UNIVERSITY OF INFORMATION TECHNOLOGY & SCIENCES

(UITS)

ASSIGNMENT
on
INTERNET OF THINGS LAB

⮜Submitted To⮞

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FAZLAY RABBI

- Department ⇨ CSE
- ID ⇨ 2125051070
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- Batch ⇨ 50
- Section ⇨ 7B1
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Signature

1. Gas Sensor

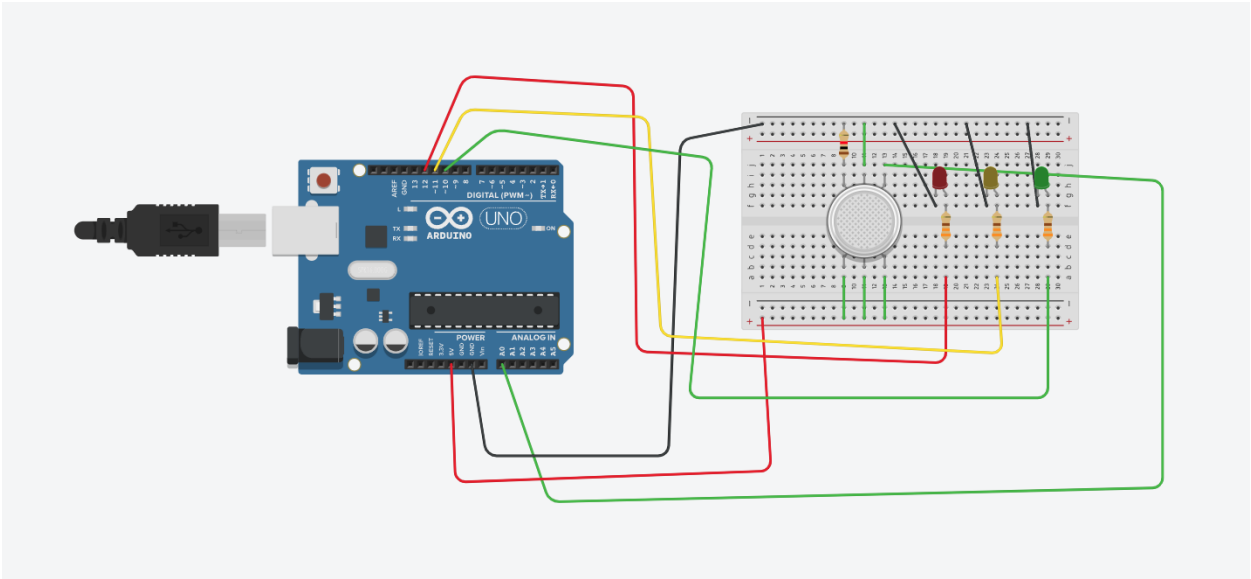
Title: Take input from a gas sensor. Show the sensor value on LCD and serial monitor.

Necessary Equipment:

1. Arduino UNO R3
2. Breadboard
3. 330 Ohm resistor
4. 3 LED
5. Gas sensor

Objectives:

Based on the sensor value, you have to turn on 3 LEDs.
If the sensor value is less than 100, turn on green led
If the value is Between 100 and 200,turn yellow led
If it is greater than200, turn on red led.



Code:

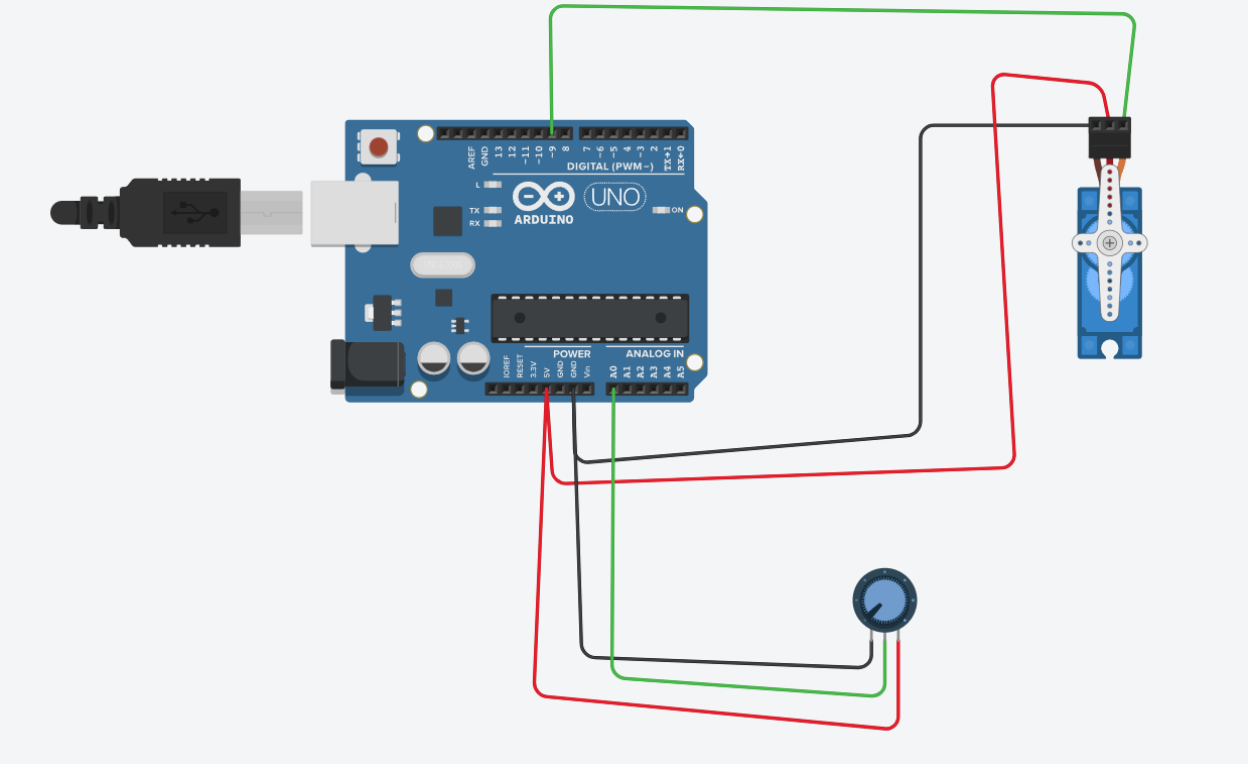
```
int LED_RED=12;
int LED_GREEN=10;
int LED_YELLOW=11;

void setup(){
  pinMode(A0,INPUT);
  pinMode(LED_YELLOW, OUTPUT);
  pinMode(LED_RED, OUTPUT);
  pinMode(LED_GREEN, OUTPUT);
  Serial.begin(9600);
}
void loop(){
  int GasSennsorValue=analogRead(A0);
  Serial.println(GasSennsorValue);
  delay(1000);

  if(GasSennsorValue>200){
    digitalWrite(LED_RED,HIGH);
    digitalWrite(LED_GREEN,LOW);
    digitalWrite(LED_YELLOW,LOW);
  }
  else if(GasSennsorValue<=200 && GasSennsorValue>=100){
    digitalWrite(LED_RED,LOW);
    digitalWrite(LED_GREEN,LOW);
    digitalWrite(LED_YELLOW,HIGH);
  }
  else if(GasSennsorValue <100){
    digitalWrite(LED_RED,LOW);
    digitalWrite(LED_GREEN,HIGH);
    digitalWrite(LED_YELLOW,LOW);
  }
  else{
    digitalWrite(LED_RED,LOW);
    digitalWrite(LED_GREEN,LOW);
    digitalWrite(LED_YELLOW,LOW);
  }
}
```

