**Team ID:** PNT2022TMID02412

**Project:** Gas Leakage Monitoring and Alerting System for Industries.

# Final Code:

#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("PNT2022TMID33446");

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 >= 200){

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(100);

lcd.clear();

}

}

//BUZZER

void buzzer(float gasLevel){ if(gasLevel>=200)

{

for(int i=0; i<=30; i=i+10)

{

tone(4,i); delay(300); noTone(4); delay(4300);

}

}

}

// 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();

}

}

# Output: