

```
#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();

}

}

//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();

```

}

}