

Sprint 3

Team ID	PNT2022TMID26613
Project Name	Gas Leakage Monitoring And 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();  
    }  
  }  
}
```