```
#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("PNT2022TMID30535");
  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(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();
  }
}
```