HECK YEA, IT'S CCLAB!

If you haven’t added your repo link to the form I sent, please do it now.

How’d the homework go?

Arduino INPUTS

INPUTS

BUTTONS

SWITCHES

POTENTIOMETERS

KEYPAD

INPUTS

PULSE

GAS

TEMPERATURE

pH levels

LIGHT

HUMIDITY

BAROMETRIC PRESSURE

PRESSURE

COLOR

DISTANCE

FORCE

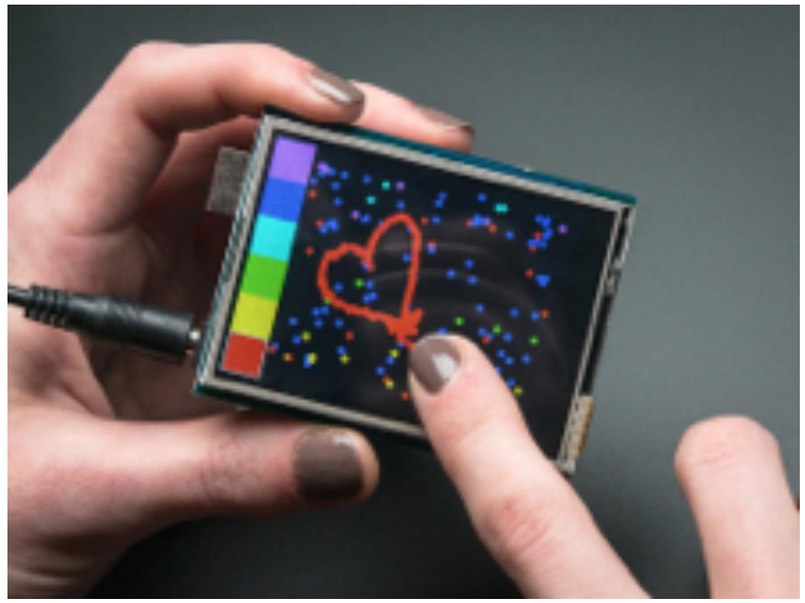
FLEX

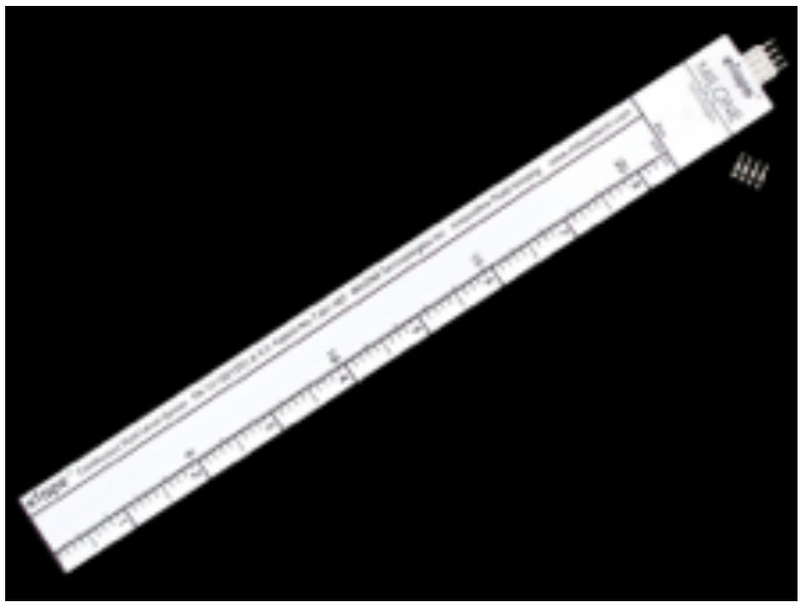
INPUTS

GAME CONTROLLERS

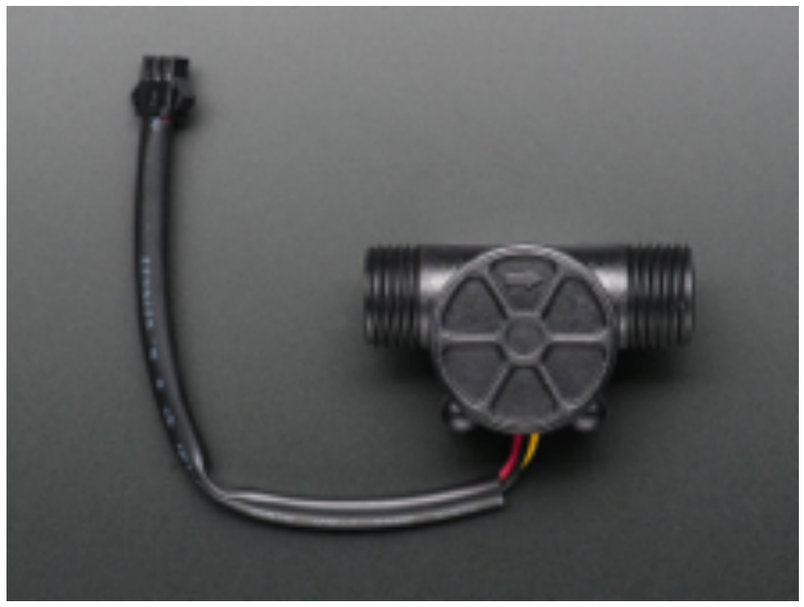
SOIL TEMP / MOISTURE

