

```
#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();  
  
    }  
  
}
```