MKSSS's CUMMINS COLLEGE OF ENGINERRING FOR WOMEN
DEPARTMENT OF COMPUTER ENGINEERING

Internet of Things Laboratory
Assignment

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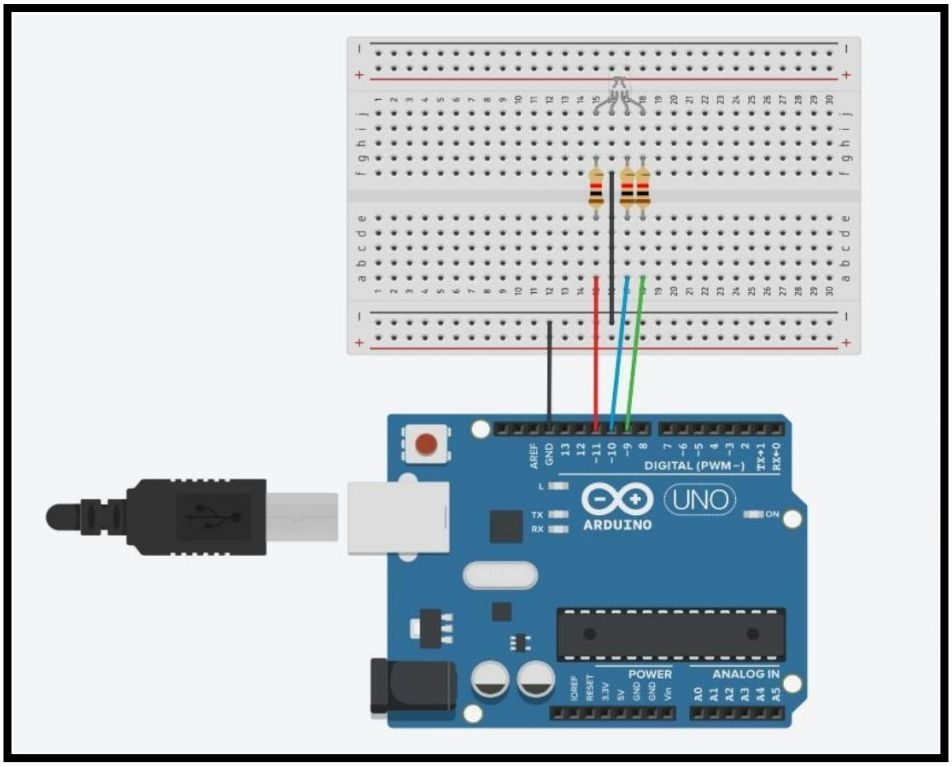
Problem Statement: Show connections and code for RGB lights and Temperature Sensor using TinkerCAD

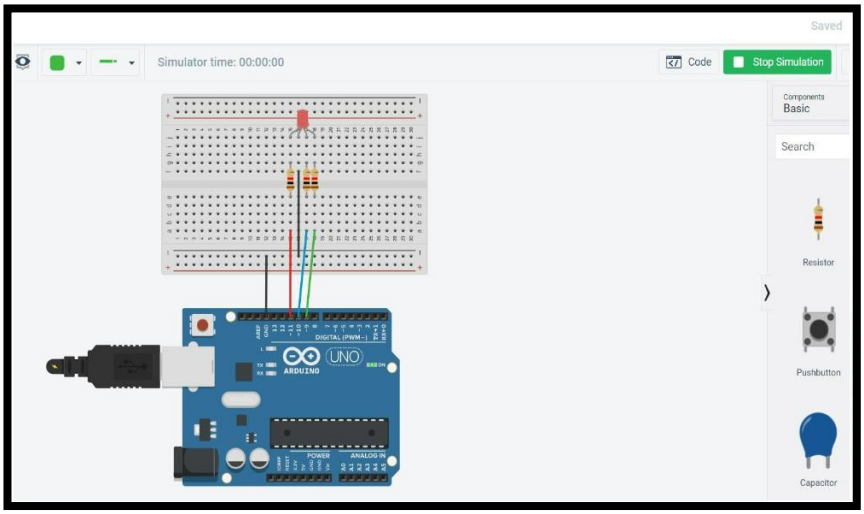
RGB lights:

