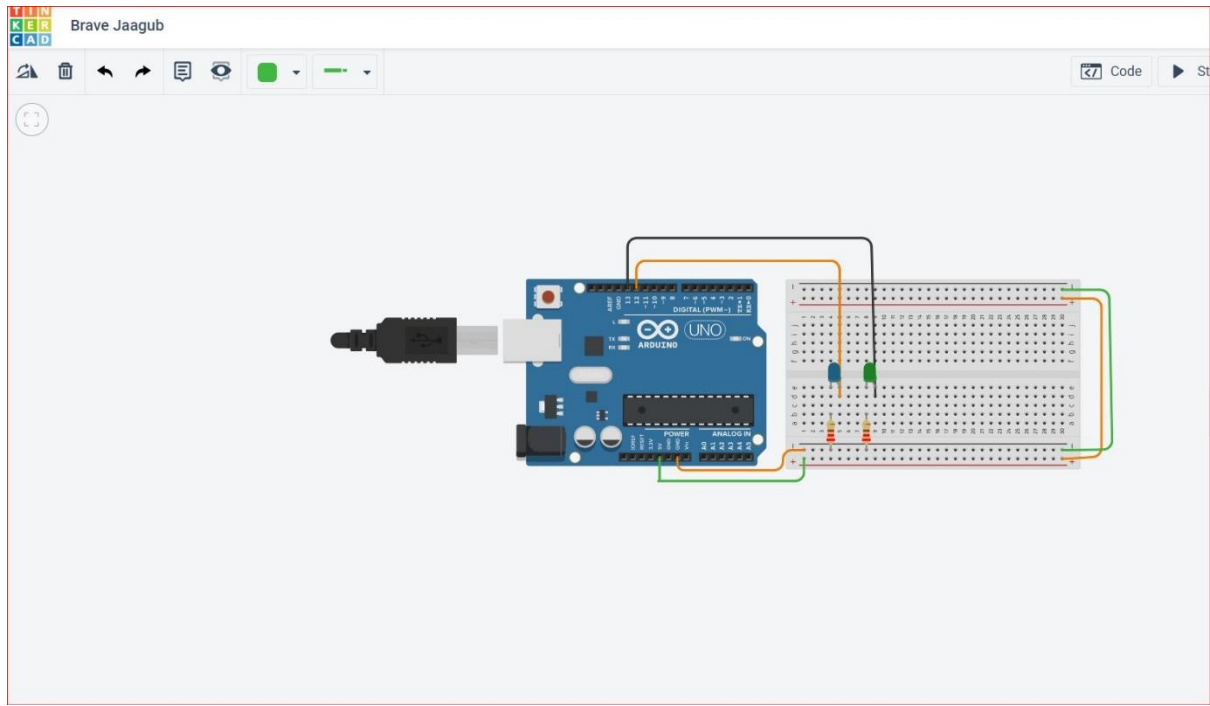


DTW EXPERMENTS

1.SIMPLE LED LIGHTS



CODE

```
// C++ code
```

```
//
```

```
void setup()
```

```
{
```

```
  pinMode(12,OUTPUT);
```

```
  pinMode(13,OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
  digitalWrite(12,HIGH);
```

```
  delay(1000);
```

```
digitalWrite(12,LOW);
```

```
delay(0);
```

```
digitalWrite(13,HIGH);
```

