EXPERIMENT NO: 2

Roll No: ***Class: BE*** ***Division: A*** ***Date:***

TITLE: Interface RGB LED with Arduino and program to display all possible colours.

AIM: Understand the connection and configuration of RGB LED and its use in programming.

Task 1: Interface RGB LED with arduino, to display Red, Green, Blue, white colours.

Sr. No	Colour	Red	Green	Blue	(R ,G, B)
1	Red	0	255	255	(0,255,255)
2	Green	255	0	255	(255,0,255)
3	Blue	255	255	0	(255,255,0)
4	White	0	0	0	(0,0,0)

Source Code:

```
#define RED 9
#define GREEN 11
#define BLUE 12

void setup() {
  pinMode(RED,OUTPUT);
  pinMode(GREEN,OUTPUT);
  pinMode(BLUE,OUTPUT);
  Serial.begin(9600);
}

void setcolour(int r,int g,int b){
  analogWrite(RED,r);
  analogWrite(GREEN,g);
  analogWrite(BLUE,b);
}

void loop() {
  setcolour(0,255,255);
  delay(1000);
  Serial.println("Current colour RED");
  setcolour(255,0,255);
  delay(1000);
```

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```
  Serial.println("Current colour GREEN");
  setcolour(255,255,0);
  delay(1000);
  Serial.println("Current colour BLUE");
  setcolour(0,0,0);
  delay(1000);
  Serial.println("Current colour WHITE");

