2 D3 D4 D5 D6 D7 A K
1
10
20
25
30
35

```ino
#include <LiquidCrystal.h>

LiquidCrystal lcd(12,11,5,4,3,2);

byte happy[] = {
  B00000,
  B10001,
  B00000,
  B10001,
  B01110,
  B00000
};

byte saddy[] = {
  B00000,
  B10001,
  B00000,
  B01110,
  B10001,
  B00000,
  B00000
};


void setup()
{
  lcd.createChar(0, happy);
  lcd.createChar(1, saddy);
  lcd.begin(16,2);
  lcd.write(byte(0));


}

void loop()
{
  for (int i = 0; i < 2; i++) {
    lcd.setCursor(0, 0);
    lcd.write(i);
    delay(500);
  }
```

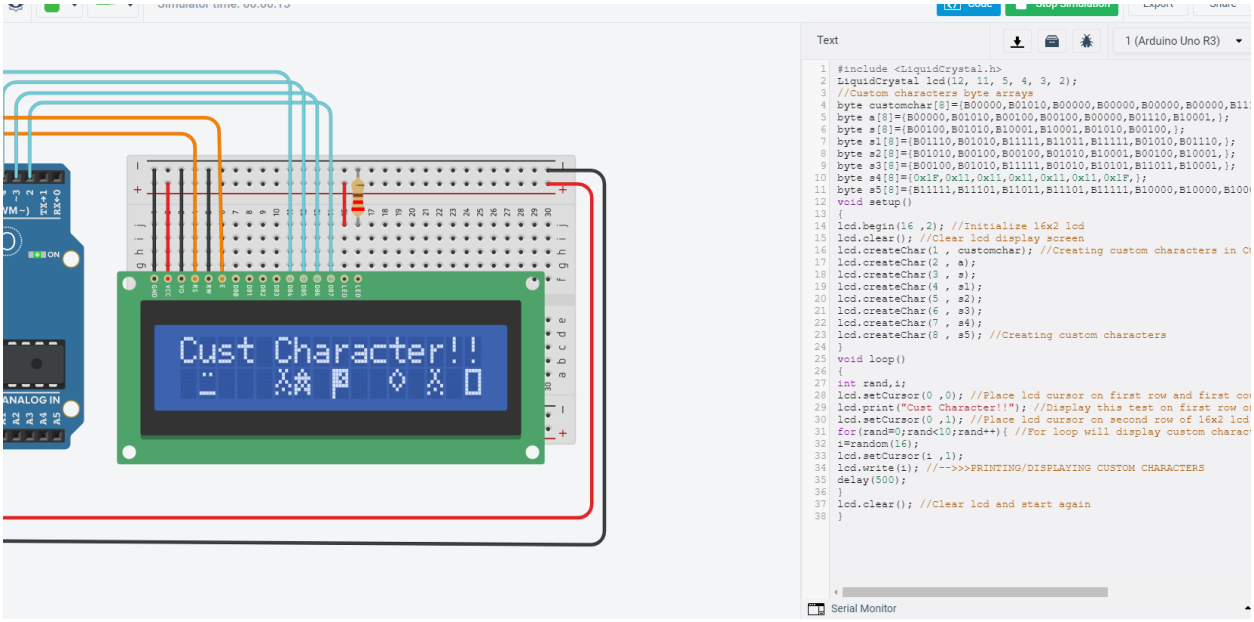
Exercise 3



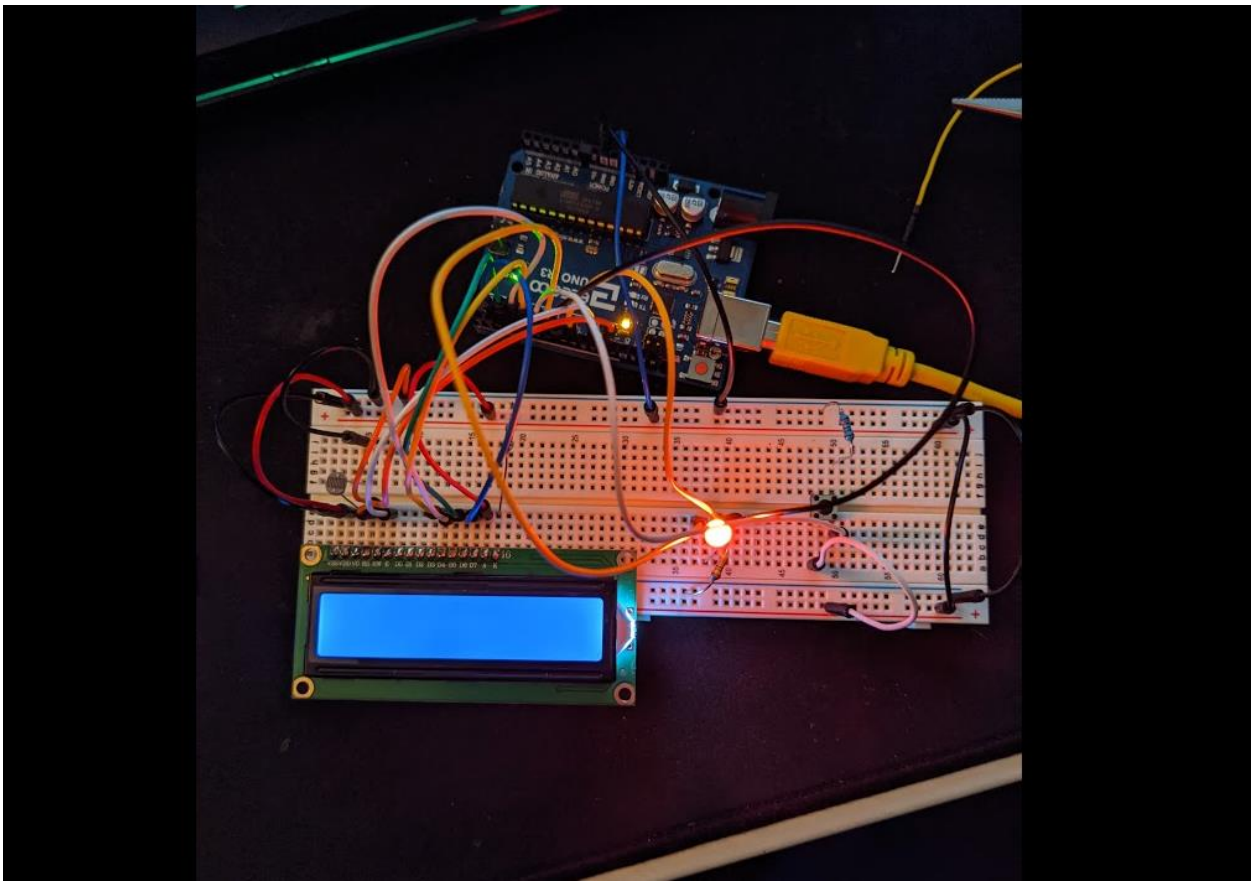
Exercise 4

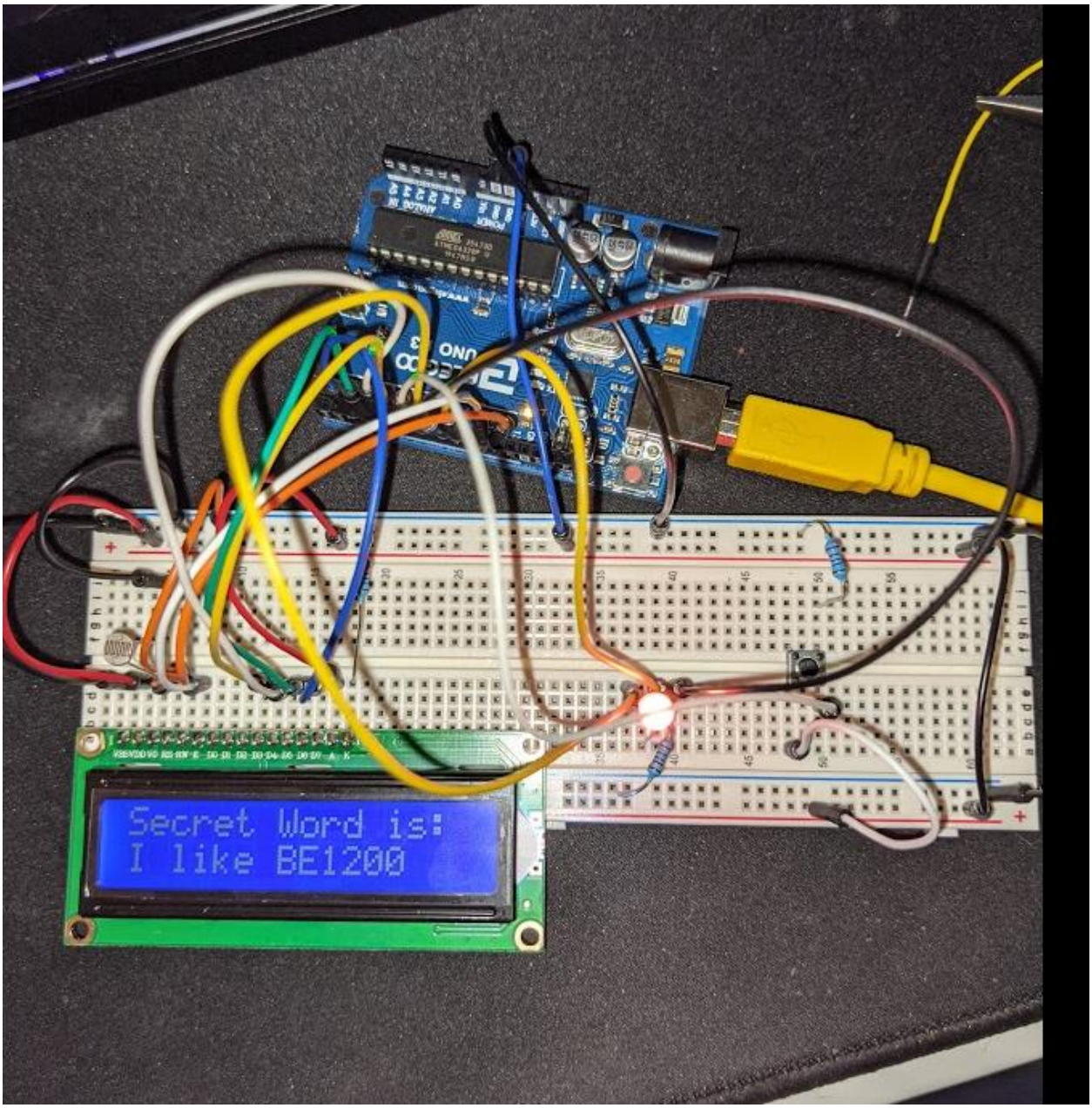


Exercise 5


Cust Character!!
Text
1 (Arduino Uno R3)
#include <LiquidCrystal.h>
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
//Custom characters byte arrays
byte customchar[8]={B00000,B01010,B00000,B00000,B00000,B00000,
byte a[8]={B00000,B01010,B00100,B00100,B00000,B01110,B10001,};
byte s[8]={B00100,B01010,B10001,B10001,B01010,B00100,};
byte s1[8]={B01110,B01010,B11111,B11011,B11111,B01010,B01110,};
byte s2[8]={B01010,B00100,B00100,B01010,B10001,B00100,B10001,};
byte s3[8]={B00100,B01010,B11111,B01010,B10101,B11011,B10001,};
byte s4[8]={0x1F,0x11,0x11,0x11,0x11,0x11,0x1F,};
byte s5[8]={B11111,B11101,B11011,B11101,B11111,B10000,B10000,B100
void setup()
{
lcd.begin(16 ,2); //Initialize 16x2 lcd
lcd.clear(); //Clear lcd display screen
lcd.createChar(1 , customchar); //Creating custom characters in C
lcd.createChar(2 , a);
lcd.createChar(3 , s);
lcd.createChar(4 , s1);
lcd.createChar(5 , s2);
lcd.createChar(6 , s3);
lcd.createChar(7 , s4);
lcd.createChar(8 , s5); //Creating custom characters
}
void loop()
{
int rand,i;
lcd.setCursor(0 ,0); //Place lcd cursor on first row and first co
lcd.print("Cust Character!!"); //Display this test on first row o
lcd.setCursor(0 ,1); //Place lcd cursor on second row of 16x2 lcd
for(rand=0;rand<10;rand++){ //For loop will display custom charac
i=random(16);
lcd.setCursor(i ,1);
lcd.write(i); //-->>>PRINTING/DISPLAYING CUSTOM CHARACTERS
delay(500);