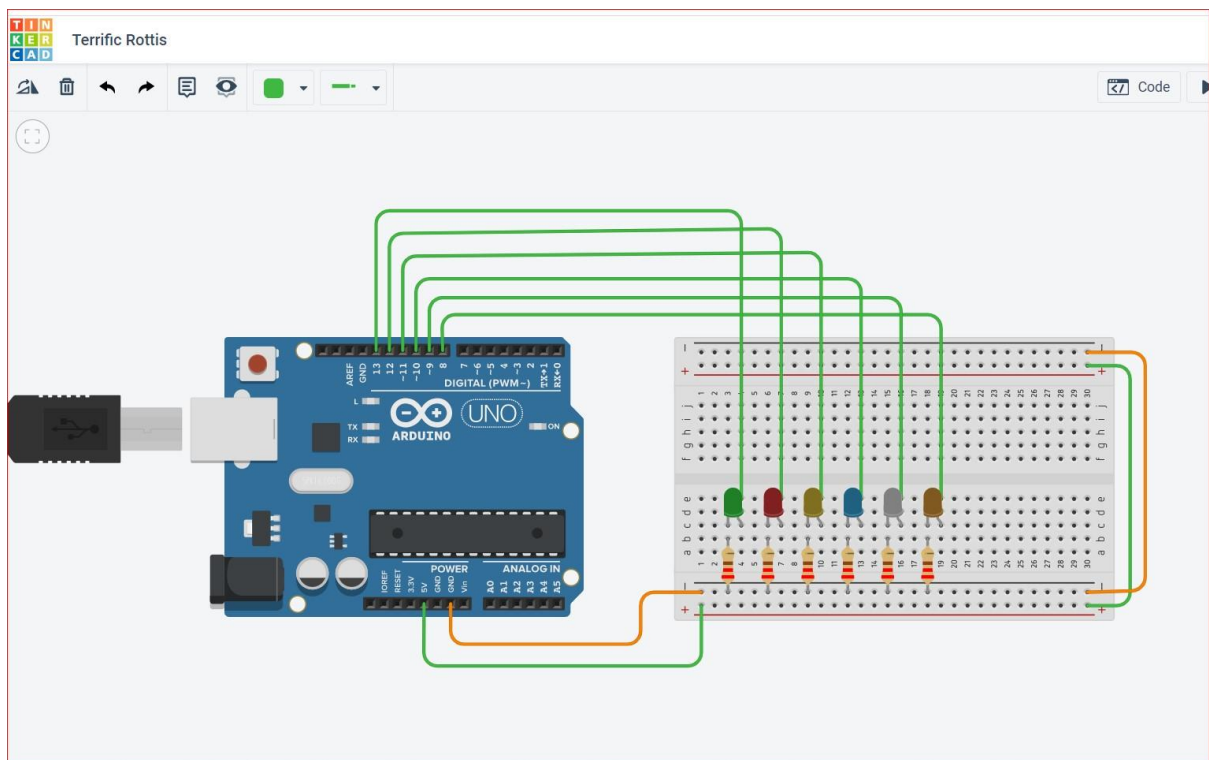
```
delay(500);
```

```
digitalWrite(13,LOW);
```

```
delay(1000);
```

```
}
```

2.MULTIPLE LEDS



CODE

```
// C++ code
```

```
//
```

```
void setup()
{
  pinMode(13, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(11, OUTPUT);
  pinMode(10, OUTPUT);
  pinMode(9, OUTPUT);
  pinMode(8, OUTPUT);
}

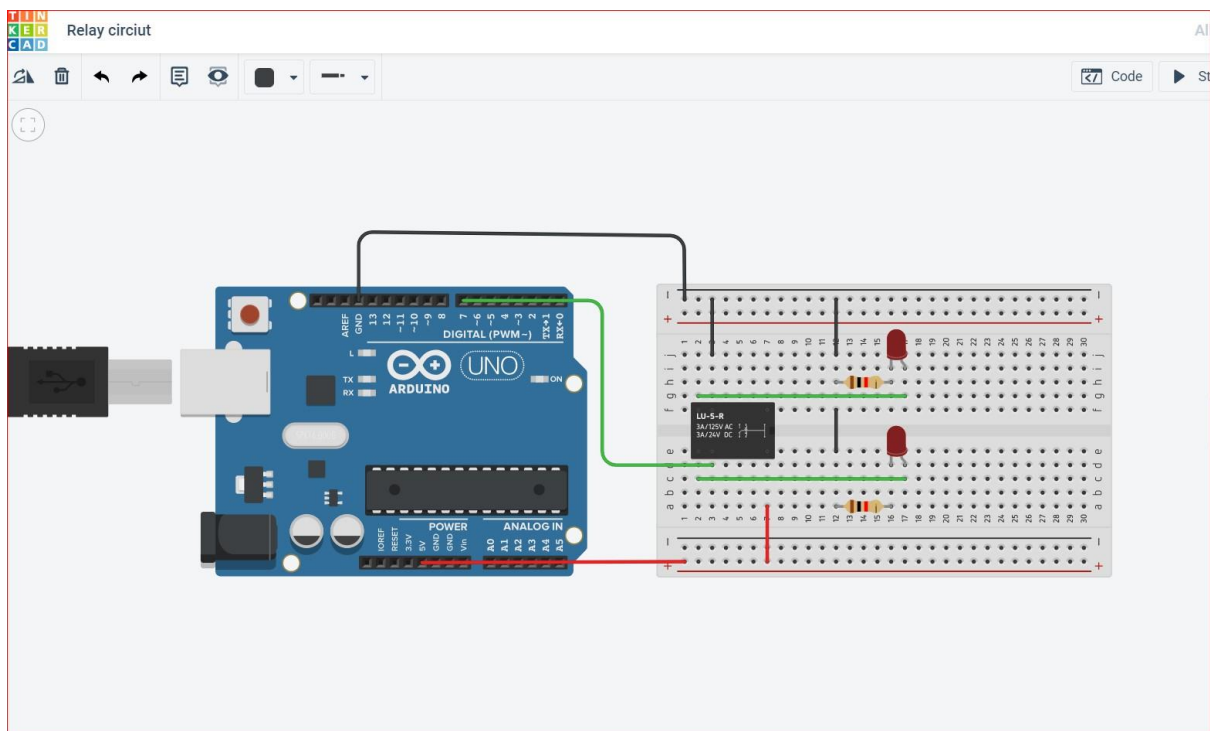
void loop()
{
  digitalWrite(13, HIGH);
  delay(300); // Wait for 1000 millisecond(s)
  digitalWrite(13, LOW);
  //delay(100); // Wait for 1000 millisecond(s)
  digitalWrite(12, HIGH);
  delay(300); // Wait for 1000 millisecond(s)
  digitalWrite(12, LOW);
  //delay(100); // Wait for 1000 millisecond(s)
  digitalWrite(11, HIGH);
  delay(300); // Wait for 1000 millisecond(s)
  digitalWrite(11, LOW);
  //delay(100); // Wait for 1000 millisecond(s)
  digitalWrite(10, HIGH);
  delay(300); // Wait for 1000 millisecond(s)
  digitalWrite(10, LOW);
```

```

//delay(100); // Wait for 1000 millisecond(s)
digitalWrite(9, HIGH);
delay(300); // Wait for 1000 millisecond(s)
digitalWrite(9, LOW);
//elay(100); // Wait for 1000 millisecond(s)
digitalWrite(8, HIGH);
delay(300); // Wait for 1000 millisecond(s)
digitalWrite(8, LOW);
//elay(100); // Wait for 1000 millisecond(s)
}

```

3.RELAY



CODE

```

int ledPin = 7;

void setup()