TOUCHSCREEN

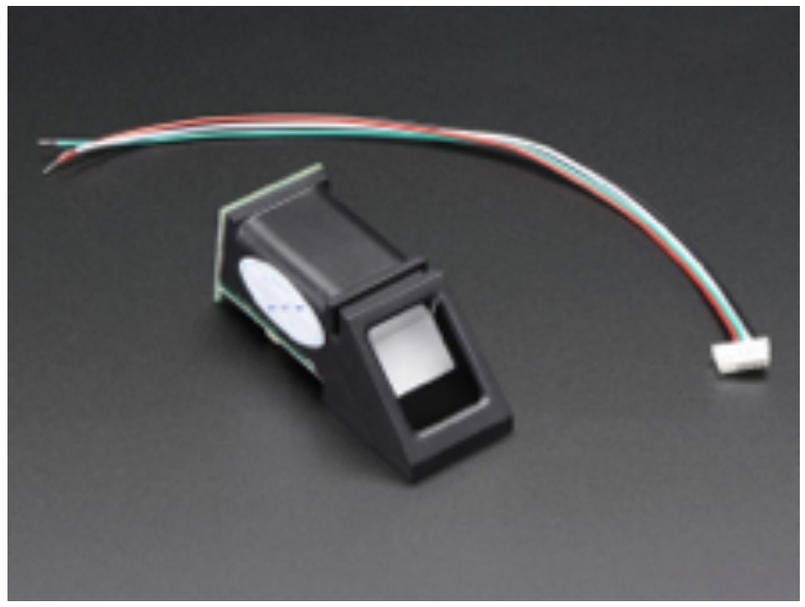




LIQUID LEVELS



LIQUID FLOW METERS



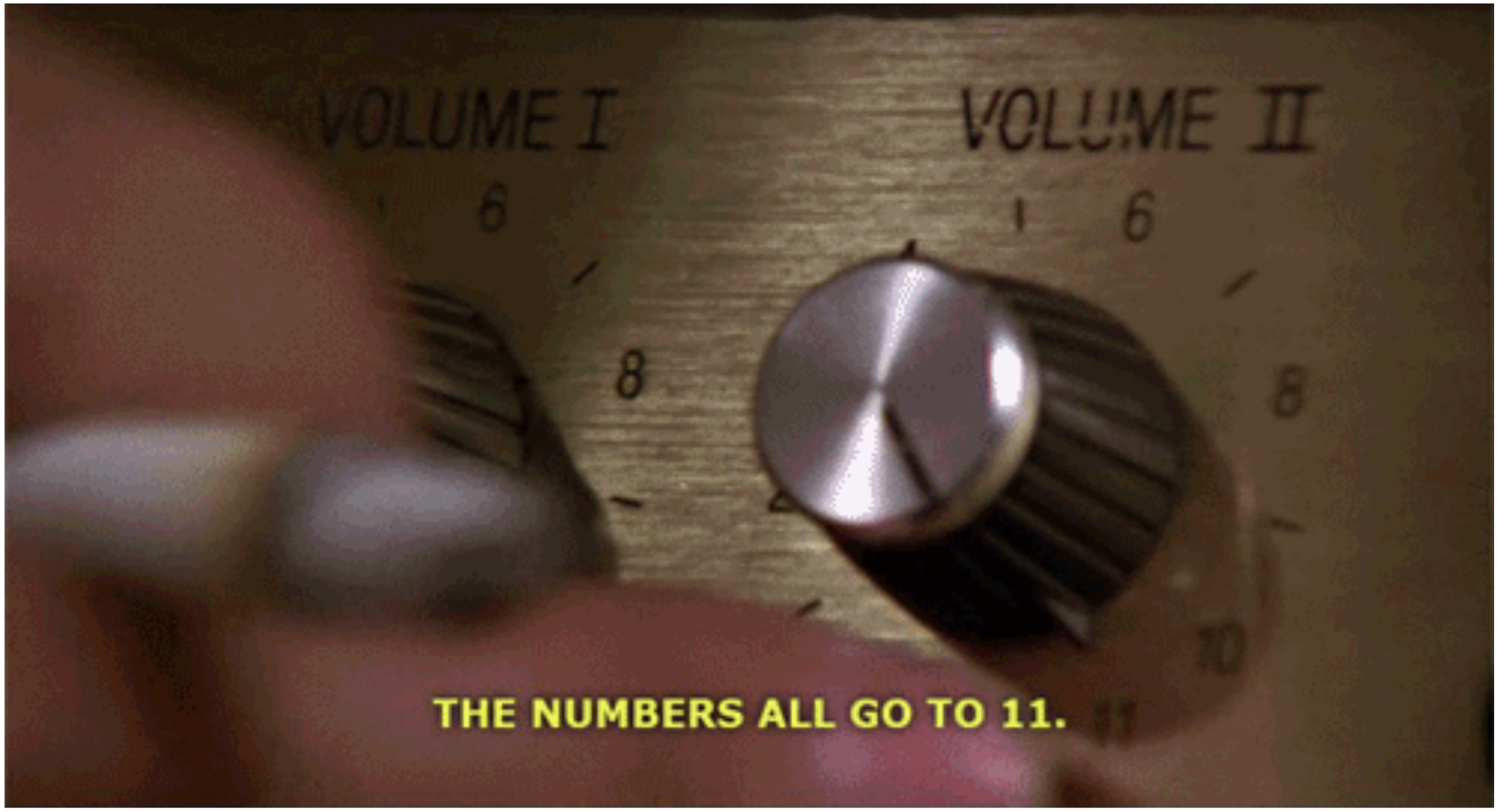
FINGERPRINT

INPUTS

DIGITAL

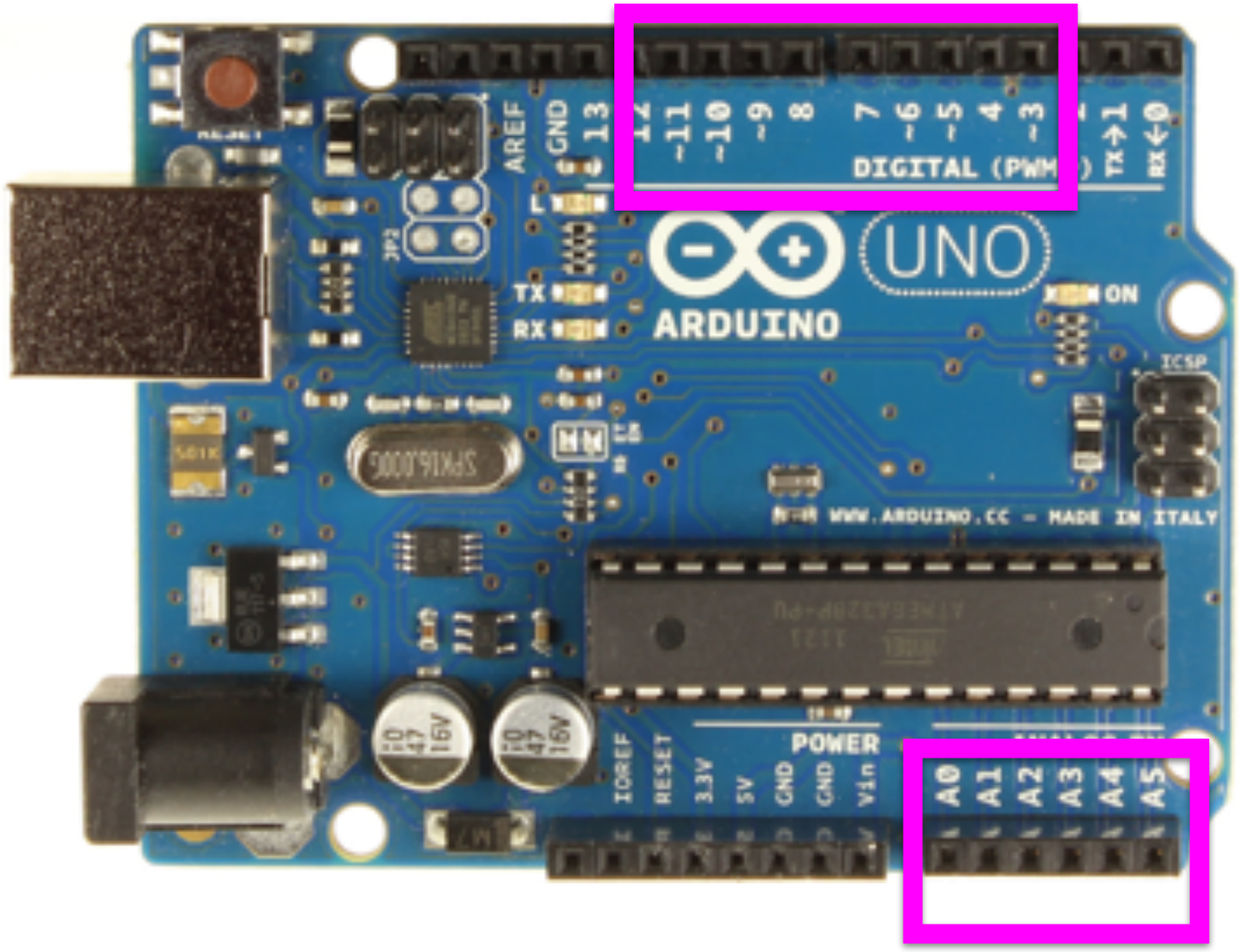
INPUTS: DIGITAL

INPUTS



ANALOG

INPUTS: ANALOG



MOOD LIGHTING

LEDS + INPUTS

Open up the Analog Read Serial sketch.

(FILE > EXAMPLES > BASICS > Analog Read Serial)

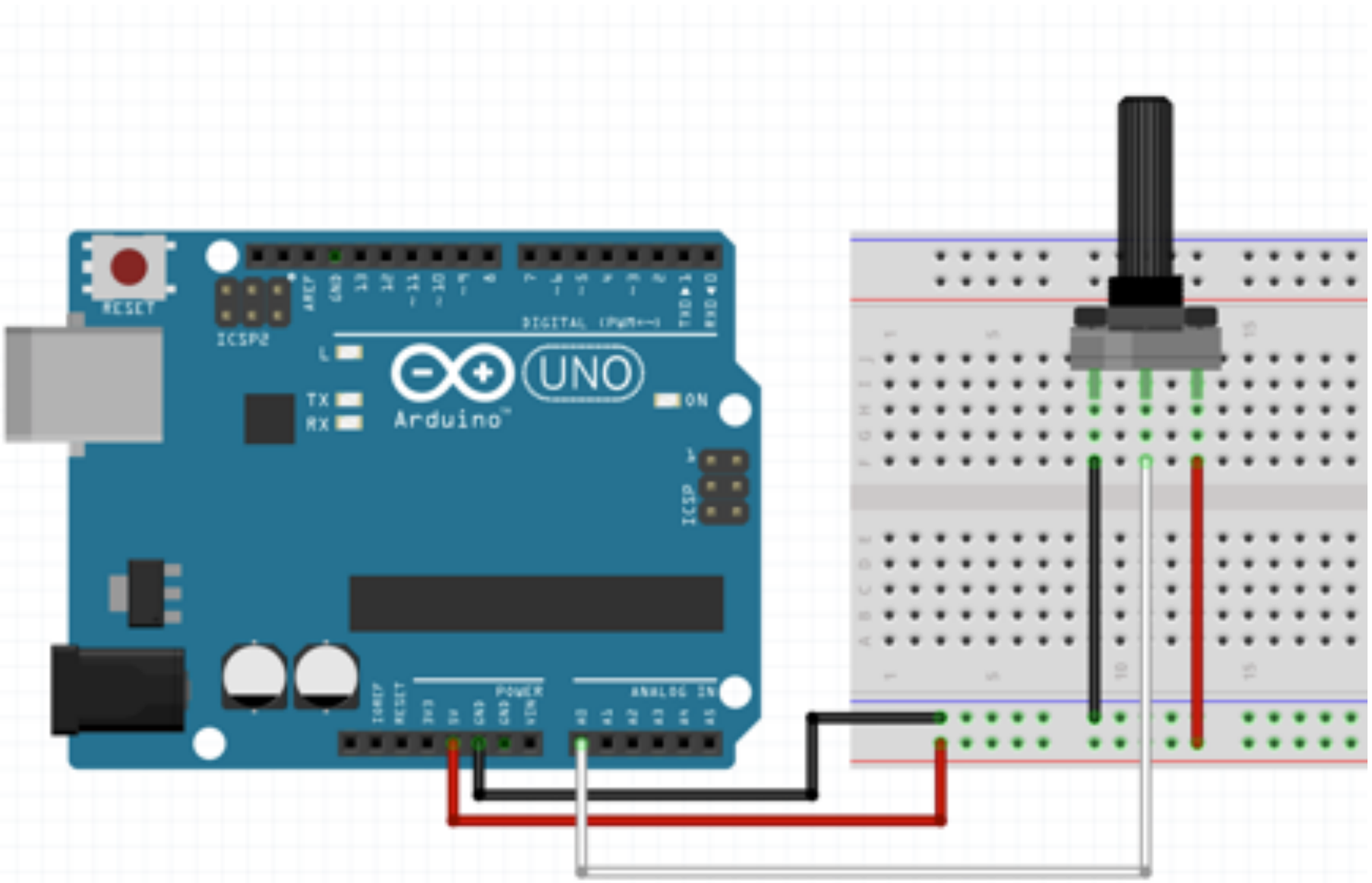
LEDS + INPUTS

```
void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
}

// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // print out the value you read:
  Serial.println(sensorValue);
  delay(1);        // delay in between reads for stability
}
```

LEDS + INPUTS

```
void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
}

// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // print out the value you read:
  Serial.println(sensorValue);
  delay(1);        // delay in between reads for stability
}
```

