

SPRINT-IV

Date	16 NOVEMBER 2022
Team ID	PNT2022TMID14037
Project Name	Gas Leakage Monitoring and Alerting System

Gas Leakage monitoring & Alerting system for Industries

```
#include <LiquidCrystal.h>
```

```
LiquidCrystal lcd(6, 7, 8, 9, 10, 11);  
float gasPin = A0;  
float gasLevel;  
int ledPin = 2;  
int buttonPin = 3;  
int buzzPin = 4;  
int buttonState;  
int fan = 5;
```

```
void setup(){  
  pinMode(ledPin, OUTPUT);  
  pinMode(buttonPin, INPUT);  
  pinMode(gasPin,INPUT);  
  pinMode(fan,OUTPUT);  
  Serial.begin(9600);  
  lcd.begin(16, 2);  
  lcd.setCursor(0,0);  
  lcd.print(" Welcome");  
  lcd.setCursor(0,2);  
  lcd.print(" Youtube");  
  delay(500);  
  lcd.clear();  
}
```

```
void loop(){  
  // Read the value from gas sensor and button  
  gasLevel = analogRead(gasPin);  
  buttonState = digitalRead(buttonPin);  
  
  // call the function for gas detection and button work  
  gasDetected(gasLevel);  
  buzzer(gasLevel);
```

```

    exhaustFanOn(buttonState);
}

// Gas Leakage Detection & Automatic Alarm and Fan ON
void gasDetected(float gasLevel){
    if(gasLevel >= 300){
        digitalWrite(buzzPin,HIGH);
        digitalWrite(ledPin,HIGH);
        digitalWrite(fan,HIGH);
        lcd.setCursor(0,0);
        lcd.print("GAS:");
        lcd.print(gasLevel);
        lcd.setCursor(0,2);
        lcd.print("FAN ON");
        delay(1000);
        lcd.clear();
    }else{
        digitalWrite(ledPin,LOW);
        digitalWrite(buzzPin,LOW);
        digitalWrite(fan,LOW);
        lcd.setCursor(0,0);
        lcd.print("GAS:");
        lcd.print(gasLevel);
        lcd.setCursor(0,2);
        lcd.print("FAN OFF");
        delay(1000);
        lcd.clear();
    }
}

//BUZZER
void buzzer(float gasLevel){
    if(gasLevel>=300)
    {
        for(int i=0; i<=30; i=i+10)
        {
            tone(4,i);
            delay(400);
            noTone(4);
            delay(400);
        }
    }
}

// Manually Exhaust FAN ON
void exhaustFanOn(int buttonState){
    if(buttonState == HIGH){
        digitalWrite(fan,HIGH);
        lcd.setCursor(0,0);

```

```
lcd.print("Button State:");  
lcd.print(buttonState);  
lcd.setCursor(0,2);  
lcd.print("FAN ON");  
delay(10000);  
lcd.clear();  
}  
}
```