```

```

{
  pinMode(ledPin, OUTPUT);
}

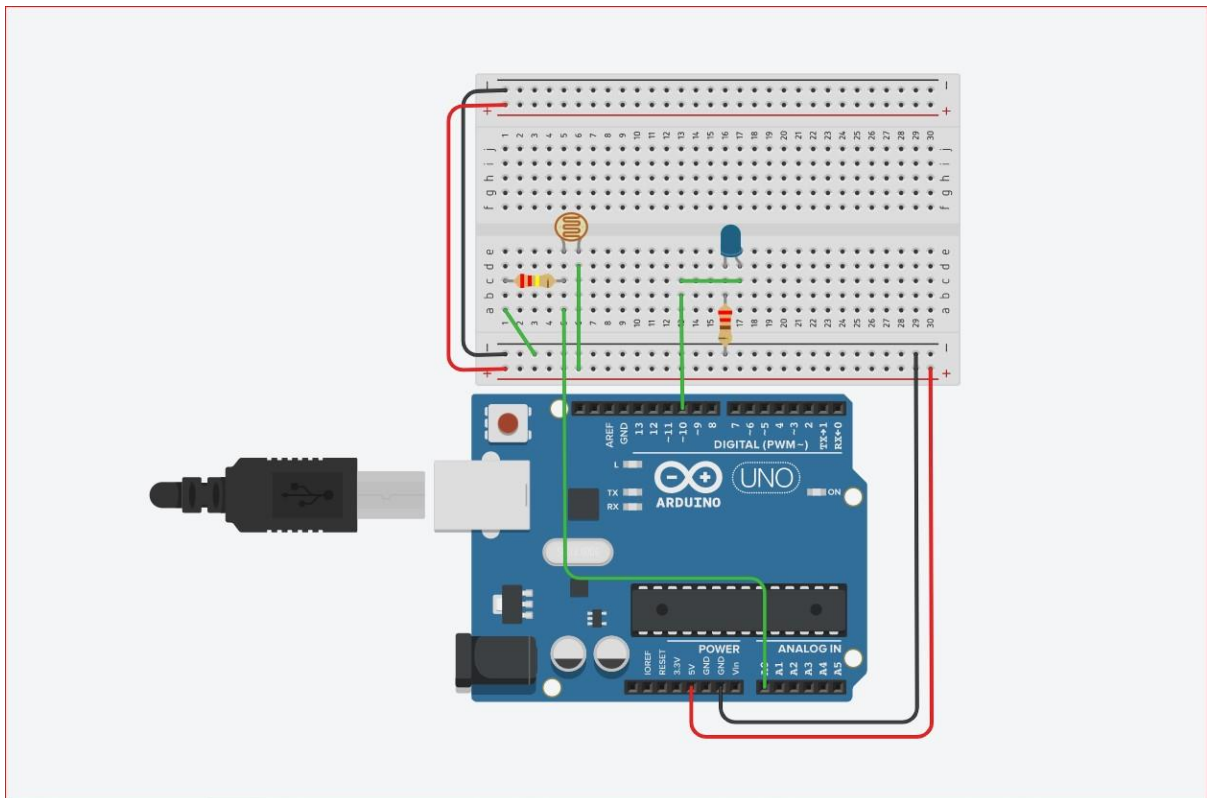
```

```

void loop()
{
  digitalWrite(ledPin, 1);
  delay(2000);
  digitalWrite(ledPin, 0);
  delay(2000);
}

