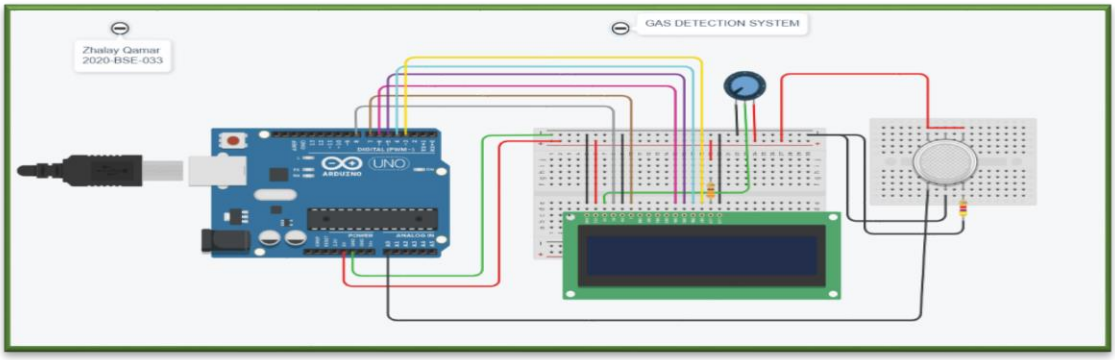
ASSIGNMENT # 02

GAS DETECTION SYSTEM USING AURDINO



Your Name:

Zhalay Qamar

Registration No:

XYZ

Date:

XYZ

Subject:

Embedded System

Semester:

XYZ

Submitted To:

XYZ

INTRODUCTION

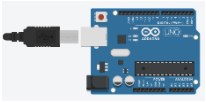
A gas detection system using Arduino is an electronic device designed to detect the presence of specific gases in the surrounding environment. It employs various sensors to monitor gas levels and alerts users when gas concentrations exceed predefined thresholds, helping to prevent potential hazards such as leaks or exposure to harmful gases.

DETAIL BREAKDOWN

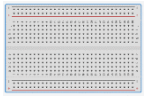
EQUIPEMENTS:

1. Gas Sensor

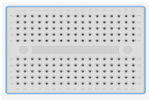
2. Aurdino Uno R3



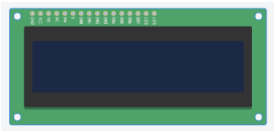
3. Breadboard



4. Mini Breadboard

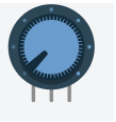


5. LCD 16*2



6. Two Resistor (One-Led, One-Gas Sensor)

7. Potentiometer



WORKING:

- Connect the LCD with the 5V of VCC to the breadboard, Second Pin connect gng pin to the breadboard wire.
- Now connect LCD ground pin to ground, Vcc pin connect to Vcc, also connect ground pin connect to ground.
- Vcc pin connect to led here is a led anode and led cathode, resistance connect to LED anode pin and change the value of resistance and change value of resistance 330 Ohm and connect to VCC.

Potentiometer:

- Firstly, the terminal connect to ground then second terminal connect to Vcc and in last middle Pin connect to V0 pin of LCD.
- Now RS pin connect to the 8 pin of aurdino then second iwp in connect to ground keep in connect to seven pin of aurdino g0 d1 d2 d3 is not connect d4 pin g4 pin the 4 pin

connects to 6 pin of aurdino5 pin of aurdino d6 pin connect to 4 pin of aurdino d7 pin connect to 3 pin of aurdino lcds connection is completed.

Gas Sensor:

- Connect the gas sensor to the aurdino, a3 pin a1 h1 and a2 connected to the VCC pin of aurdino.
- Connect VCPC pin to Vcc then second pin also connect to vcc, V1 pin connect to a0 of aurdino a zero pin of aurdino connect to a0.
- Now connect a0 this pin h1 pin connect to the ground of the aurdino, connect round pin to the gas sensor, third V2 pin connect to the resistance and the resistance value is 4.7kilo ohm set to second pin connect to the ground of the aurdino.

CODE:

Gas Sensor Detect:

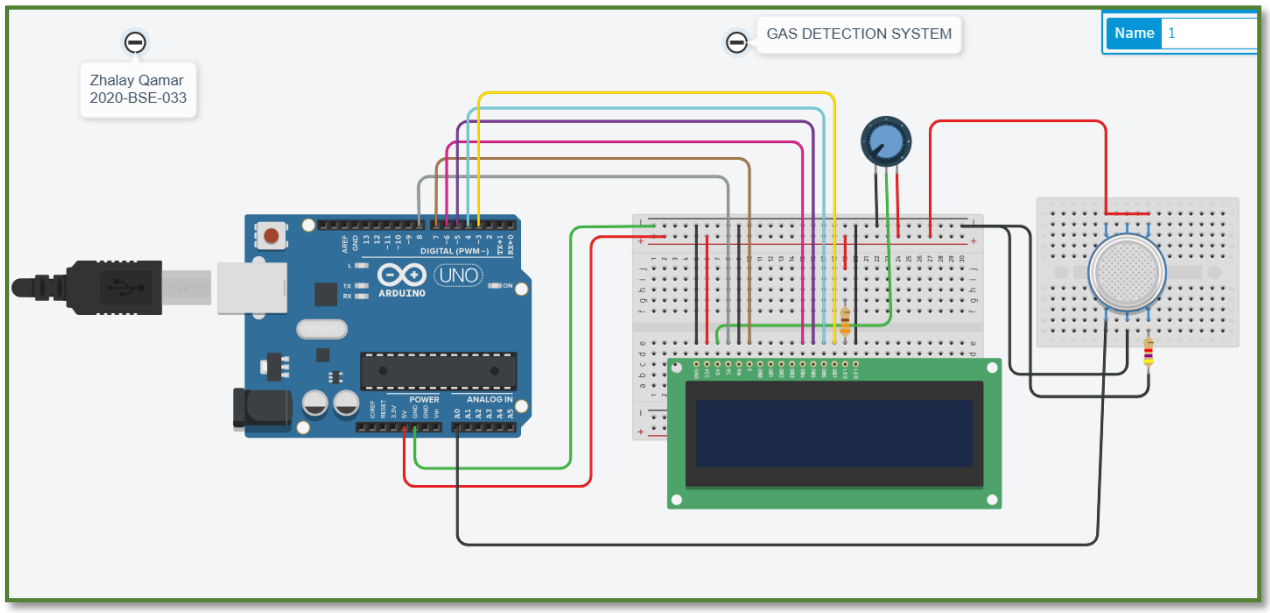
```
#include <LiquidCrystal.h>
LiquidCrystal lcd(8,7,6,5,4,3);


int LDR_VAL = 0;
void setup()
{
  pinMode(A0,INPUT);
  Serial.begin(9600);
  lcd.begin(16,2);
  lcd.setCursor(0,0);
  lcd.print("GAS SENSOR");
}
void loop()
{
  LDR_VAL = analogRead(A0);
  Serial.println(LDR_VAL);
  lcd.setCursor(0,1);
  lcd.print(LDR_VAL);
  delay(10);
}
```

Gas Detected/ Gas Not-Detected:

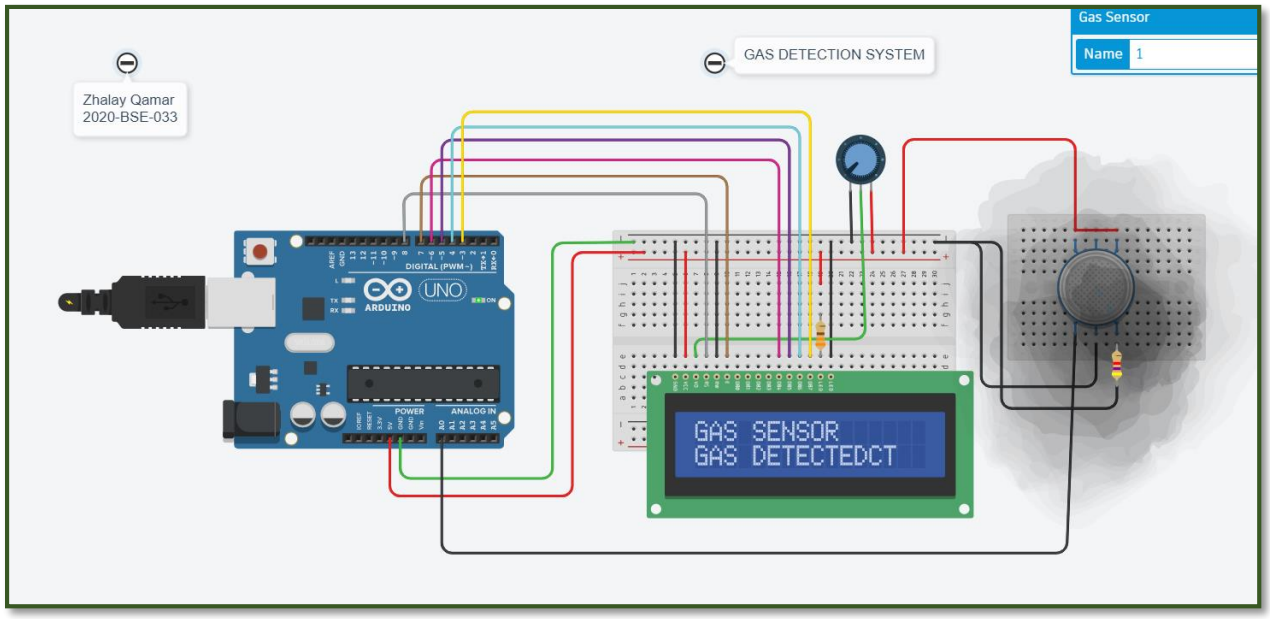
```
#include <LiquidCrystal.h>
LiquidCrystal lcd(8,7,6,5,4,3);
int LDR_VAL = 0;
void setup()
{
pinMode(A0,INPUT);
Serial.begin(9600);
lcd.begin(16,2);

lcd.setCursor(0,0);
lcd.print("GAS SENSOR")
}
void loop()
{
 LDR_VAL = analogRead(A0);
 Serial.println(LDR_VAL);
 if (LDR_VAL > 500)
 {
  lcd.setCursor (0,1);
  lcd.print ("GAS DETECTED");
 }
 else
 {
  lcd.setCursor(0,1);
  lcd.print ("GAS NOT DETECT");
 }
 delay(10);
}
```

