

# **GAS LEAKAGE MONITORING AND ALERT SYSTEM FOR INDUSTRIES PROJECT DEVELOPMENT PHASE**

**PROJECT ID : PNT2022TMID01812**

## **SPRINT - 3**

```
#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();

}

}

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();

    }
}
```