```

4.PHOTORESISTOR



CODE

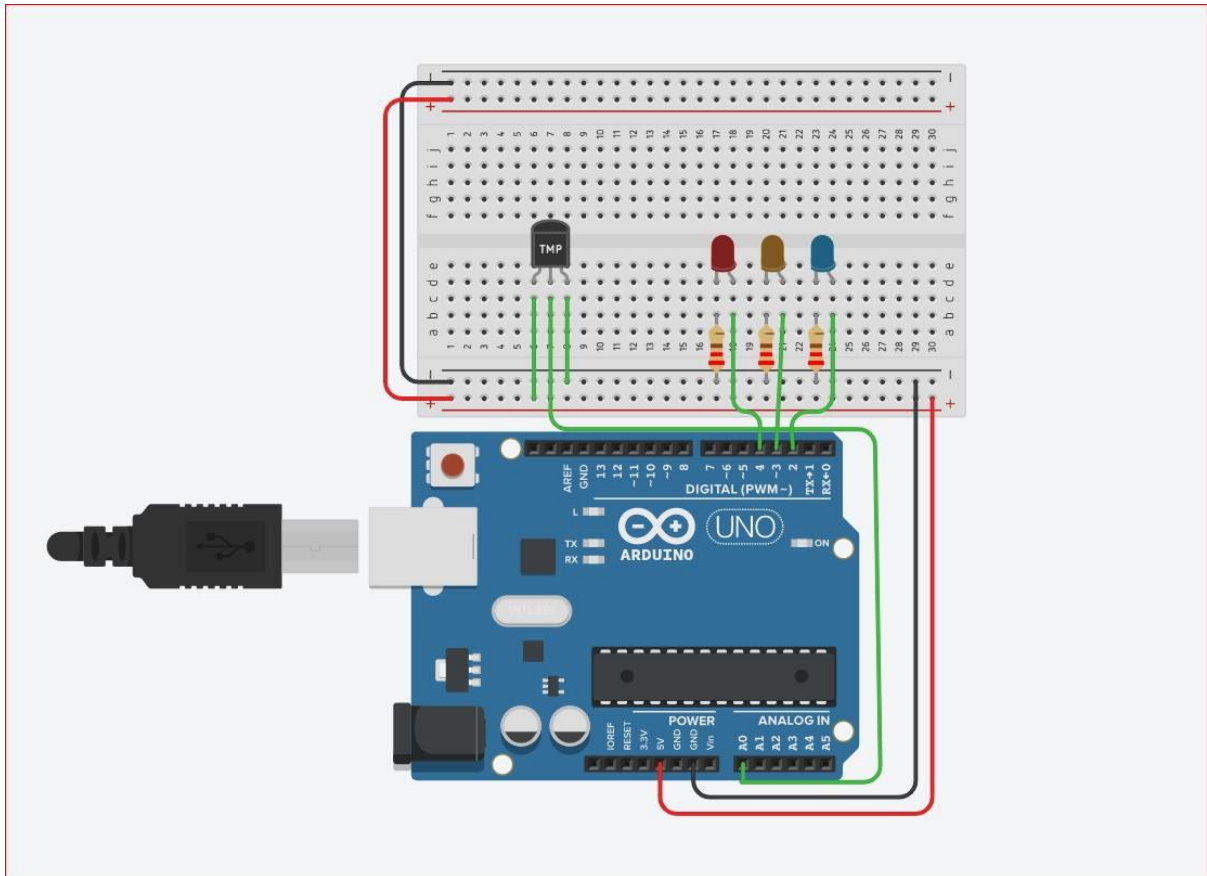
```

const int led=10;

```

```
void setup() {  
  Serial.begin(9600);  
  pinMode(led,OUTPUT);  
}  
void loop() {  
  int d= analogRead(A0);  
  float voltage = d * (5.0 / 1023.0);  
  Serial.println("voltage= ");  
  Serial.println(voltage);  
  delay(100);  
  if(voltage>=3)  
  {  
    digitalWrite(led, HIGH);  
    delay(100);  
  }  
  else  
  {  
    digitalWrite(led, LOW);  
    delay(100);  
  }  
}
```

5.temperature sensor



CODE

```
int baselineTemp = 0;

int celsius = 0;

int fahrenheit = 0;

void setup()
{
  pinMode(A0, INPUT);
  pinMode(2, OUTPUT);
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
}

void loop()
{
  baselineTemp = 40;
```

```
celsius = map(((analogRead(A0) - 20) * 3.04), 0, 1023, -40, 125);
```

```
fahrenheit = ((celsius * 9) / 5 + 32);
```

```
if (celsius < baselineTemp) {
```

```
    digitalWrite(2, LOW);
```

```
    digitalWrite(3, LOW);
```

```
    digitalWrite(4, LOW);
```

```
}
```

```
if (celsius >= baselineTemp && celsius < baselineTemp + 10) {
```

```
    digitalWrite(2, HIGH);
```

```
    digitalWrite(3, LOW);
```

```
    digitalWrite(4, LOW);
```

```
}
```

```
if (celsius >= baselineTemp + 10 && celsius < baselineTemp + 20) {
```

```
    digitalWrite(2, HIGH);
```

```
    digitalWrite(3, HIGH);
```

```
    digitalWrite(4, LOW);
```

```
}
```

```
if (celsius >= baselineTemp + 20 && celsius < baselineTemp + 30) {
```

```
    digitalWrite(2, HIGH);
```

```
    digitalWrite(3, HIGH);
```

```
    digitalWrite(4, HIGH);
```

```
}
```