OUTPUT

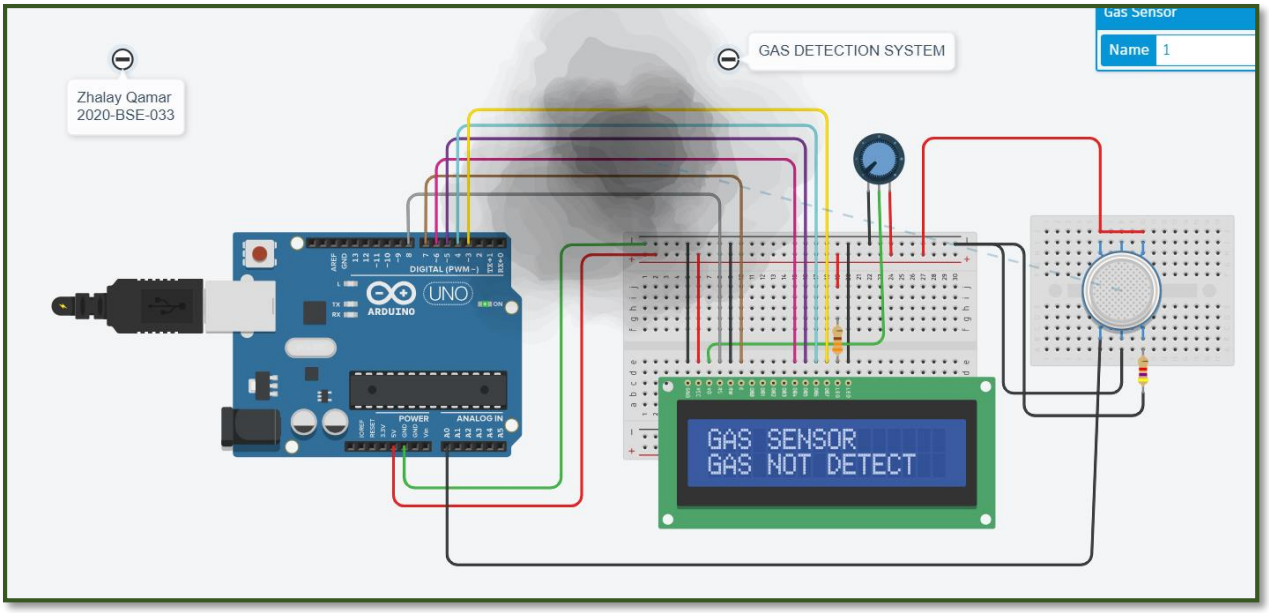
Gas Sensor:



Gas Detected:



Gas Not Detected:


Zhalay Qamar
2020-BSE-033
GAS DETECTION SYSTEM
Gas Sensor
Name 1
GAS SENSOR
GAS NOT DETECT