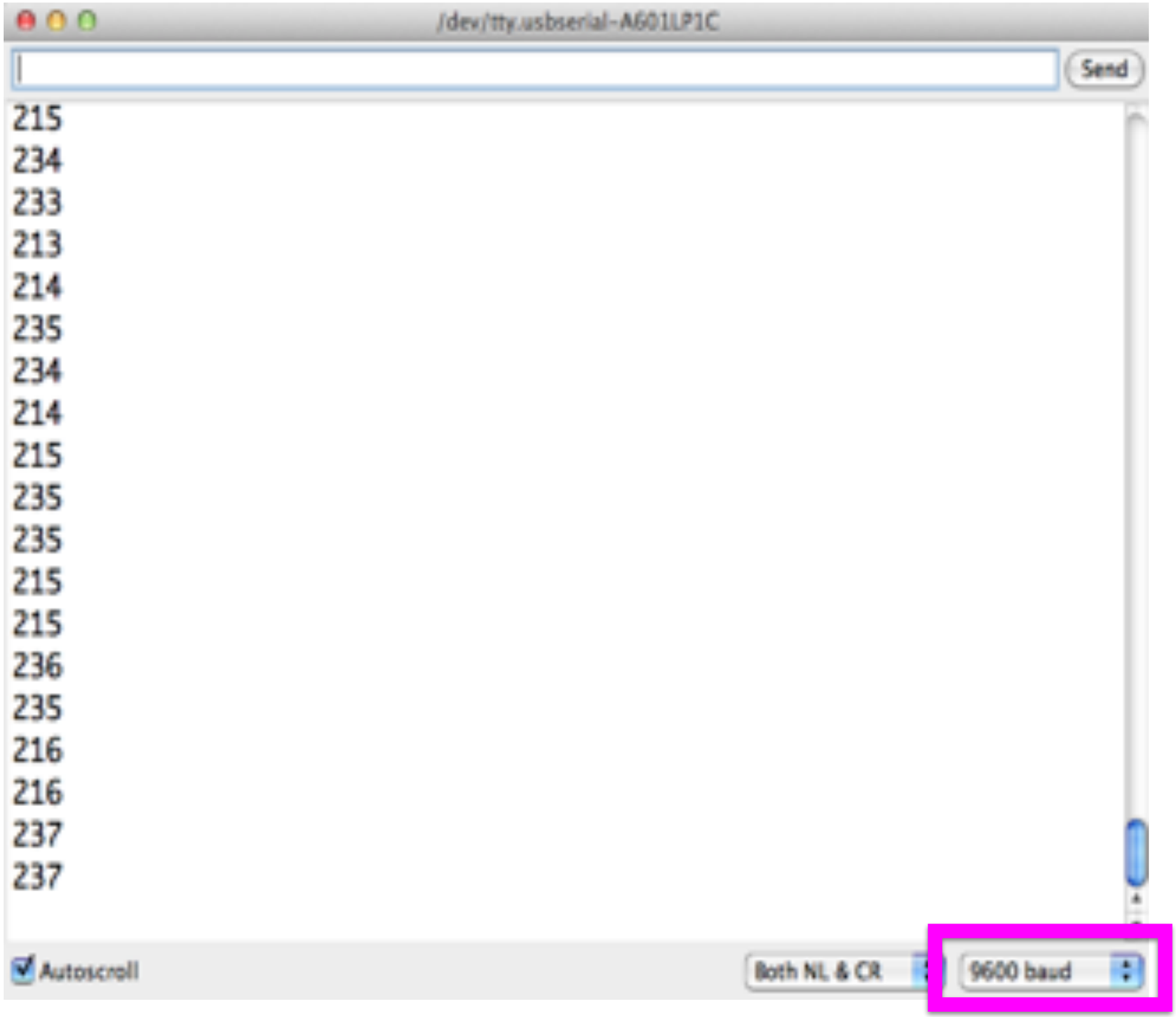
LEDS + INPUTS


RESET
ICSP2
L
TX
RX
Arduino
UNO
ON
DIGITAL (PWM~)
POWER
ANALOG IN
ICSP

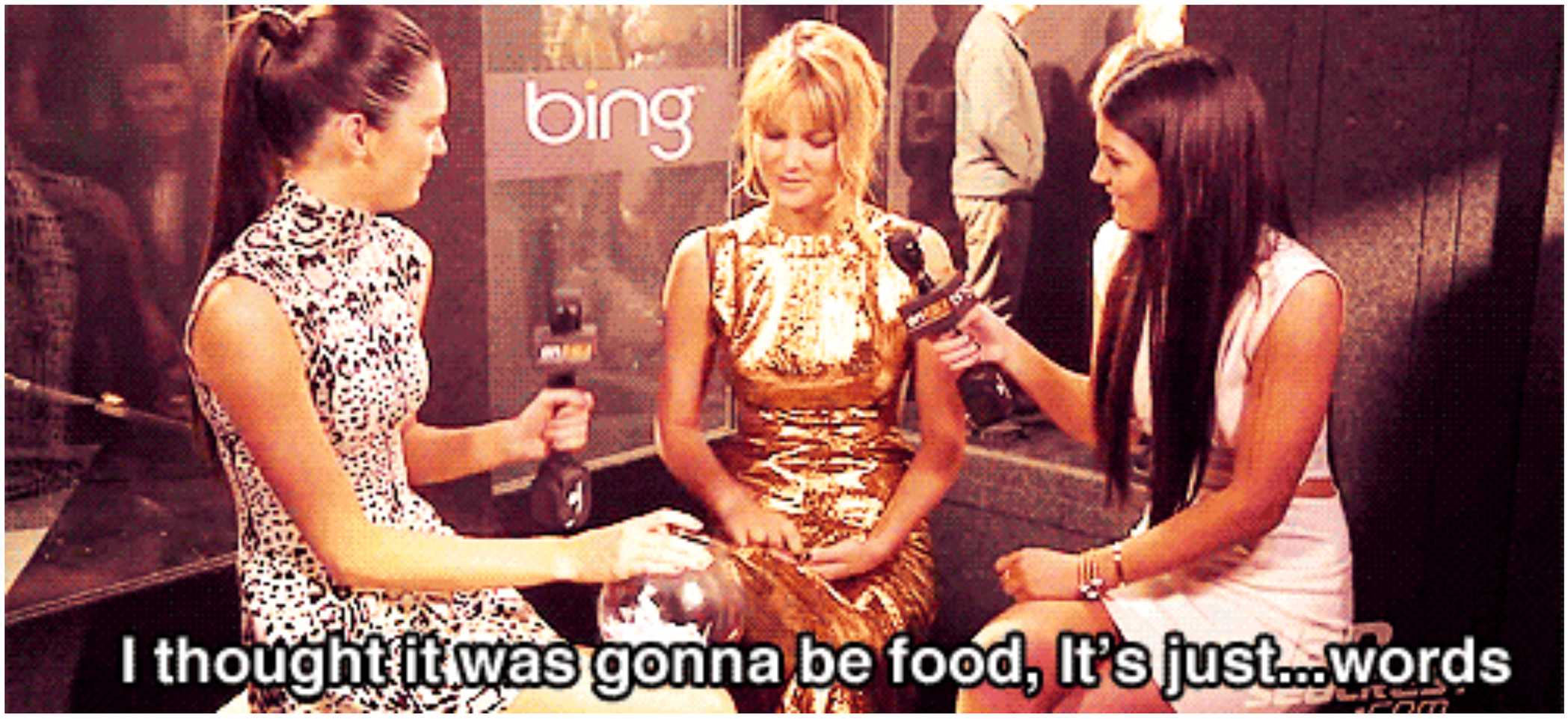
LEDS + INPUTS

AnalogReadSerial | Arduino 1.0.5
AnalogReadSerial
/*
AnalogReadSerial
Reads an analog input on pin 0, prints the result to the serial mon
Attach the center pin of a potentiometer to pin A0, and the outside
This example code is in the public domain.
*/
// the setup routine runs once when you press reset:
void setup() {
// initialize serial communication at 9600 bits per second:
Serial.begin(9600);
}
// the loop routine runs over and over again forever:
void loop() {
// read the input on analog pin 0:
int sensorValue = analogRead(A0);
// print out the value you read:
Serial.println(sensorValue);
delay(1); // delay in between reads for stability
}

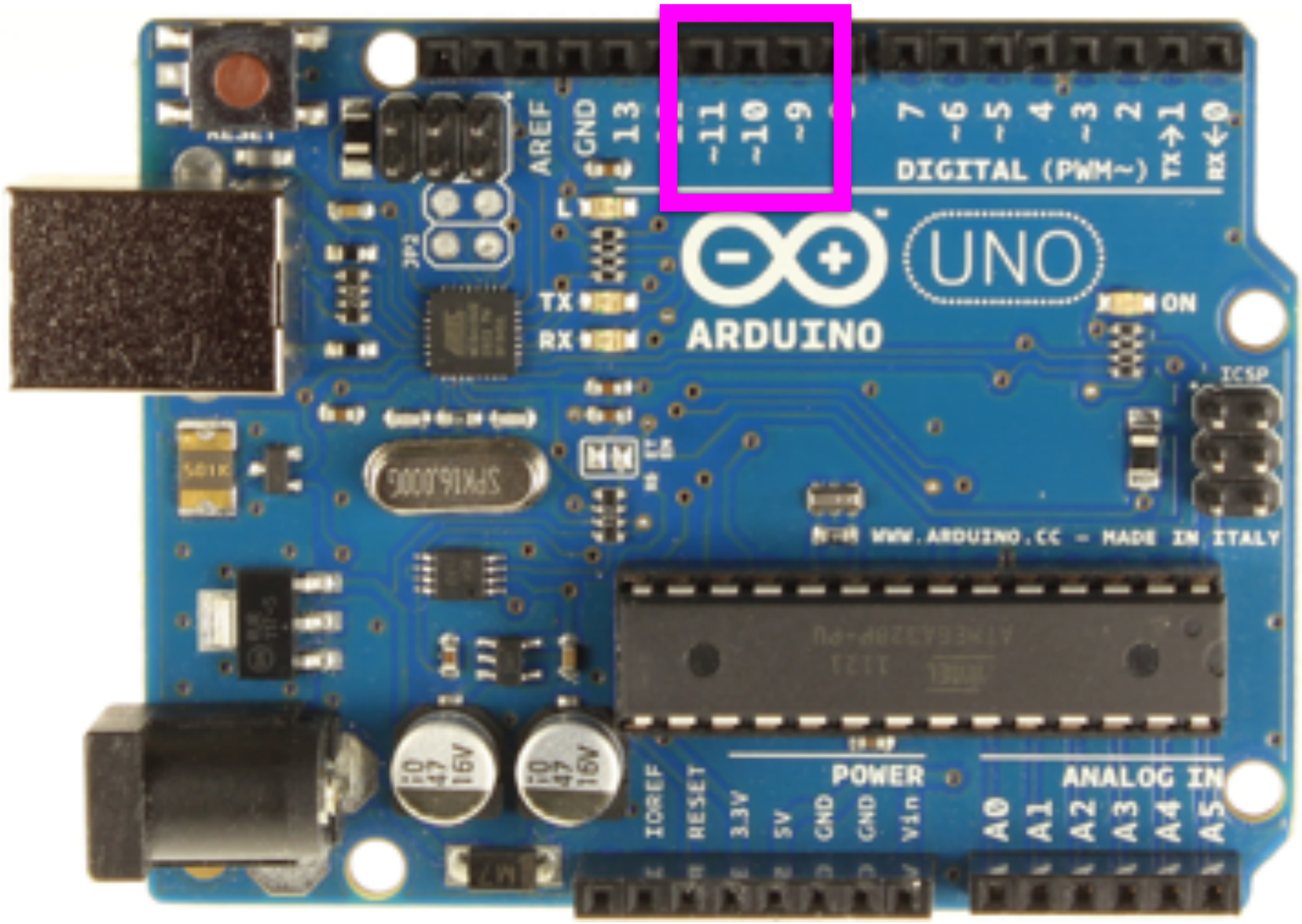
LEDS + INPUTS


/dev/tty.usbserial-A601LP1C
Send
215
234
233
213
214
235
234
214
215
235
235
215
215
236
235
216
216
237
237
Autoscroll
Both NL & CR
9600 baud