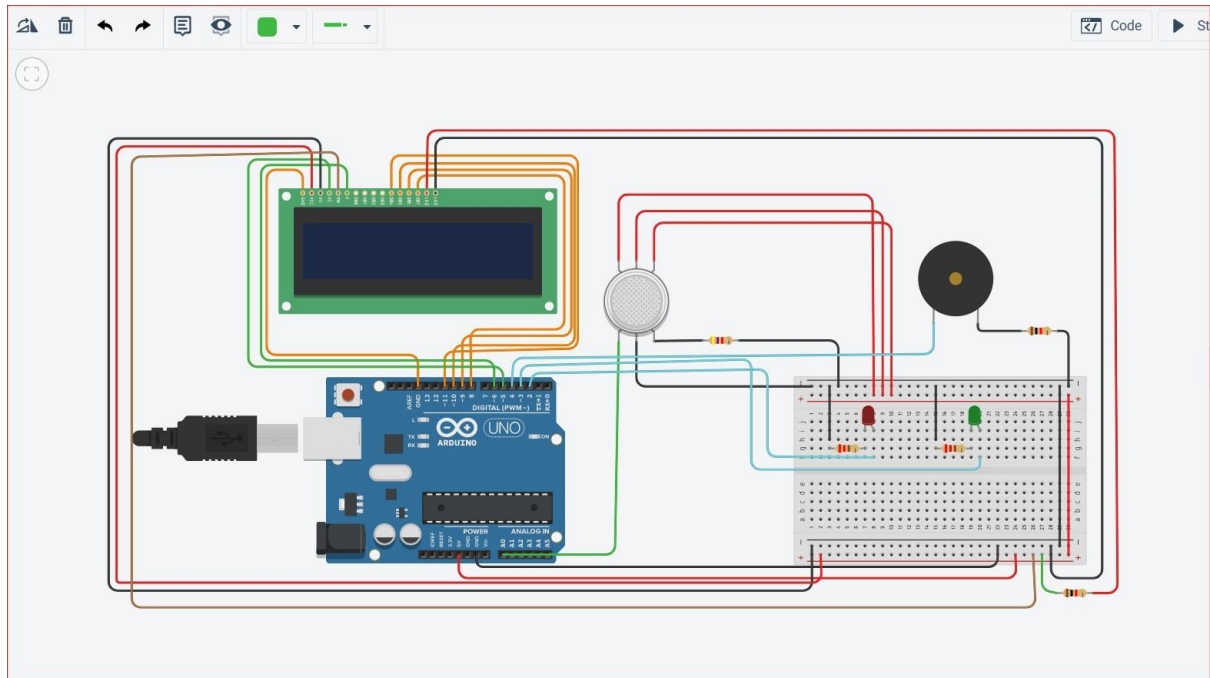
```
if (celsius >= baselineTemp + 30) {
```

```
    digitalWrite(2,HIGH);
```



```
}  
  
}
```

6.GAS SENSOR



CODE

```
#include <LiquidCrystal.h>  
  
LiquidCrystal lcd(5,6,8,9,10,11);  
  
int redled = 2;  
int greenled = 3;  
int buzzer = 4;  
int sensor = A0;  
int sensorThresh = 400;  
void setup()  
{  
  pinMode(redled, OUTPUT);  
  pinMode(greenled,OUTPUT);
```

```
pinMode(buzzer,OUTPUT);
pinMode(sensor,INPUT);
Serial.begin(9600);
lcd.begin(16,2);
}
void loop()
{
  int analogValue = analogRead(sensor);
  Serial.print(analogValue);
  if(analogValue>sensorThresh)
  {
    digitalWrite(redled,HIGH);
    digitalWrite(greenled,LOW);
    tone(buzzer,1000,10000);
    lcd.clear();
    lcd.setCursor(0,1);
    lcd.print("ALERT");
    delay(1000);
    lcd.clear();
    lcd.setCursor(0,1);
    lcd.print("EVACUATE");
    delay(1000);
  }
  else
  {
    digitalWrite(greenled,HIGH);
    digitalWrite(redled,LOW);
```

```

noTone(buzzer);

lcd.clear();

lcd.setCursor(0,0);

lcd.print("SAFE");

delay(1000);

lcd.clear();

lcd.setCursor(0,1);

lcd.print("ALL CLEAR");

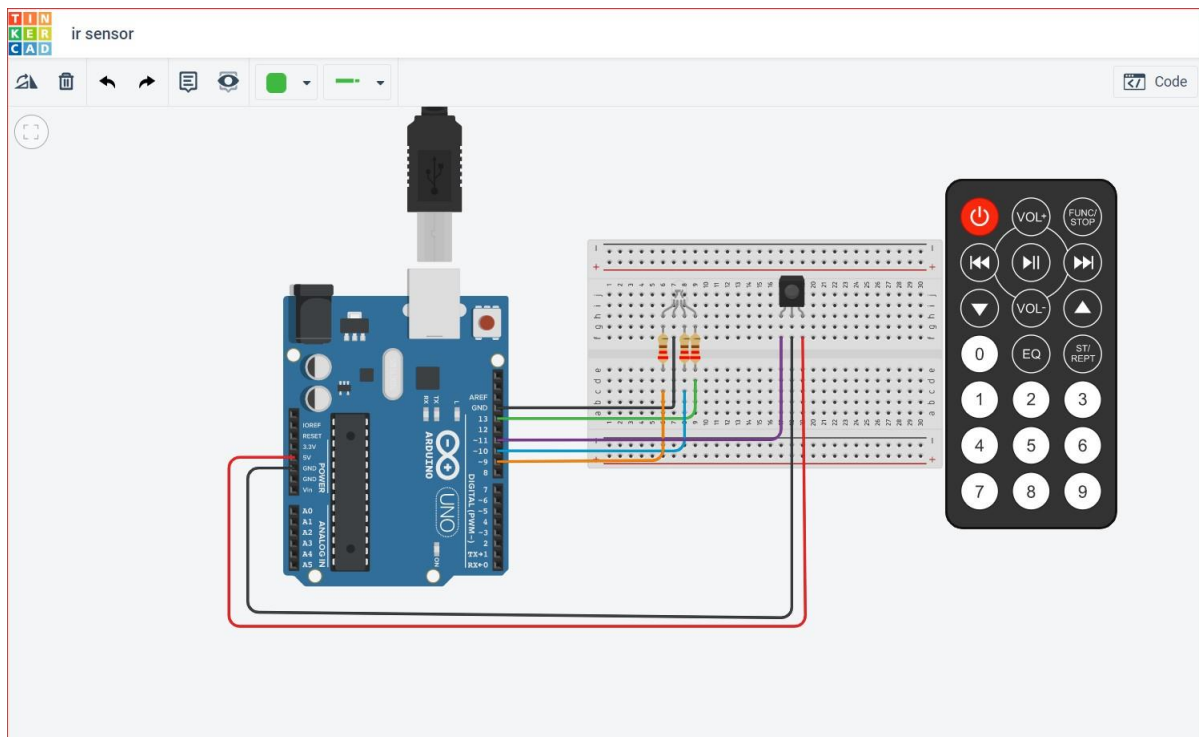
delay(1000);

}

}

```

7.IR SENSOR



CODE

```
#include <IRremote.h>
```

```
int red=9;
int green=13;
int blue=10;
int RECV_PIN = 11;
IRrecv irrecv(RECV_PIN);
decode_results results;

void setup()
{
  pinMode(red,OUTPUT);
  pinMode(blue,OUTPUT);
  pinMode(green,OUTPUT);
  Serial.begin(9600);
  irrecv.enableIRIn(); // Start the receiver
}

void loop() {
  if (irrecv.decode(&results)) {
    Serial.println(results.value, HEX);
    irrecv.resume(); // Receive the next value

    if(results.value==0xFD08F7){
      digitalWrite(red,HIGH);
      digitalWrite(green,LOW);
      digitalWrite(blue,LOW);
    }

    else if(results.value==0xFD48B7){
      digitalWrite(red,LOW);
      digitalWrite(green,LOW);
```

```
    digitalWrite(blue,HIGH);  
  }  
  else if(results.value==0xFD8877){  
    digitalWrite(red,LOW);  
    digitalWrite(green,HIGH);  
    digitalWrite(blue,LOW);  
  }  
}  
delay(100);  
}
```