}
```

Output:

Obervations:

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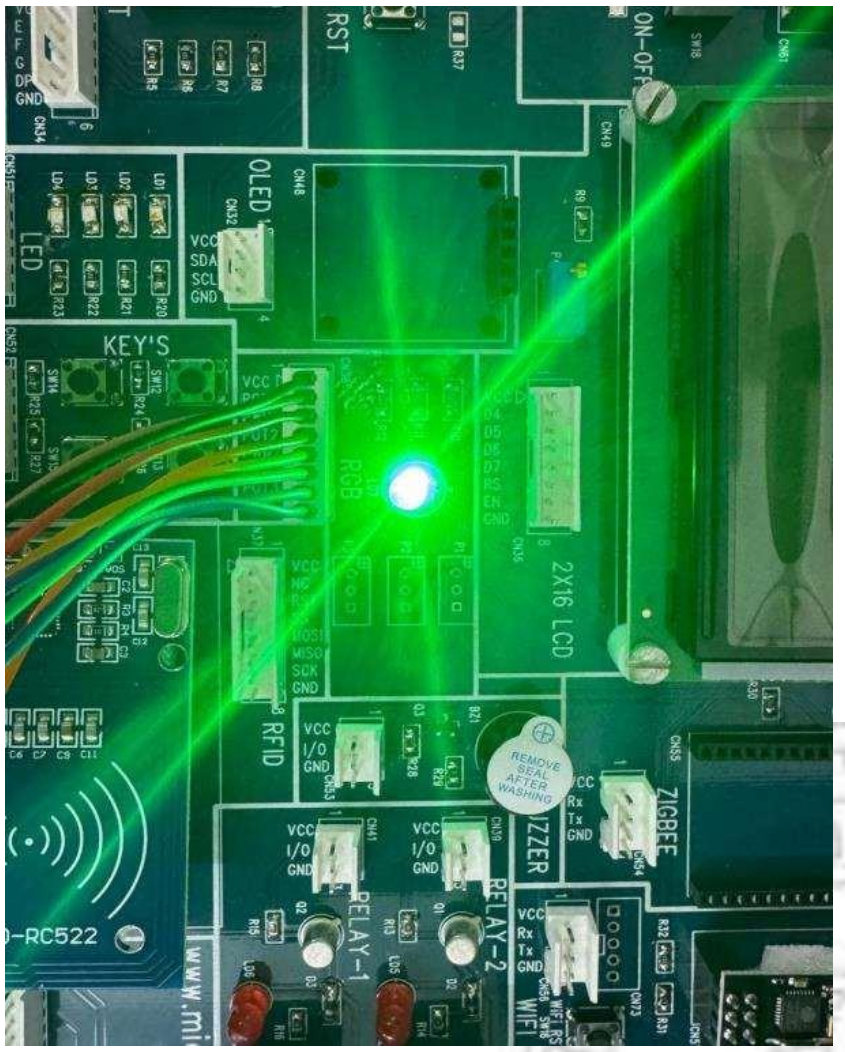

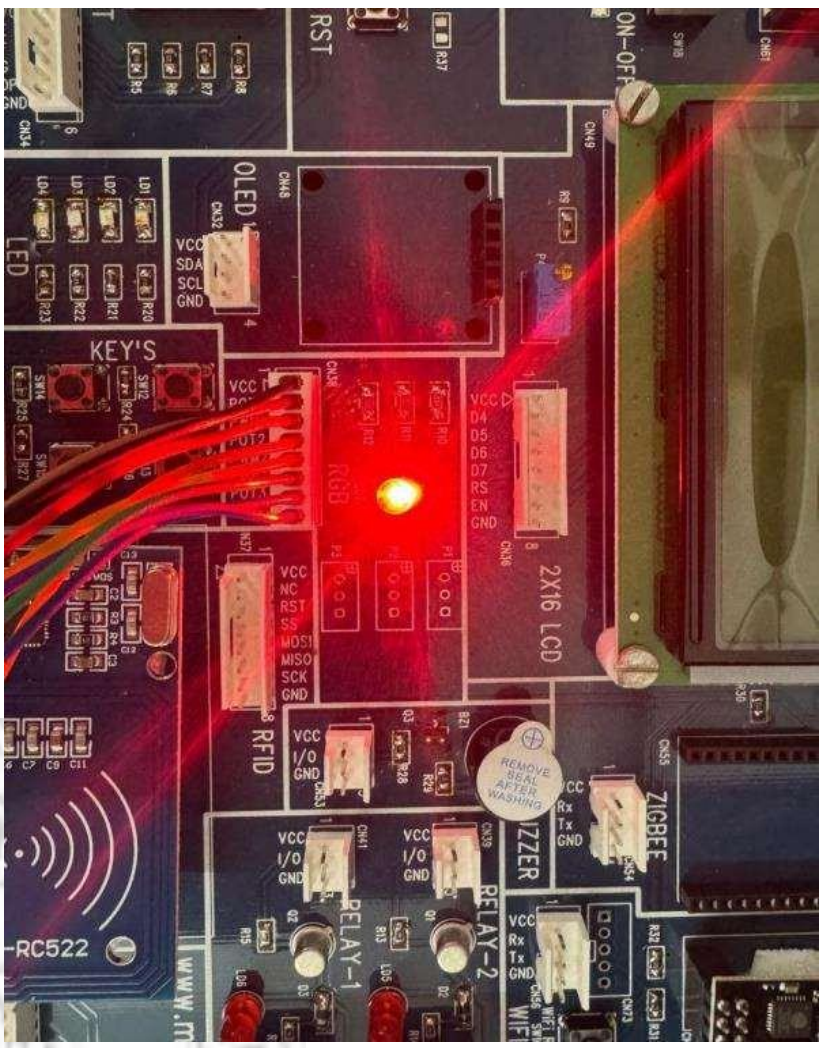

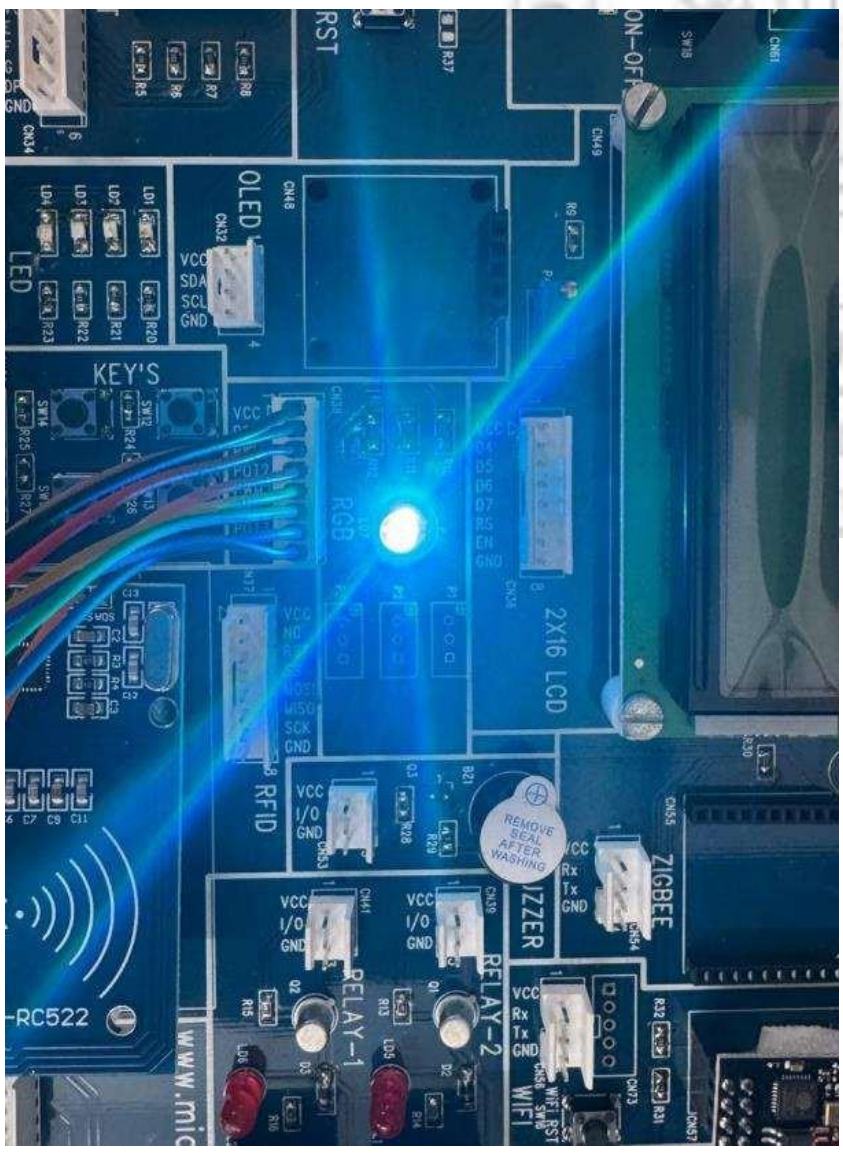

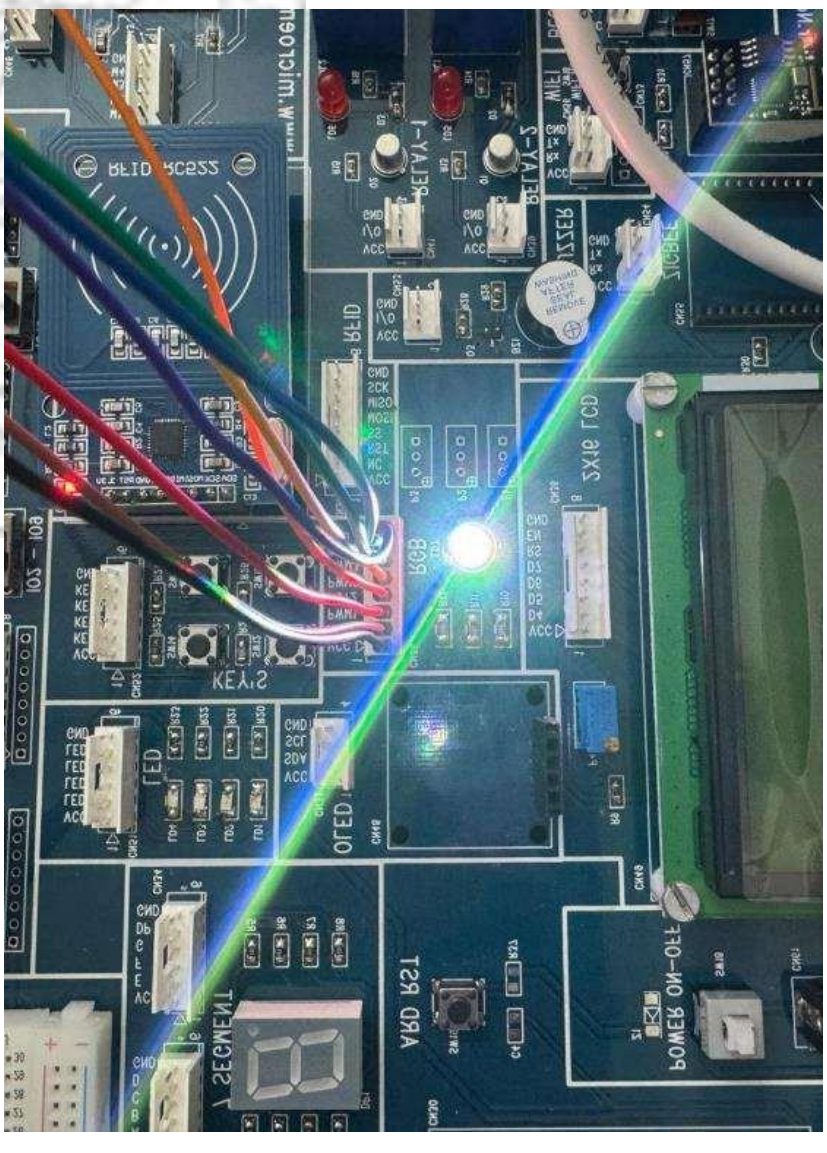

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Task 2: Interface RGB LED with arduino, to displayrainbow colours in sequence.

Sr. No	Colour	Red	Green	Blue	(R ,G, B)
1	Red				
2	Orange				
3	Yellow				
4	Green				
5	Blue				
6	Indigo				
7	Violet				

Source Code:

```
#define RED 9
#define GREEN 11
#define BLUE 12

void setup() {
  pinMode(RED,OUTPUT);
  pinMode(GREEN,OUTPUT);
  pinMode(BLUE,OUTPUT);
  Serial.begin(9600);
}

void setcolour(int r,int g,int b){
  analogWrite(RED,r);
  analogWrite(GREEN,g);
  analogWrite(BLUE,b);
}

void loop() {
  setcolour(100,255,0);
  delay(1000);
  Serial.println("Current colour VOILET");
  setcolour(255,128,0);
  delay(1000);
  Serial.println("Current colour INDIGO");
  setcolour(255,255,0);
  delay(1000);
  Serial.println("Current colour BLUE");
```

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```
  setcolour(255,0,255);
  delay(1000);
  Serial.println("Current colour GREEN");
  setcolour(0,0,255);
  delay(1000);
  Serial.println("Current colour YELLOW");
  setcolour(0,200,255);
  delay(1000);
  Serial.println("Current colour ORANGE");
  setcolour(0,255,255);
  delay(1000);
  Serial.println("Current colour RED");
}
```

Output:

Obervations:

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