LEDS + INPUTS



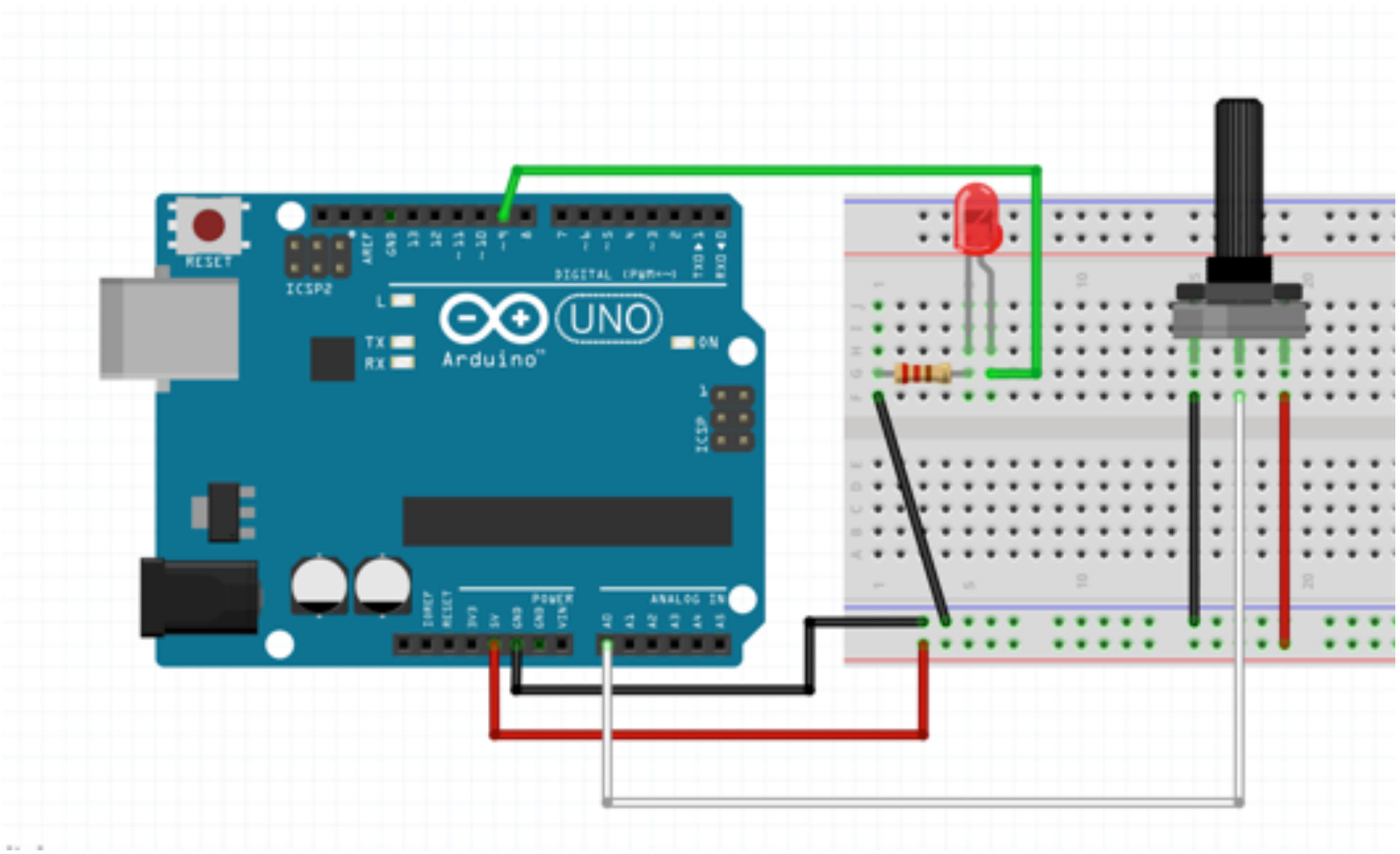
LEDS + INPUTS


AREF
GND
13
~11
~10
~9
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
UNO
ARDUINO
ON
TX
RX
ICSP
WWW.ARDUINO.CC – MADE IN ITALY
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

LEDS + INPUTS

```
//use pin 9 because it can write analog values
int ledPin = 9;

void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
  //set up the pin as an output
  pinMode(ledPin, OUTPUT);
}

// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // print out the value you read:
  Serial.println(sensorValue);
  analogWrite(ledPin, 255);
  delay(1);        // delay in between reads for stability
}
```

LEDS + INPUTS


RESET
ICSP2
DIGITAL (PWM~)
L
TX
RX
UNO
Arduino
ON
ICSP
POWER
ANALOG IN

LEDS + INPUTS

RUN IT!

LEDS + INPUTS

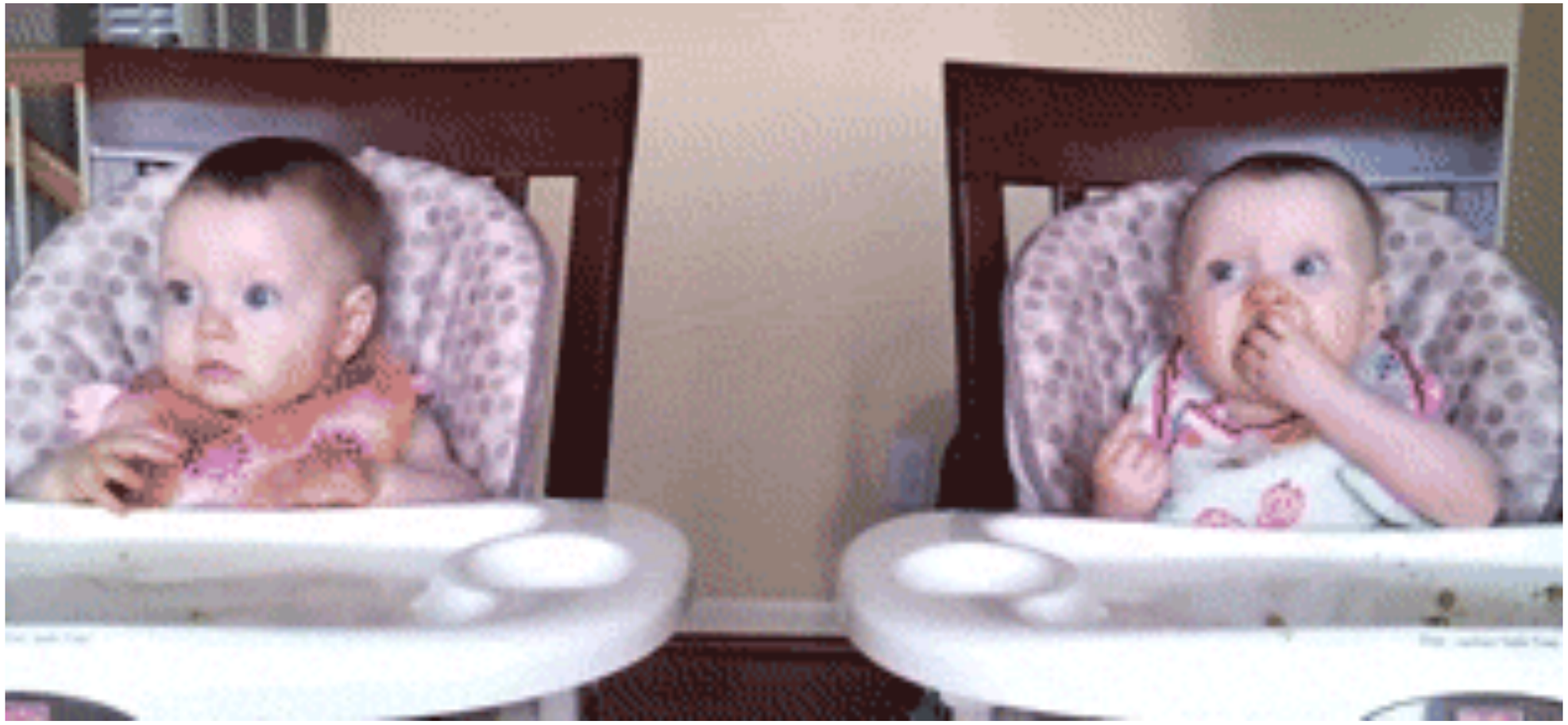
LEDS + INPUTS

```
int ledPin = 9;
int brightness = 0;

void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
  //set up the pin as an output
  pinMode(ledPin, OUTPUT);
}

// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // print out the value you read:
  Serial.println(sensorValue);
  //make the value of the brightness be between 0 and 255
  brightness = map(sensorValue, 0, 1024, 0, 255);
  //set your pin brightness to the brightness value
  analogWrite(ledPin, brightness);
  delay(1);        // delay in between reads for stability
}
```

