```
#include <LiquidCrystal.h>

LiquidCrystal lcd(6, 7, 8, 9, 10,
11); float gasPin01 = A0; float
gasLevel; int ledPin01 = 2; int
Button_Pin01 = 3; int buzz_Pin01 = 4;
int button_State01; int fan01 = 5;

void setup(){
 pinMode(ledPin01 , OUTPUT);
 pinMode(button_Pin01,
 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);
 // Button_State01= digitalRead(buttonPin);

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

// Gas Leakage Detection & Automatic Alarm and Fan ON
void gasDetected(float gasLevel){ if(gasLevel >= 300){
digitalWrite(buzz_Pin01,HIGH); digitalWrite(ledPin01
,HIGH); digitalWrite(fan01,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(ledPin01
 ,LOW);
 digitalWrite(buzz_Pin01,LOW) ;
 digitalWrite(fan01,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(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();
  }
}
```