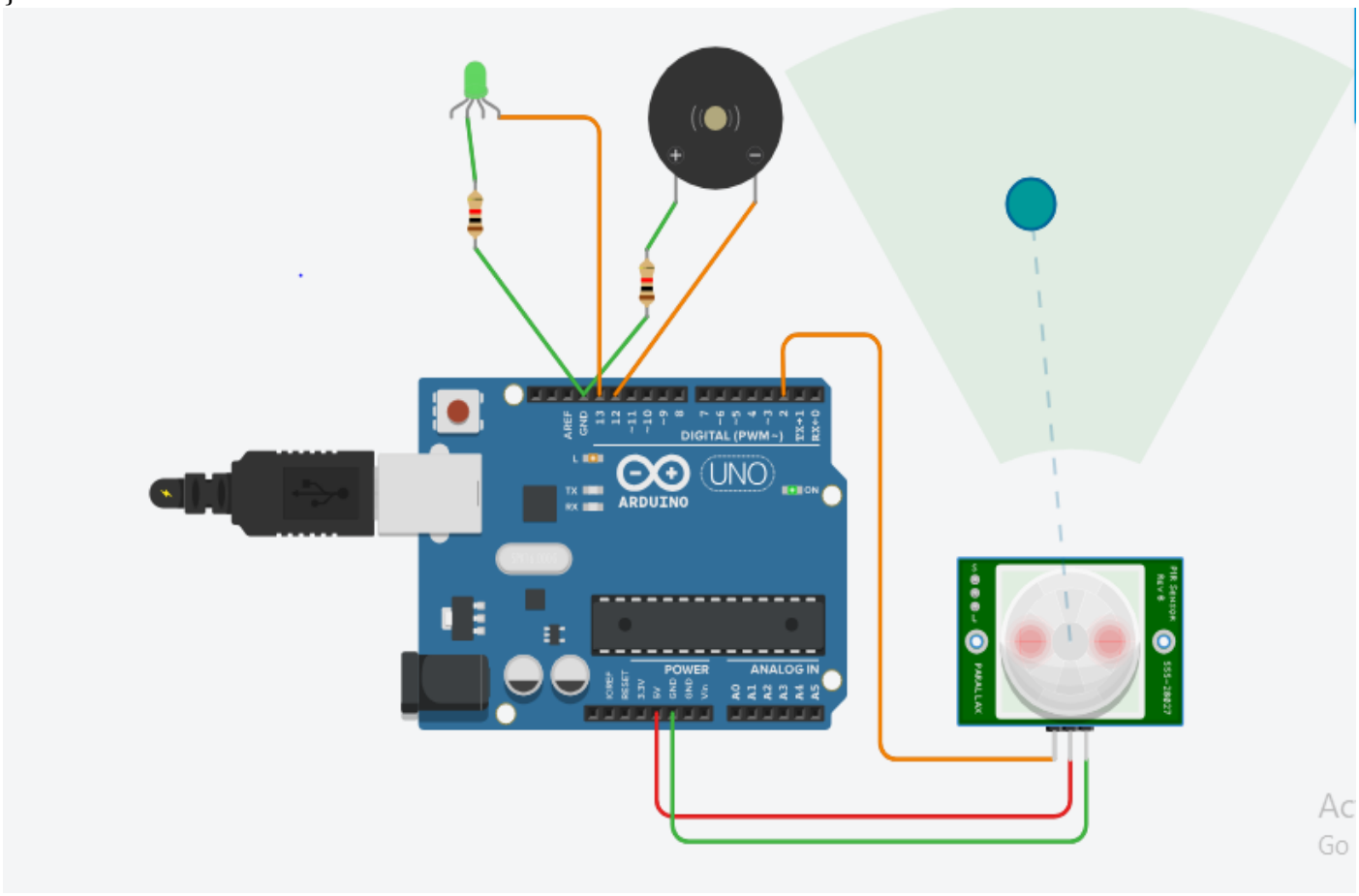
Problem statement: - Understanding the connectivity of Arduino with IR sensor. Write an application to detect obstacle & notify user using LED's.

