FINAL CODE

Team Id	**PNT2022TMID14393**
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Project Name	**Gas Leakage monitoring and Alerting system**

```
#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("GAS LEAKAGE SYSTEM");
                      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();
  }
}
```