

#### SPRINT 4

<b>Team ID</b>	<b>PNT2022TMID19009</b>
<b>Project Name</b>	<b>Gas leakage monitoring and alerting system for Industries</b>

```
#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(){  
  gasLevel = analogRead(gasPin);  
  buttonState = digitalRead(buttonPin);  
  
  gasDetected(gasLevel);  
  buzzer(gasLevel);  
  exhaustFanOn(buttonState);  
}
```

```
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();
    }
}
}

```