Task: 7 **DETECTING GAS EMISSION USING**

25.03.2022 **GAS SENSOR**

Problem definition:

The gas sensor are electronic devices that detect and identify different types of gasses. This sensor commonly used to detect toxic or explosive gasses and measuring gas concentration using Arduino UNO Board and buzzer.

Tools used:

Software - Arduino

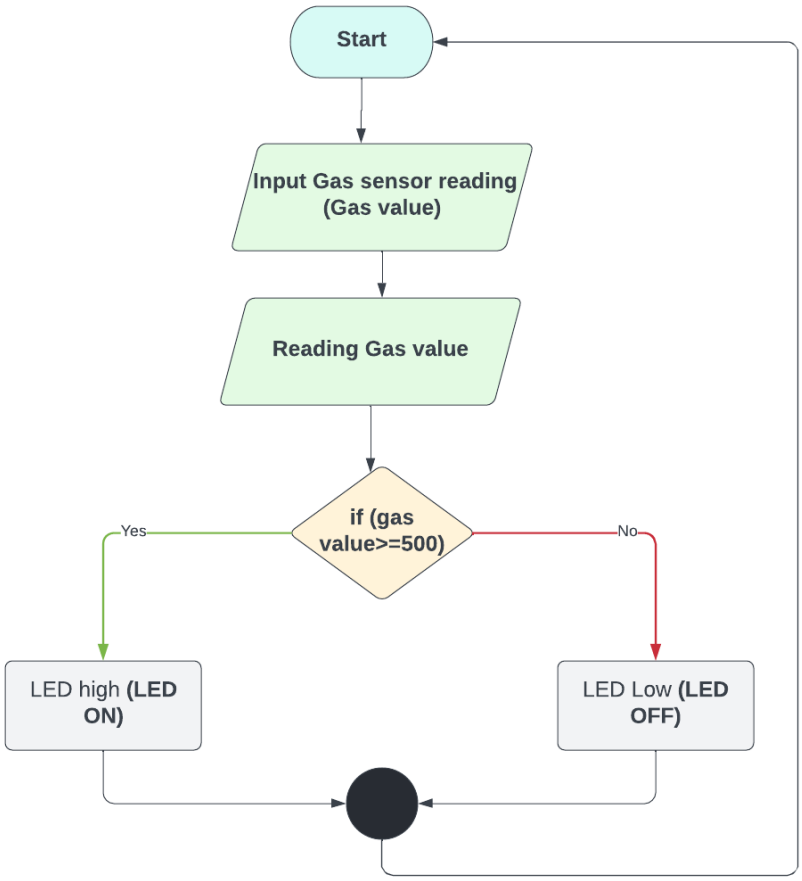
Hardware –Buzzer and Gas sensor

Board - Arduino UNO

Sensor description:

A gas sensor is a device that senses the atmosphere's presence or concentration of gases. The sensor creates a corresponding potential difference depending on the concentration of the gas by adjusting the resistance of the material within the sensor, which can be determined as the output voltage.

Flowchart:



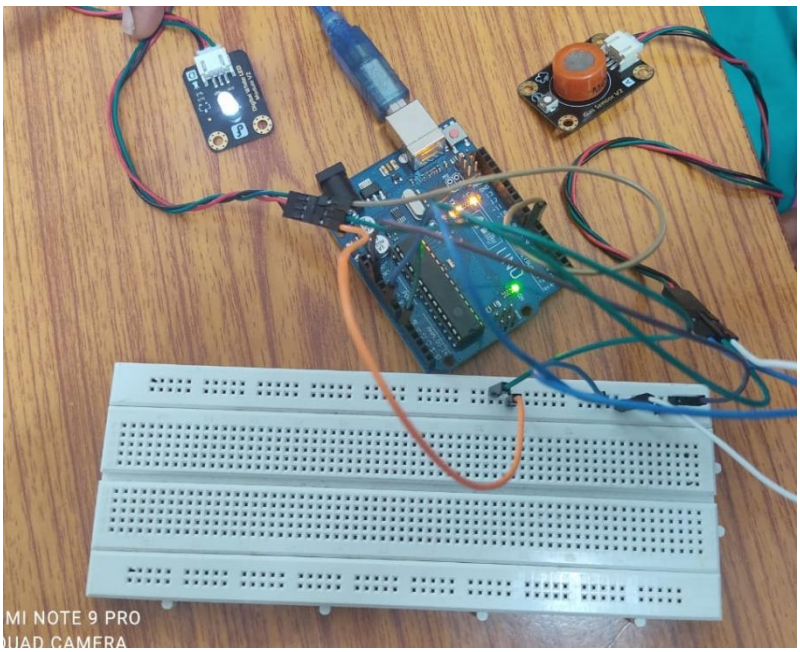
Source Code:

```
const int led=13;
const int gassensor = A0;

void setup () {
  Serial.begin(9600);
  pinMode(led, OUTPUT);
  pinMode(gassensor, INPUT);
}

void loop() {
  int value=analogRead(gassensor);
```

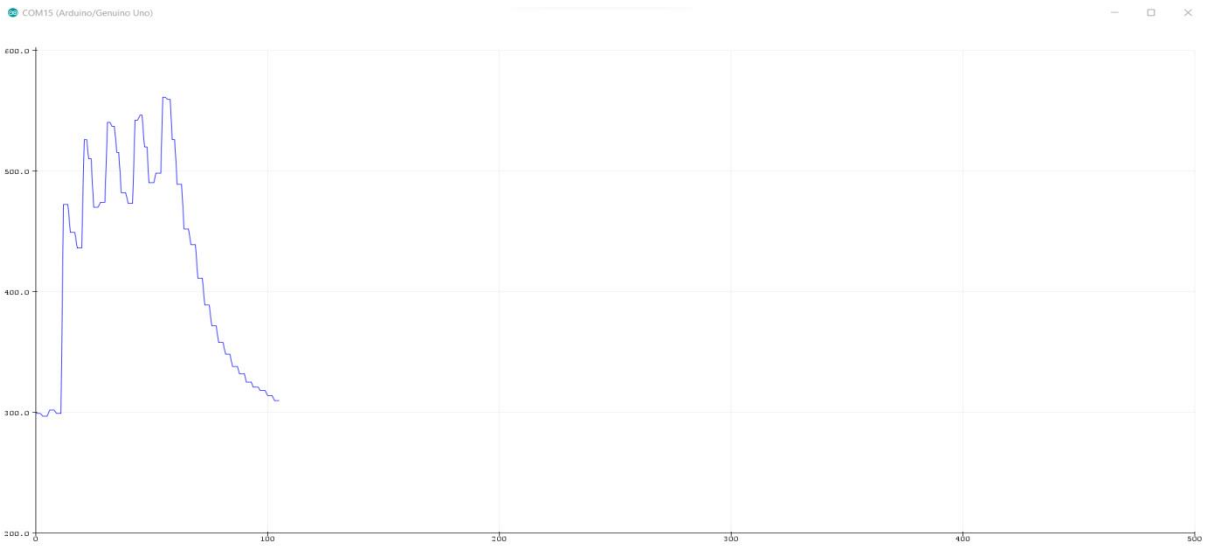
```
  Serial.println(value);
  if(value >= 500){
    digitalWrite(led,HIGH);
    int plot = value;
    Serial.println(plot);
    delay(1000);
  }
  else if(value < 500){
    digitalWrite(led,LOW);
    Serial.println(value);
    int plot = value;
    Serial.println(plot);
    delay(1000);
  }
}
```

Sample input and output:

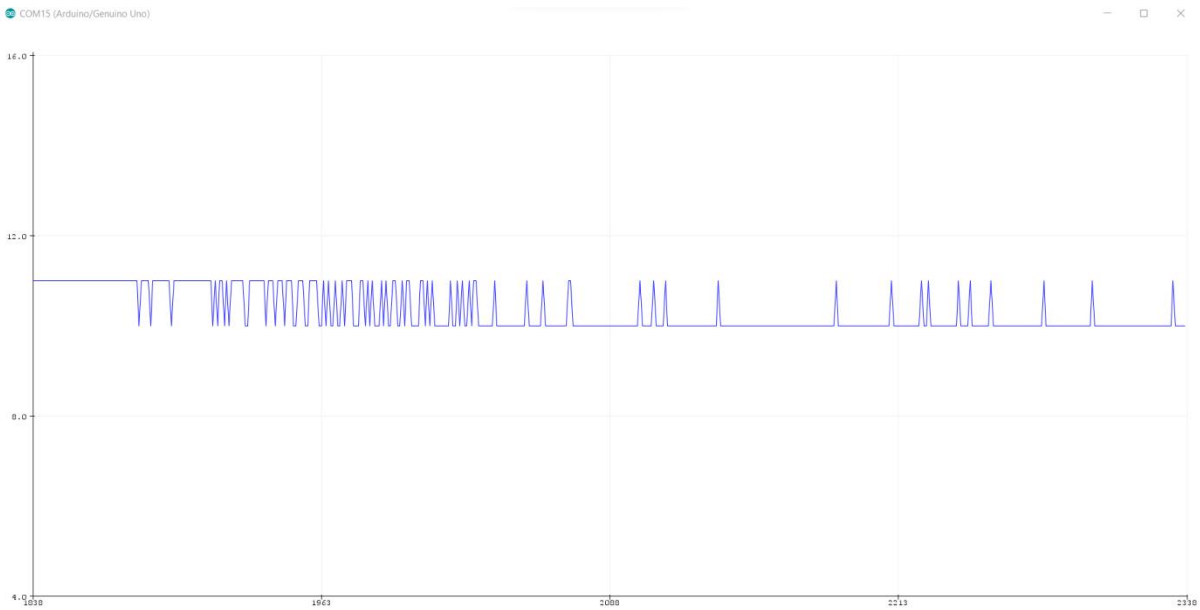
When gas is detected by the sensor.



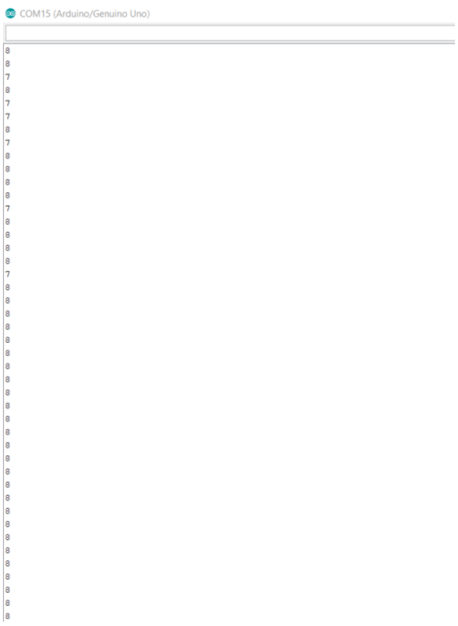
Serial plotter output of gas sensor:



Serial monitor output of gas sensor:



Monitor Output:



Real time application:

1. Gas sensor are employed in factories and manufacturing facilities to identify gas leaks, and to detect smoke and carbon monoxide in homes.
2. Gas sensors are electronic devices that detect and identify different types of gases. The are commonly used to detect toxic or explosive gasses and measure gas concentration.

Conclusion:

Hence, the amount of gas emission and the amount of gas which has been emitted will be calculated using Arduino and based on the gas emission value the buzzer sound has been set.