```
#include <LiquidCrystal_I2C.h>

LiquidCrystal_I2C lcd(0x27,16,2);

int greenLEDpin = 12;
int delayT = 1000;
int BUZZERpin = 11;
int redLEDpin = 10;
 const int AOpin=A0;
int thresholdvalue=250;
int inputvalue=0;


void displayinLCD(int val,String message)
{
  String myPpm = "PPM "+String(val);
  String myMessage=message;
 //lcd.init();
  //lcd.clear();
  //lcd.backlight();      // Make sure backlight is on
   lcd.clear();
  // Print a message on both lines of the LCD.
  lcd.setCursor(0,0);   //Set cursor to character 2 on line
0
```

```
  lcd.print(myPpm);

  lcd.setCursor(0,1);   //Move cursor to character 2 on
line 1
  lcd.print(myMessage);
}
void turngreenled()
{
digitalWrite(greenLEDpin, HIGH);
//delay(delayT);
digitalWrite(redLEDpin, LOW);
//delay(delayT);
}
void ledblink()
{
digitalWrite(redLEDpin, HIGH);
delay(20);
digitalWrite(redLEDpin, LOW);
}
void turnredled()
{
  ledblink();
```

```
//digitalWrite(redLEDpin, HIGH);
//delay(delayT);
digitalWrite(greenLEDpin, LOW);
//delay(delayT);
}
void startbuzzer()
{
  //  tone(BUZZERpin, 10000,500);
  // delay(250);
  // noTone(BUZZERpin);
  // delay(250);
  digitalWrite(BUZZERpin, HIGH);
                    //tone(BUZZERpin, 50);
//digitalWrite(redLEDpin, HIGH);
  //delay(1000);
 // noTone(BUZZERpin);
 // delay(1000);
}
void stopbuzzer()
{
  // tone(BUZZERpin, 50);
  // delay(1000);
 // noTone(BUZZERpin);
  digitalWrite(BUZZERpin, LOW);
```

```
  //delay(1000);
}
void initializeLCD()
{
   lcd.init();
  lcd.clear();
  lcd.backlight();      // Make sure backlight is on

  // Print a message on both lines of the LCD.
  lcd.setCursor(4,0);   //Set cursor to character 2 on line
0

  lcd.print("POLLUTION");

  lcd.setCursor(4,1);   //Move cursor to character 2 on
line 1
  lcd.print("MONITOR");
  //delay(8000);

}
void setup() {

// displayinLCD(0,"Welcome");
pinMode(AOpin, INPUT);
```

```
 pinMode(greenLEDpin, OUTPUT);
 pinMode(redLEDpin, OUTPUT);
 pinMode(BUZZERpin, OUTPUT);
   //Serial.begin(9600);

   initializeLCD();
}

void loop() {
  // put your main code here, to run repeatedly:
//inputvalue=0;
inputvalue= analogRead(AOpin);
//inputvalue=inputvalue-150;
delay(100);
//delay(500);
//Serial.write(inputvalue);
 //Serial.println(inputvalue);          // debug value
 if(inputvalue<thresholdvalue){
displayinLCD(inputvalue,"AQ LEVEL GOOD");
turngreenled();
 stopbuzzer();

 }
else
```

```
{
displayinLCD(inputvalue,"AQ LEVEL HIGH");
turnredled();
 startbuzzer();
}

}
```