Daffodil International University

Submitted To

Nusrat Jahan

Senior Lecturer

Dept. of CSE

Lab Report
on
Gas Detector

Submitted By

Md. Abdullah Al Fuad
ID : 203-15-14502
Section : o2 (B)
Dept. of CSE

Submitted By

Tasnim Umaer Tisha
ID : 203-15-14520
Section : o2 (B)
Dept. of CSE

Submitted By

Naima Uddin
ID : 203-15-14547
Section : o2 (B)
Dept. of CSE

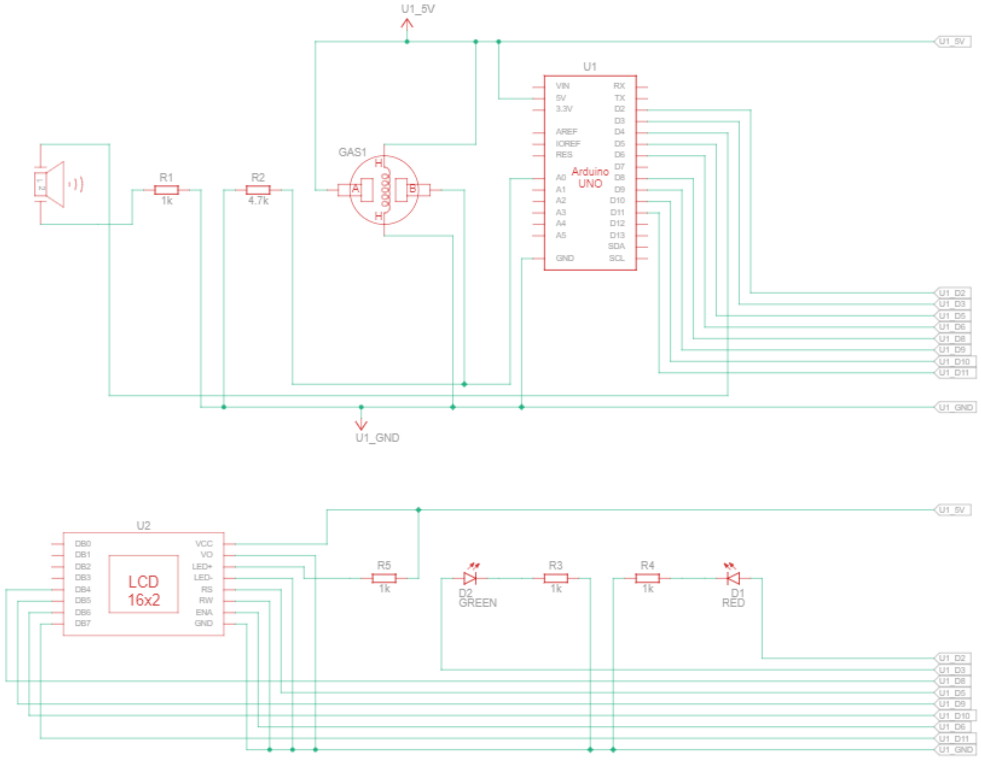
Introduction:

Gas detector is a digital device which helps to detect what kind of gas is available in the atmosphere around us. It can detect different types of gas at different frequencies and show different outputs.

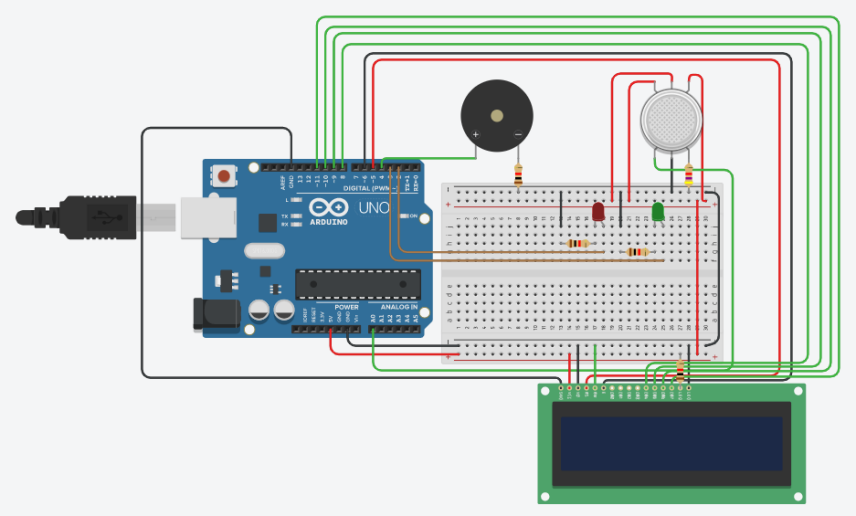
Name of instruments:

1. Gas sensor (one)
2. Resistors (four)
3. Buzzer (one)
4. LCD (16x2) display (one)
5. Arduino Uno R3 (one)
6. LED (two)
7. Wires (a lot)
8. BreadBoard (one)

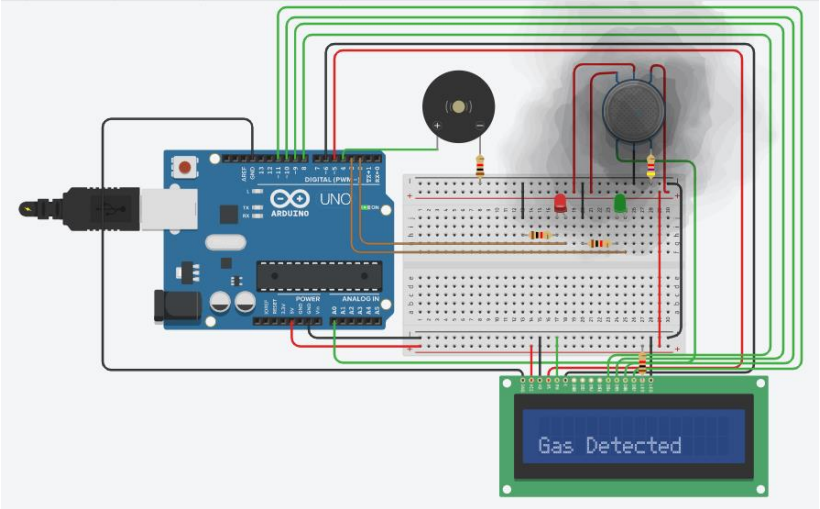
Logic diagram :



Before execution:



After execution:



1. We took the bread board and connected both LEDs with it and connected 2 resistors with them and got power and ground from Arduino Uno R3.
2. Then we connected a buzzer and a gas sensor with resistors through the breadboard to the arduino.
3. Gas sensor needed a 4.7 kilo ohm resistor to detect a special type of gas.
4. Then we connected the LCD (16x2) display with the arduino and we used the DB4, DB5, DB6, DB7 bits to show our massages.
5. Finally, we had to code the logic to make the device as it should be.

Advantages:

1. Using this device we can detect what kind of gas is in our atmosphere.
2. It can be used to detect fire.
3. Easy to access (low cost)
4. It can be used to detect harmful gas around us.

Disadvantages:

1. Gas has to be really close to the sensor for the device to work properly.
2. Harder to understand properties.

Time/Cost :

5 resistors cost 5*5 = 25 taka
2 LEDs cost 2x5 = 10 taka
Breadboard cost 70 taka
Gas sensor cost 155 taka
Wire cost 20 taka
Buzzer cost 75 taka
Arduino Uno R3 cost 940 taka
LCD (16x2) display cost 220 taka
Total cost 1515 taka

To build this device it took almost an hour because of the complex connection and the coding part.

Project link:

https://www.tinkercad.com/things/7KPqrlMClTh-amazing-gogo/editel?sharecode=VNiuizIA9_uD6IBT0_BVzyTPn8yocg_wZgPKCzPfusk

Video Link :

https://drive.google.com/file/d/1WvbFqfuJKRNZiRzjkqDvmjDRmH9LsVGw/view?usp=sharing