```
#include <LiquidCrystal.h>

LiquidCrystal lcd(6, 7, 8, 9, 10,
 11); float gasPin01 = A0; float
 gas_Level; int ledPin01 = 2; int
 buttonPin01 = 3; int buzzPin01 = 4;
 int button_State01; int fan01 = 5;

void setup(){
  pinMode(ledPin01, OUTPUT);
  pinMode(buttonPin01,
  INPUT);
  pinMode(gasPin01,INPUT);
  pinMode(fan01,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(gasPin01);  buttonState
  = digitalRead(buttonPin01);

  // call the function for gas detection and button work
  gasDetected(gas_Level);
  buzzer(gas_Level);
  exhaustFanOn(button_State01);
}

// Gas Leakage Detection & Automatic Alarm and Fan ON
void gasDetected(float gas_Level){ if(gas_Level >= 300){
digitalWrite(buzzPin01,HIGH);
digitalWrite(ledPin01,HIGH); digitalWrite(fan01,HIGH);

  lcd.setCursor(0,0);
  lcd.print("GAS:");
  lcd.print(gas_Level);
  lcd.setCursor(0,2); lcd.print("FAN
  ON"); delay(1000); lcd.clear();
  }else{
  digitalWrite(ledPin01,LOW);
  digitalWrite(buzzPin01,LOW) ;
  digitalWrite(fan01,LOW);
  lcd.setCursor(0,0);
  lcd.print("GAS:");
  lcd.print(gas_Level);
  lcd.setCursor(0,2); lcd.print("FAN
  OFF"); delay(1000); lcd.clear();
```

```
  }
}
//BUZZER void buzzer(float
 gas_Level){
if(gas_Level>=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
 button_State01){
 if(button_State01 == HIGH){
    digitalWrite(fan01,HIGH);
    lcd.setCursor(0,0);
  lcd.print("Button State:");
    lcd.print(button_State01);
    lcd.setCursor(0,2);
    lcd.print("FAN ON");
    delay(10000);
    lcd.clear();
  }
}
```