GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

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SOURCE 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("PNT2022TMID19555");
  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();
  }
}
```