Design Development Phase
Sprint-1

Date	19 NOVEMBER 2022
Team ID	PNT2022TMID11027
Project Name	Gas Leakage Monitoring and Alerting System

Program:

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