

PROJECT DEVELOPMENT PHASE

SPRINT 4

Team ID: PNT2022TMID33446

Project: Gas Leakage Monitoring and Alerting System for Industries.

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Final 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("PNT2022TMID33446");
  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();
}

}

```

Output:

