RGB LED with Buttons

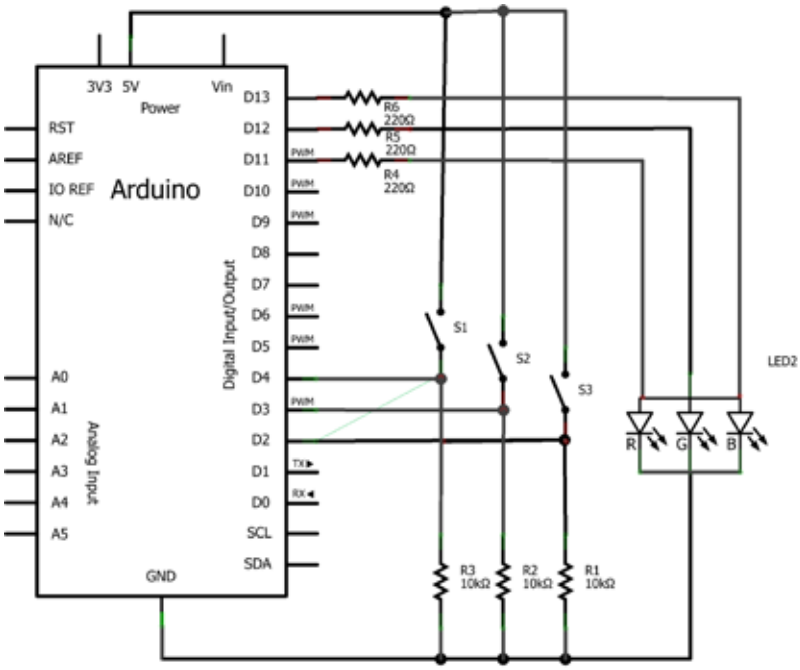
HARDWARE REQUIRED

Arduino board
1 RGB LED
3 buttons
3 220 ohm resistors
3 10KΩ resistors
breadboard
hook-up wires

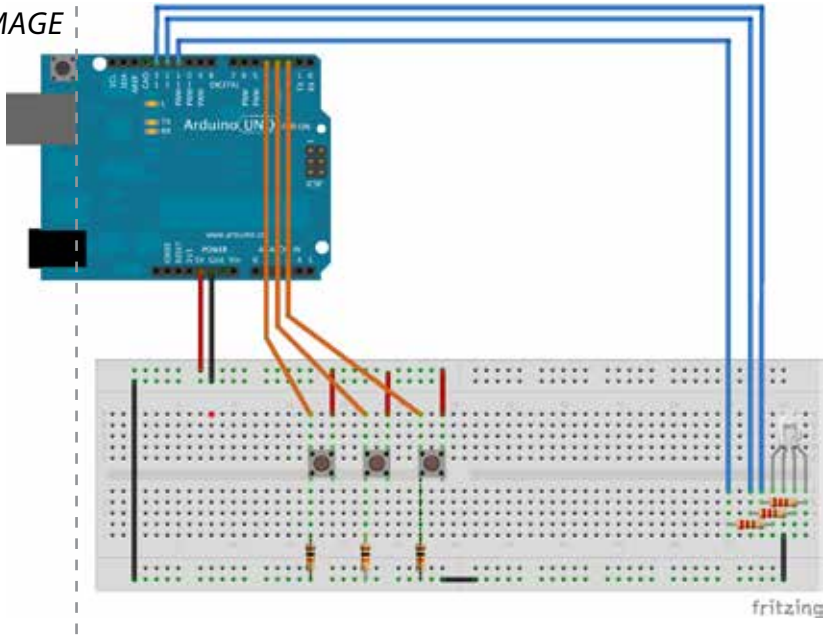
CIRCUIT

With this example you can mix the Red, Green and Blue lights using and RGB LED and three buttons.

SCHEMATIC



IMAGE



CODE

```
/*
 RGB LED with Buttons

 Use three buttons to control RBG LED color
 Turns on and off a light emitting diode(LED)
connected to digital  pin 13, when pressing a
pushbutton attached to pin 2.

 The circuit:
 * RED light attached to pin 13
 * GREEN light attached to pin 12
 * BLUE light attached to pin 11
 * The cathode of the RBG LED is attached to
ground
 * RED pushbutton attached to pin 4 from +5V
 * GREEN pushbutton attached to pin 3 from +5V
 * BLUE pushbutton attached to pin 2 from +5V
 * 10K resistor attached to pin 2 from ground
 * 10K resistor attached to pin 3 from ground
 * 10K resistor attached to pin 4 from ground
 * 220Ω resistor attached to pin 13 from Red pin
 * 220Ω resistor attached to pin 12 from Green pin
 * 220Ω resistor attached to pin 11 from Blue pin
 * Note: on most Arduinos there is already an LED
on the board  attached to pin 13.

 created 2013  by Angelos Floros

 */

// constants won't change. They're used here to
// set pin numbers:

const int buttonPinR = 2;     // the number of the RED pushbutton pin
const int buttonPinG = 3;     // the number of the GREEN pushbutton pin
const int buttonPinB = 4;     // the number of the BLUE pushbutton pin
const int ledPinR =  13;    // the number of the RED light of RGB LED pin
const int ledPinG =  12;  // the number of the GREEN light of RGB LED pin
const int ledPinB =  11;    // the number of the BLUE light of RGB LED pin

// variables will change:
int buttonStateR = 0;         // variable for reading the pushbutton status
int buttonStateG = 0;         // variable for reading the pushbutton status
int buttonStateB = 0;         // variable for reading the pushbutton status

void setup() {
  // initialize the LED pin as an output:
  pinMode(ledPinR, OUTPUT);
  pinMode(ledPinG, OUTPUT);
  pinMode(ledPinB, OUTPUT);

  // initialize the pushbutton pin as an input:
  pinMode(buttonPinR, INPUT);
  pinMode(buttonPinG, INPUT);
  pinMode(buttonPinB, INPUT);
}

void loop(){
  // read the state of the pushbutton value:
  buttonStateR = digitalRead(buttonPinR);
  buttonStateG = digitalRead(buttonPinG);
  buttonStateB = digitalRead(buttonPinB);

  // check if the pushbutton is pressed.
  // if it is, the buttonState is HIGH:
  if (buttonStateR == HIGH) {
    // turn RED light on:
    digitalWrite(ledPinR, HIGH);
  }
  else {
    // turn RED light off:
    digitalWrite(ledPinR, LOW);
  }
   if (buttonStateG == HIGH) {
    // turn GREEN light on:
    digitalWrite(ledPinG, HIGH);
  }
  else {
    // turn GREEN light off:
    digitalWrite(ledPinG, LOW);
  }
    if (buttonStateB == HIGH) {
    // turn BLUE light on:
    digitalWrite(ledPinB, HIGH);
  }
  else {
    // turn BLUE light off:
    digitalWrite(ledPinB, LOW);
  }
}
```