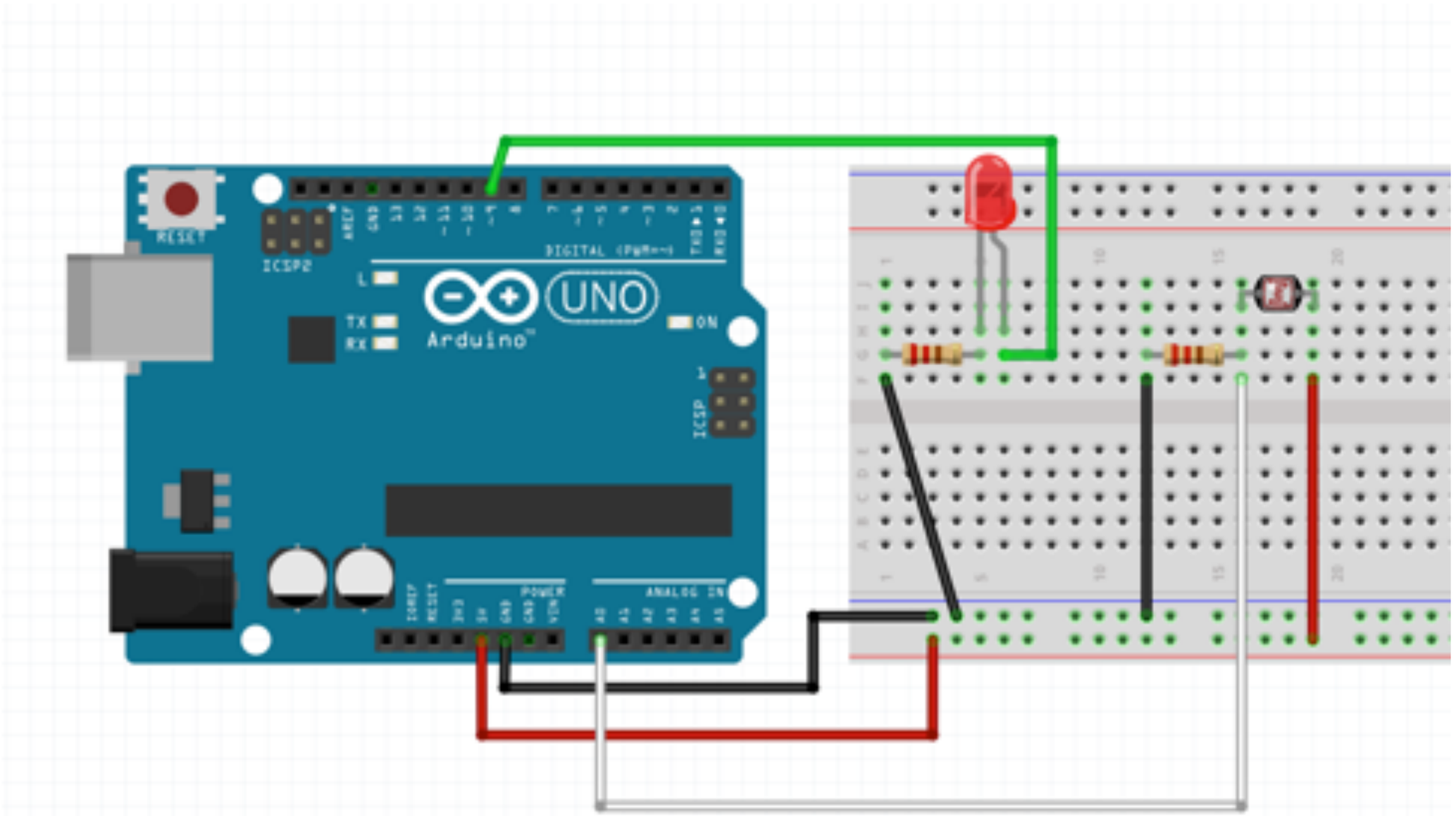
LEDS + INPUTS

RUN IT!

LEDS + INPUTS



LEDS + PHOTOCELL

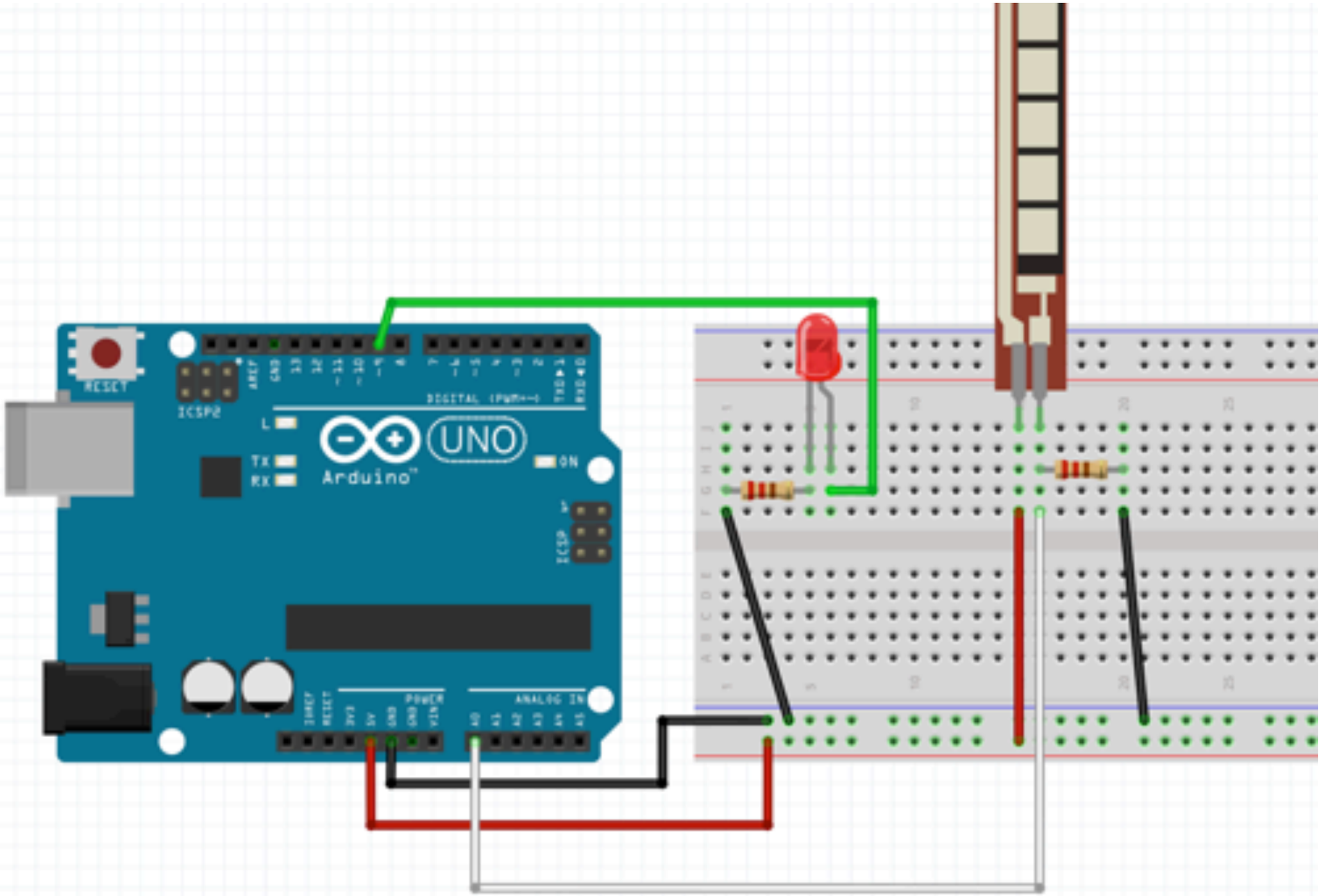


LEDS + INPUTS

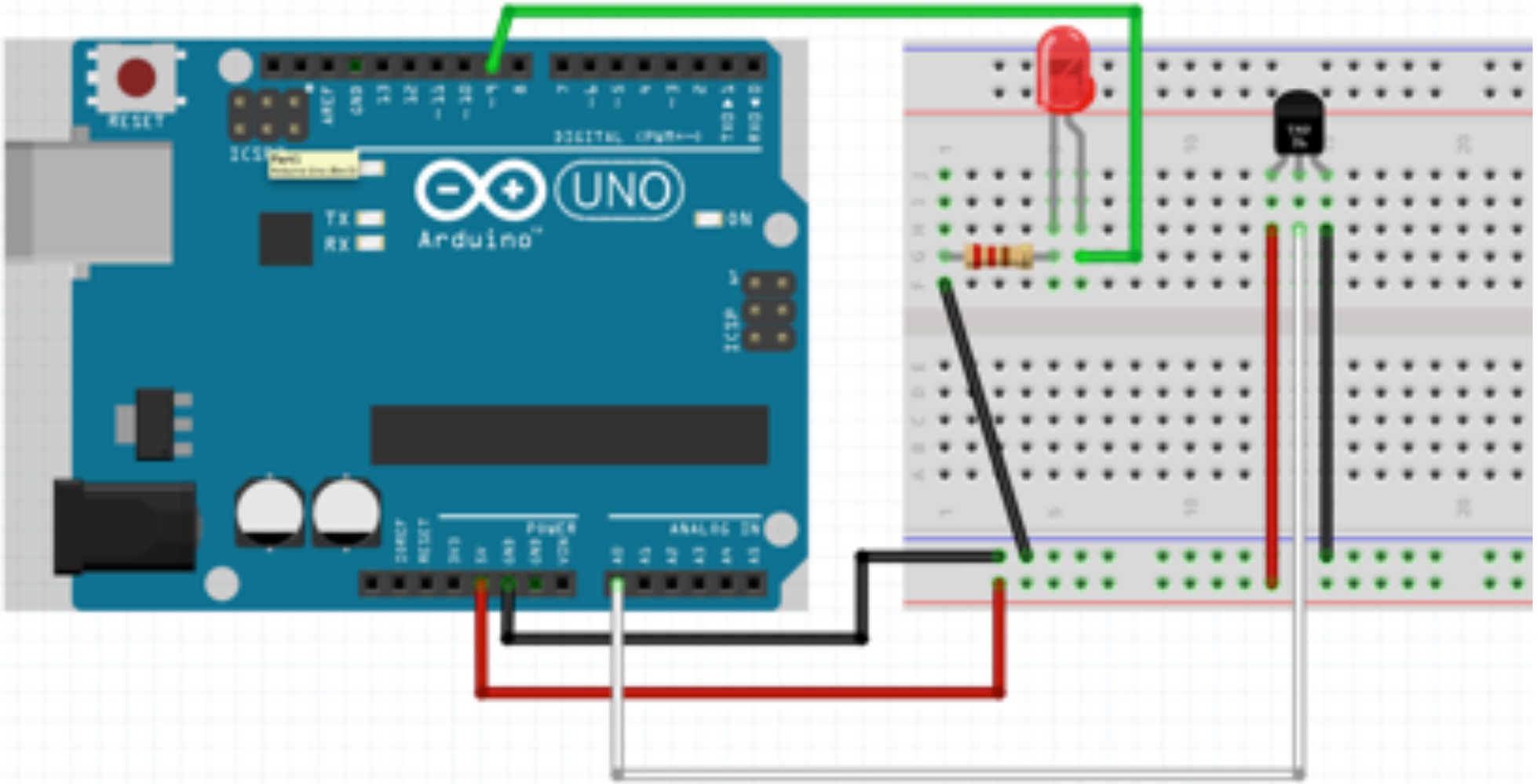
```
int ledPin = 9;
int brightness = 0;
int sensorLow = 0;
int sensorHigh = 15;

void setup() {
  // initialize serial communication at 9600 bits per second:
  Serial.begin(9600);
  //set up the pin as an output
  pinMode(ledPin, OUTPUT);
}
```

```
// the loop routine runs over and over again forever:
void loop() {
  // read the input on analog pin 0:
  int sensorValue = analogRead(A0);
  // print out the value you read:
  Serial.println(sensorValue);
  //make the value of the brightness be between 0 and 255
  brightness = map(sensorValue, sensorLow, sensorHigh, 0, 255);
  //set your pin brightness to the brightness value
  analogWrite(ledPin, brightness);
  delay(300);          // delay in between reads for stability
}
```

LEDS + FLEX SENSOR



LEDS + TEMPERATURE SENSOR



SOLDERING

Here's your Homework

Homework

Get the class code up and running. Then, try it with a sensor we didn't cover in class. Take a five second video and push it to your git.

Homework

Take the project we did in class today and solder it.

NOTE: You can use any analog sensor you want.

Connecting an LED

Bring it to class.

(I want to see a demo!)