```
#include <LiquidCrystal.h>

LiquidCrystal lcd(6, 7, 8, 9, 10,11);
float gas_one = A0;

float gasLevel;

int led_one = 2;

 int button_one = 3;

int buzz_one = 4;

 int button_one;

 int fan_one = 5;

void setup(){
  pinMode(led_one, OUTPUT);
  pinMode(button_one,
  INPUT);
  pinMode(gas_one,INPUT);
  pinMode(fan_one,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(gas_one);
  buttonState = digitalRead(button_one);
  // 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(buzz_one,HIGH);
  digitalWrite(led_one,HIGH);
  digitalWrite(fan_one,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(led_one,LOW);
  digitalWrite(buzz_one,LOW) ;
  digitalWrite(fan_one,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
button_one)
{
if(button_one == HIGH)
{
digitalWrite(fan_one,HIGH);
lcd.setCursor(0,0);
  lcd.print("Button State:");
    lcd.print(button_one);
    lcd.setCursor(0,2);
    lcd.print("FAN ON");
    delay(10000);
    lcd.clear();
  }
}
```