

**TEAM ID: PNT2022TMID45791**

**PROJECT DEVELOPMENT PHASE**  
**SPRINT-4**

```
#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();
    }
}
}

```

