RGB Light Anode

For this session, I purchased some RGB LED’s to use as I wanted to experiment with them. The first experiment is learning how to manipulate each value and properly wire the circuit, as these nodes have 4 pins. I quickly discovered the LED’s I had bought were anodes, meaning they had to be connected to the voltage rather than the ground. This also means the high and low values are also swapped, so 255 is low and 0 is high.

void loop() {

set\_rgb(255, 255, 0);

delay(1000);

set\_rgb(255, 0, 255);

delay(1000);

set\_rgb(0, 255, 255);

delay(1000);

}

//function to set the led each time

void set\_rgb(int r\_val, int g\_val, int b\_val){

analogWrite(r\_pin, r\_val);

analogWrite(g\_pin, g\_val);

analogWrite(b\_pin, b\_val);

}

Light Sensor

In this experiment, I used a light sensor to measure light readings, and used those to adjust the brightness of an LED. As the light readings were a bit low (around 0-50) I used a map() function to scale them appropriately for the LED. I then adapted this to have two light sensors, each of which would control the Red and Blue values of an RGB LED.

int analog1 = A1;

int analog2 = A3;

int b\_pin = 11;

int g\_pin = 10;

int r\_pin = 9;

void setup() {

//SETUP PINS

pinMode(analog1, INPUT);

pinMode(analog2, INPUT);

pinMode(r\_pin, OUTPUT);

pinMode(g\_pin, OUTPUT);

pinMode(b\_pin, OUTPUT);

}

void loop() {

//GET AND PRINT READINGS

int value1 = analogRead(analog1);

int value2 = analogRead(analog2);

int newVal1 = map(value1, 0, 50, 0, 255);

int newVal2 = map(value2, 0, 50, 0, 255);

set\_rgb(255, newVal1, newVal2);

}

void set\_rgb(int r\_val, int g\_val, int b\_val){

analogWrite(r\_pin, r\_val);

analogWrite(g\_pin, g\_val);

analogWrite(b\_pin, b\_val);

}