CHAPTER: 7 RGB LIGHT

PRACTICAL: 7A

AIM: To interface RGB LIGHT to Arduino.

ARDUINO CODE :

```
 /**********************
 * Author: Shreejicharan
 * Title: To interface RGB LIGHT to Arduino.
 * Date: 27/05/2017
 * Time: 6:00
 * Email: shreejicharanelectronics@gmail.com
 **********************/
*/

int redPin = 11;
int greenPin = 10;
int bluePin = 9;

//uncomment this line if using a Common Anode LED
//#define COMMON_ANODE

void setup()
{
pinMode(redPin, OUTPUT);
pinMode(greenPin, OUTPUT);
pinMode(bluePin, OUTPUT);
}

void loop()
{
setColor(255, 0, 0); // red
delay(1000);
setColor(0, 255, 0); // green
delay(1000);
setColor(0, 0, 255); // blue
delay(1000);
setColor(255, 255, 0); // yellow
delay(1000);
setColor(80, 0, 80); // purple
delay(1000);
setColor(0, 255, 255); // aqua
delay(1000);
}
```

```
void setColor(int red, int green, int blue)
{
  #ifdef COMMON_ANODE
  red = 255 - red;
  green = 255 - green;
  blue = 255 - blue;
  #endif
analogWrite(redPin, red);
analogWrite(greenPin, green);
analogWrite(bluePin, blue);
}
```

CHAPTER: 7 RGB LIGHT

PRACTICAL: 7B

AIM: To interface RGB LIGHT to Arduino using Andriod Applications.

ARDUINO CODE :

```
/**********************
* Author: Shreejicharan
* Title: To interface RGB LIGHT to Arduino using Andriod Applications.
* Date: 27/05/2017
* Time: 6:00
* Email: shreejicharanelectronics@gmail.com
**********************/

// pins for the LEDs:
const int redPin = 3;
const int greenPin = 5;
const int bluePin = 6;

const int redPin2 = 9;
const int greenPin2 = 10;
const int bluePin2 = 11;

#define REDPIN 3
#define GREENPIN 5
#define BLUEPIN 6

#define FADESPEED 5

void setup()
{
        Serial.begin(9600); // initialize serial:

        // make the pins outputs:
        pinMode(redPin, OUTPUT);
        pinMode(greenPin, OUTPUT);
        pinMode(bluePin, OUTPUT);
        pinMode(redPin2, OUTPUT);
        pinMode(greenPin2, OUTPUT);
        pinMode(bluePin2, OUTPUT);
```

```
    Serial.print("Arduino control RGB LEDs Connected OK ( Sent From Arduino Board )");
    Serial.print('\n');
}

void loop()
{
  // if there's any serial available, read it:
  while (Serial.available() > 0)
    {
   // look for the next valid integer in the incoming serial stream:
   int red = Serial.parseInt();          // do it again:
   int green = Serial.parseInt();      // do it again:
   int blue = Serial.parseInt();

   int red2 = Serial.parseInt();          // do it again:
   int green2 = Serial.parseInt();      // do it again:
   int blue2 = Serial.parseInt();

   // look for the newline. That's the end of your      // sentence:
   if (Serial.read() == '\n')
         {
            // constrain the values to 0 - 255 and invert
            red = constrain(red, 0, 255);
            green = constrain(green, 0, 255);
            blue = constrain(blue, 0, 255);

            red2 = constrain(red2, 0, 255);
            green2 = constrain(green2, 0, 255);
            blue2 = constrain(blue2, 0, 255);

            // fade the red, green, and blue legs of the LED:
            analogWrite(redPin, red);
            analogWrite(greenPin, green);
            analogWrite(bluePin, blue);

            analogWrite(redPin2, red2);
            analogWrite(greenPin2, green2);
            analogWrite(bluePin2, blue2);

            // print the three numbers in one string as hexadecimal:
             Serial.print("Data Response : ");
            Serial.print(red, HEX);
            Serial.print(green, HEX);
```

```
            Serial.println(blue, HEX);
        }
    }
}
```

SIMULATION: