GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

PROJECT DEVELOPMENT PHASE

PROJECT ID : PNT2022TMID16001

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();
  }}
```