Code:

```
// C++ Code
//
int pirsensor = 0;
void setup()
{
  pinMode (2, INPUT);
    pinMode (12, OUTPUT);
          pinMode (13, OUTPUT);
}
void loop()
{
  pirsensor = digitalRead(2);
  if (pirsensor == HIGH)
  {
          //glow led
          digitalWrite(13,HIGH);
          // RING BUZZER
          tone(12,500,500);
  }
digitalWrite(13, LOW);
/*digitalWrite(LED BUILTIN, HIGH);
delay(1000);// wait for 1000 milisecond(s)
digitalWrite(LED BUILTIN, LOW);
delay(1000);// wait for 1000 milisecond(s)*/
}
```



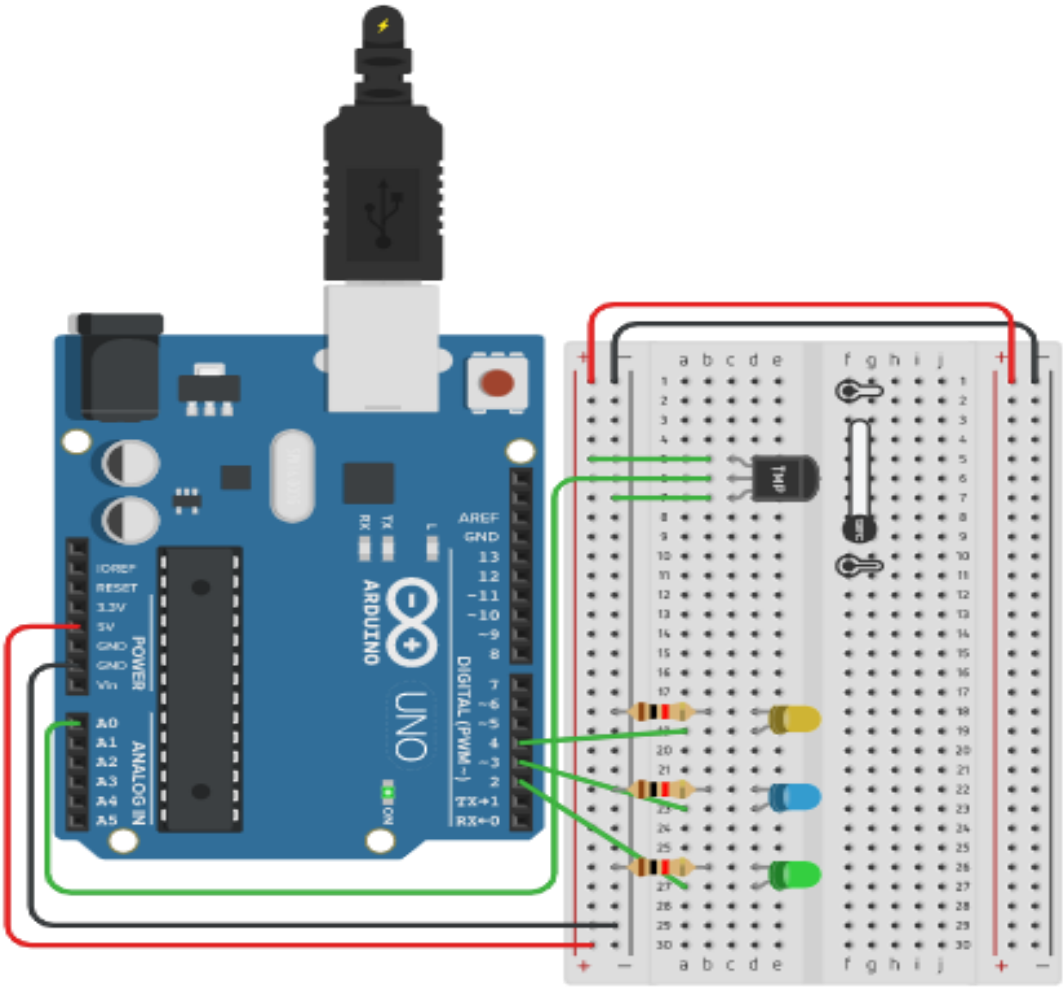
Problem statement:-Understanding the Connectivity of Arduino with temperature sensor. Write an application to read the environment temperature if temperature crosses a threshold Value generates alerts using LED's.

Code:

```
int baselineTemp = 0;
int celsius = 0;
int fahrenheit = 0;
void setup()
{
  pinMode(A0, INPUT);
  Serial.begin(9600);

  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);
  Serial.print(celsius);
  Serial.print(" C, ");
  Serial.print(fahrenheit);
  Serial.println(" F");
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);
    digitalWrite(3, HIGH);
    digitalWrite(4, HIGH);
  }
  delay(1000);
}
```


ARDUINO
UNO
POWER
ANALOG IN
DIGITAL (PWM~)
TMP