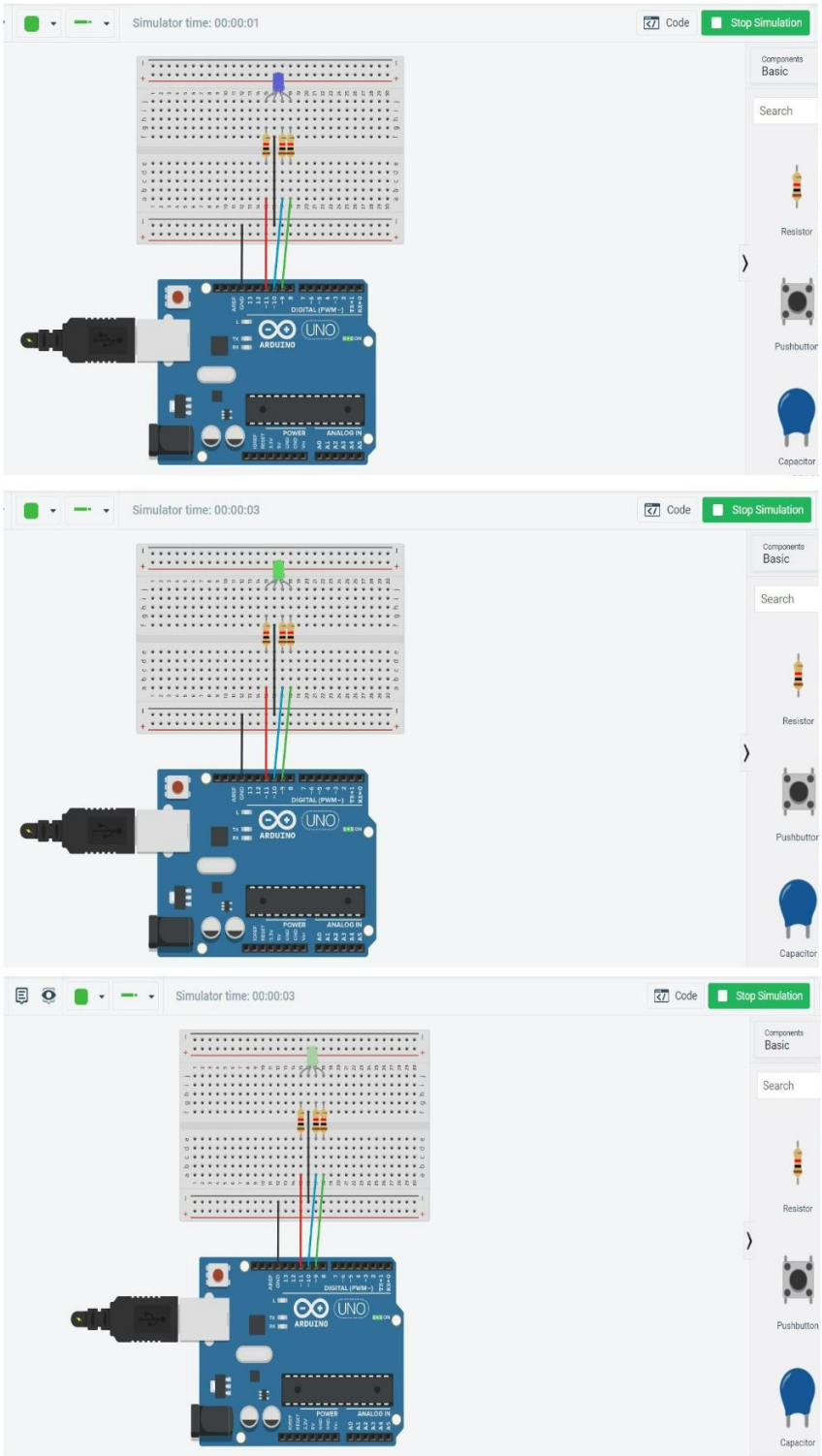
Circuit:



Output:

Red -> Blue -> Green -> Random Colour





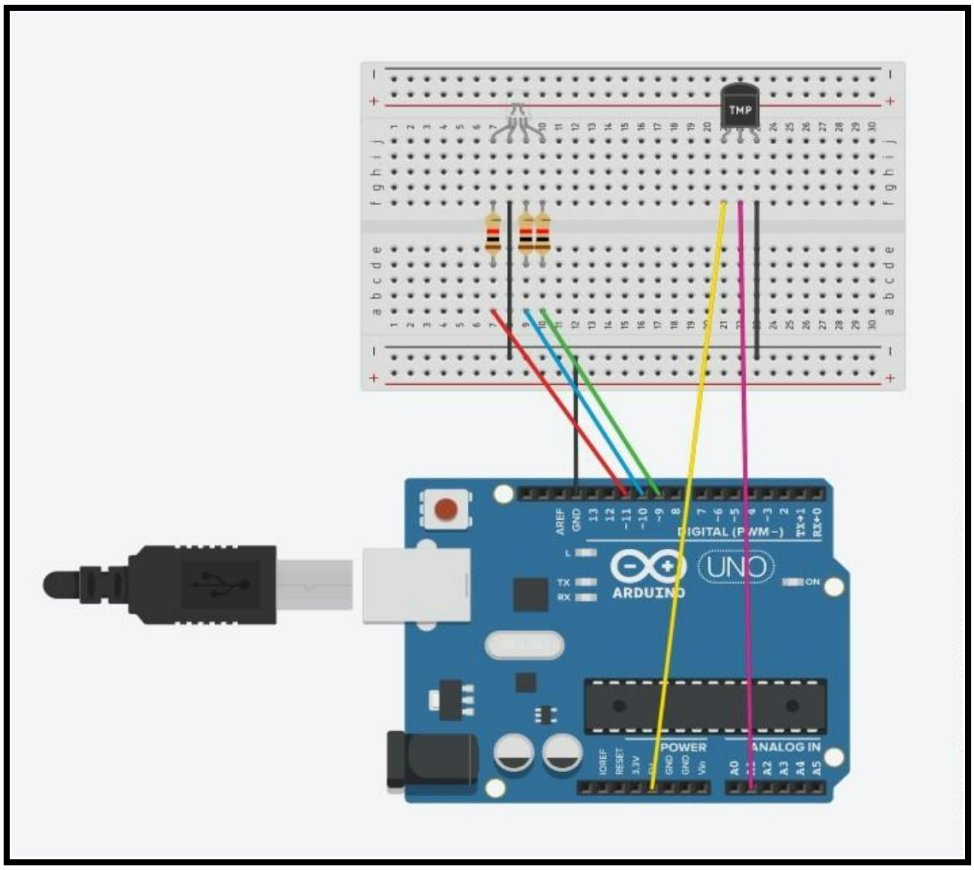
Code:

```
int red = 11;
int blue = 10;
int green = 9;
void setup()
{
  pinMode(red, OUTPUT);
  pinMode(blue, OUTPUT);
  pinMode(green, OUTPUT);
}
```

```
void loop()
{
  digitalWrite(red, HIGH); //red glow
  digitalWrite(blue, LOW);
  digitalWrite(green, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(blue, HIGH); //blue glow
  digitalWrite(green, LOW);
  digitalWrite(red, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(green, HIGH); //green glow
  digitalWrite(red, LOW);
  digitalWrite(blue, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
  //for random colour
  int r = random(0,233);
  int b = random(0,233);
  int g = random(0,233);
  analogWrite(red,r);
  analogWrite(blue,b);
  analogWrite(green,g);
  delay(1000);
}
```

