```
#include <LiquidCrystal.h>

LiquidCrystal lcd(6, 7, 8, 9, 10,
11); float gasPin1 = A0; float
gasLevel; int ledPin1 = 2; int
buttonPin1 = 3; int buzzPin1 = 4;
int buttonState1; int fan1 = 5;

void setup(){
 pinMode(ledPin1, OUTPUT);
 pinMode(buttonPin1,
 INPUT);
 pinMode(gasPin1,INPUT);
 pinMode(fan1,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(gasPin1); buttonState
  = digitalRead(buttonPin1);

 // 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(buzzPin1,HIGH);
 digitalWrite(ledPin1,HIGH);
 digitalWrite(fan1,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(ledPin1,LOW);
 digitalWrite(buzzPin1,LOW)
 ; digitalWrite(fan1,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 buttonState1){
 if(buttonState1 == HIGH){
   digitalWrite(fan1,HIGH);
   lcd.setCursor(0,0);
 lcd.print("Button State:");
   lcd.print(buttonState1);
   lcd.setCursor(0,2);
   lcd.print("FAN ON");
   delay(10000);
   lcd.clear();
 }
}
```