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Arduino RGB 3 Color LED Sensor Module

Introduction:

RGB LED module access the current limiting resistor to prevent burn out. the PWM modulator with three primary colors can be mixed in different colors with a variety of microcontroller interface. They are called SMD 5050 because the dimensions of the chips are 5.0mm x 5.0mm.

RGB LEDs are Tri-color LEDs with red, green, and blue emitters, in general using a four-wire connection with one common lead (anode or cathode). These LEDs can have either common positive or common negative leads. Others however, have only two leads (positive and negative) and have a built in tiny electronic control unit.

Objective:

To increase/decrease the PWM values on the red, green and blue pins causing the LED to cycle through various colors.

Components:

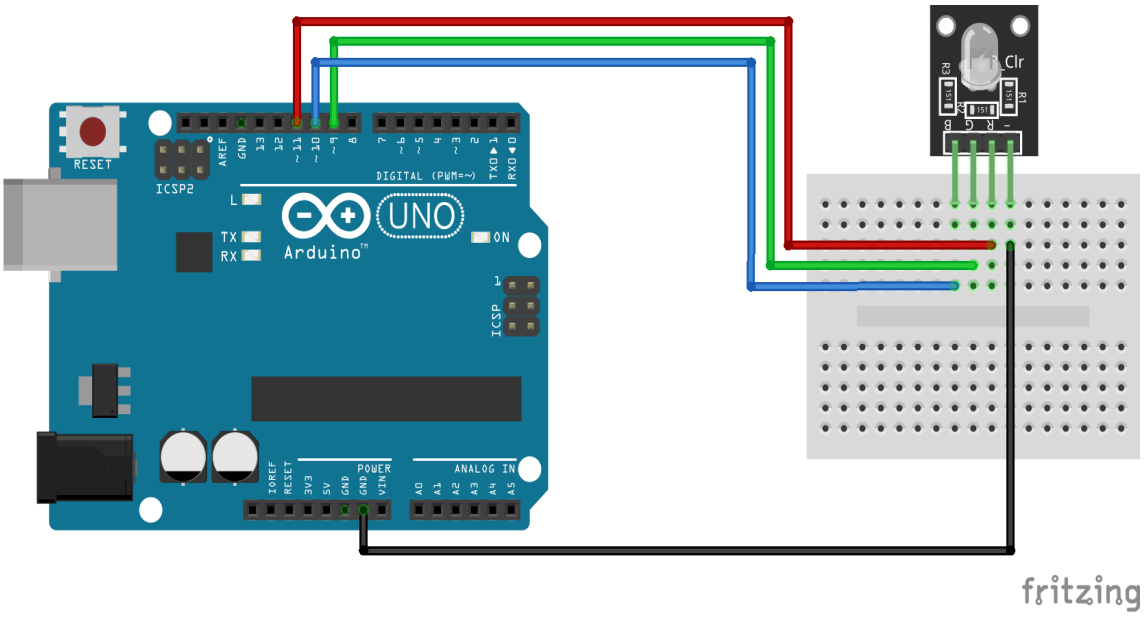
- Arduino Uno Board
- Arduino RGB 3 Color LED Sensor Module
- Usb Cable
- Several Jumper Wires

Procedures:

Step 1: Build the circuit.

The connection between the Arduino RGB 3 Color LED Sensor Module and the Arduino Uno Board:

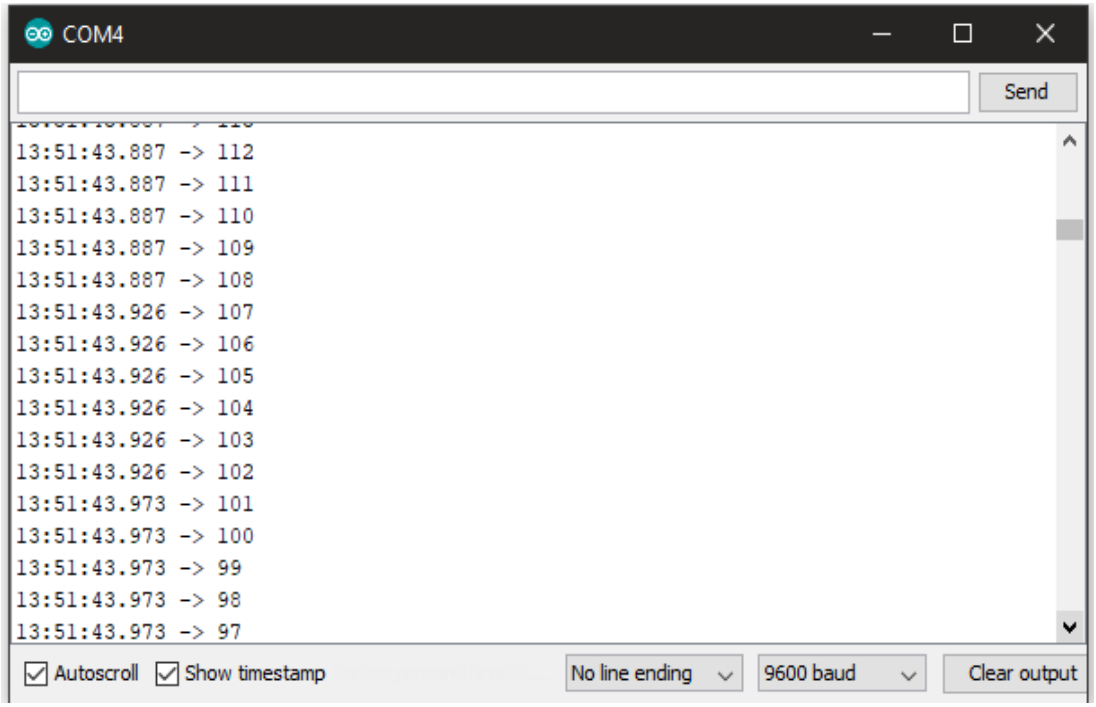
Arduino RGB 3 Color LED Sensor Module	Arduino Uno Board
Red	**Pin 11**
Blue	**Pin 10**
Green	**Pin 9**
-	**Gnd**



Step 2: Insert the sample programming provided below by copy and paste it into Arduino IDE.

```
int redpin = 11; // select the pin for the red LED
int bluepin =10; // select the pin for the  blue LED
int greenpin =9; // select the pin for the green LED

int val;

void setup() {
  pinMode(redpin, OUTPUT);
  pinMode(bluepin, OUTPUT);
  pinMode(greenpin, OUTPUT);
  Serial.begin(9600);
}

void loop() {
  for(val = 255; val > 0; val--)
  {
    analogWrite(11, val);
    analogWrite(10, 255 - val);
    analogWrite(9, 128 - val);

    Serial.println(val, DEC);
    delay(5);
  }
  for(val = 0; val < 255; val++)
  {
    analogWrite(11, val);
    analogWrite(10, 255 - val);
    analogWrite(9, 128 - val);

    Serial.println(val, DEC);
    delay(5);
  }
}
```

Step 3: Open the serial monitor to observe the result as shown below.



Conclusions:

The codes written changes every color's value (from 0 to 255) so the 3 colors are random, making up the one that is visible random as well. Feel free to change the different values in the code so you can get fixed colors. By default, the color is being changed every 500 ms (1/2 second), you can change that as well.