}
lcd.clear(); //Clear lcd and start again
}
Serial Monitor

Exercise 6




Secret Word is:
I like BE1200

```
236
#include <LiquidCrystal.h>
LiquidCrystal lcd(12,11, 5, 4, 3, 2);
int buttonPin = 6; // the number of the Start Game pushbutton pin
int RPin = 7; // select the pin for the red LED
int GPin = 8; // select the pin for the green LED
int BPin = 9; // select the pin for the blue LED
int buttonStatus = 0;
void setup() {
pinMode(buttonPin, INPUT);
pinMode(RPin, OUTPUT);
pinMode(GPin, OUTPUT);
pinMode(BPin, OUTPUT);
lcd.begin(16, 2);}
void loop() {
buttonStatus = digitalRead(buttonPin);
if (buttonStatus == HIGH) {
lcd.clear();
delay(500);
for (int i=0; i <= 5; i++){
lcd.setCursor(8,0);
lcd.print(i);
digitalWrite(BPin, HIGH);
digitalWrite(RPin, LOW);
delay(500);
digitalWrite(RPin, HIGH);
digitalWrite(GPin, LOW);
delay(500);
digitalWrite(GPin, HIGH);
digitalWrite(BPin, LOW);
delay(500);}} else {
digitalWrite(RPin, HIGH);
```

Done uploading.

Sketch uses 2500 bytes (7%) of program storage space. Maximum is 32256 bytes.