2. Control a servo motor with potentiometer

Title: Take input from a potentiometer to Control a servo motor

Necessary Equipment:

1. Arduino UNO R3
2. Potentiometer
3. Servo motor



Code:

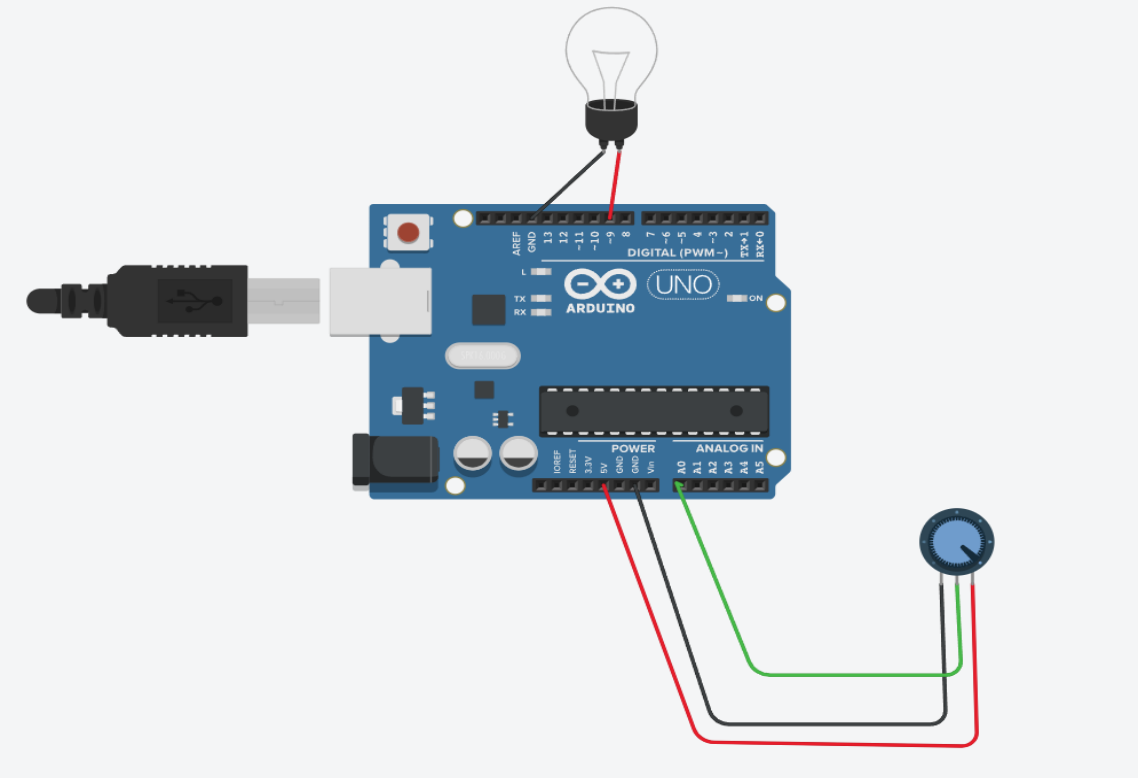
```
#include <Servo.h>
Servo servo;
void setup(){
  pinMode(A0,INPUT);
  servo.attach(9);
}
void loop(){
  int sensorVal=analogRead(A0);
  int output=map(sensorVal,0,1023,0,180);
  servo.write(output);
 }
```

3. Control the brightness of a light bulb with potentiometer

Title: Take input from a potentiometer to Control the brightness of a light bulb

Necessary Equipment:

1. Arduino UNO R3
2. Potentiometer
3. Bulb



Code:

```
void setup(){
  pinMode(9, OUTPUT);
  pinMode(A0, INPUT);
}
void loop(){
  int sensorVal=analogRead(A0);
  int outputValue=map(sensorVal,0,1023,0,355);
  analogWrite(9,outputValue);
}
```