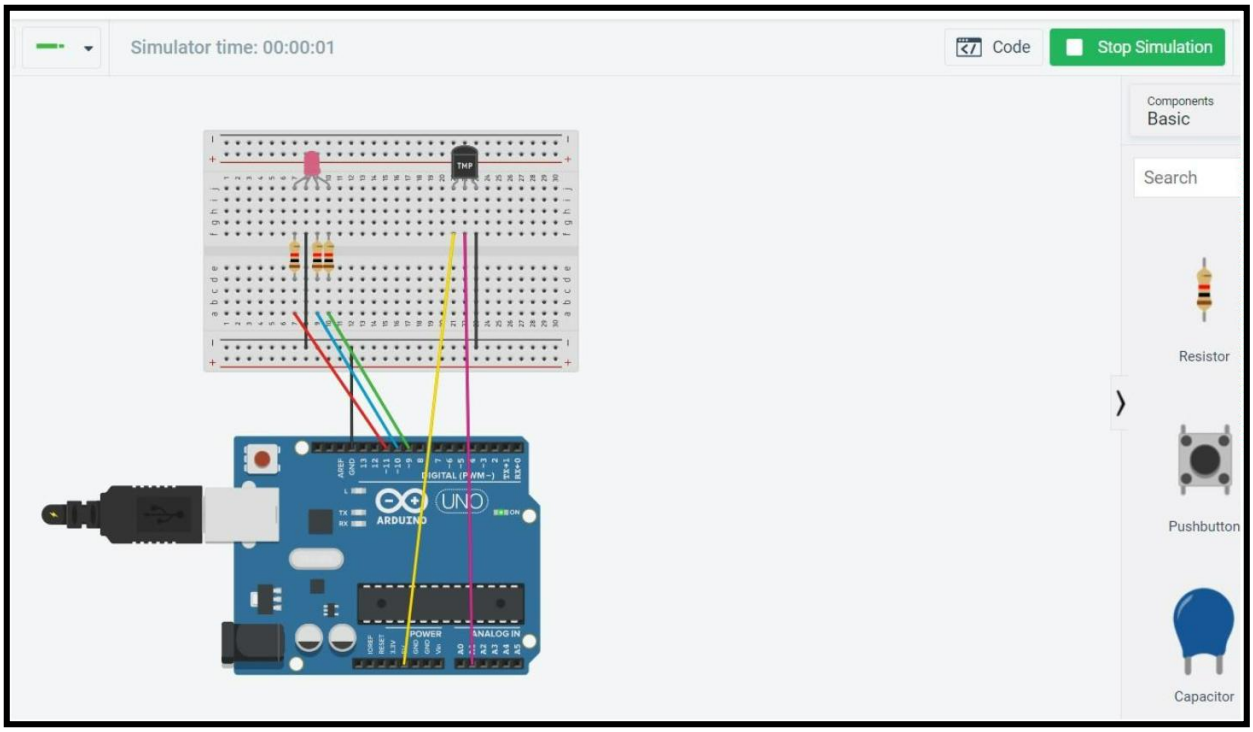
Temperature Sensor:

Circuit:



Output:

The RGB glows red for hot, blue for cool and purple for moderate temperatures.



Code:

```
int red = 11;
int blue = 10;
int green = 9;
void setup()
{
    pinMode(red, OUTPUT);
    pinMode(blue, OUTPUT);
    pinMode(green, OUTPUT);
    pinMode(A0, INPUT);
}
void loop()
{
    int val = analogRead(A0);
    if (val > 50)
    {
        // code for high temp
        digitalWrite(blue, LOW);
        digitalWrite(red, HIGH);
    }
    else if (val > 30 & & val <= 50)
    {
        // code for average temp
        analogWrite(red, 233);
        analogWrite(blue, 233);
    }
    else if (val <= 30)
    {
        // code for low temp
        digitalWrite(red, LOW);
        digitalWrite(blue, HIGH);
    }
}
```