

# NOISE POLLUTION MONITORING

## CODE:

```
#include <LiquidCrystal.h>
const int micPin1 = A0;
const int micPin2 = A1;
const int micPin3 = A2;
const int buzzerPin = 9;
const int ledPin = 6;
const int contrast = 50;
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

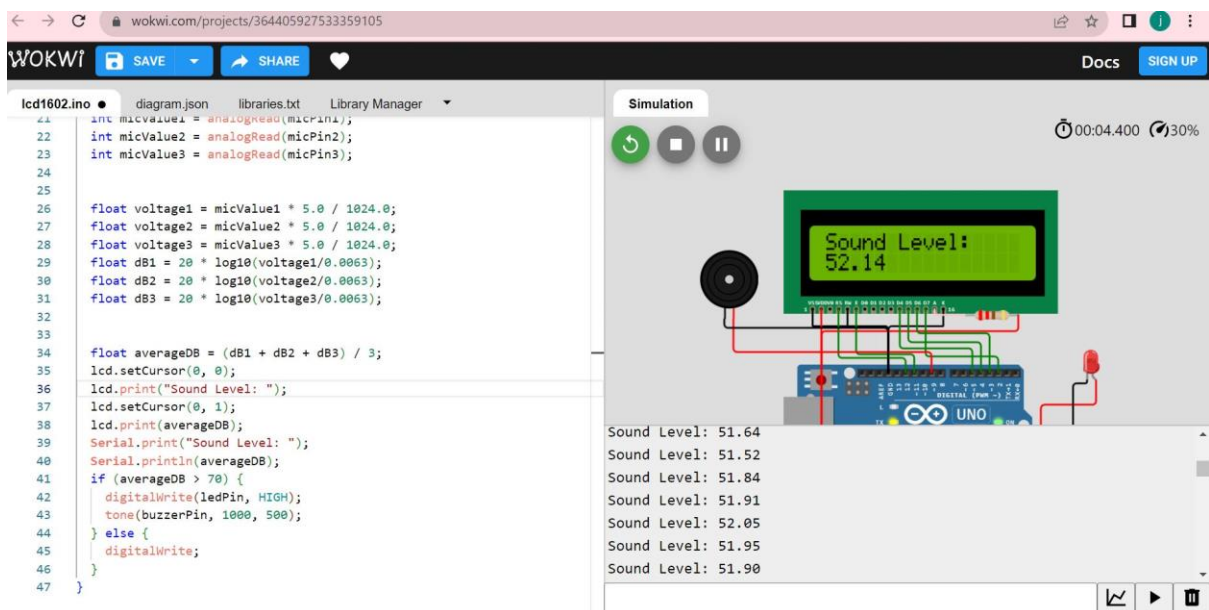
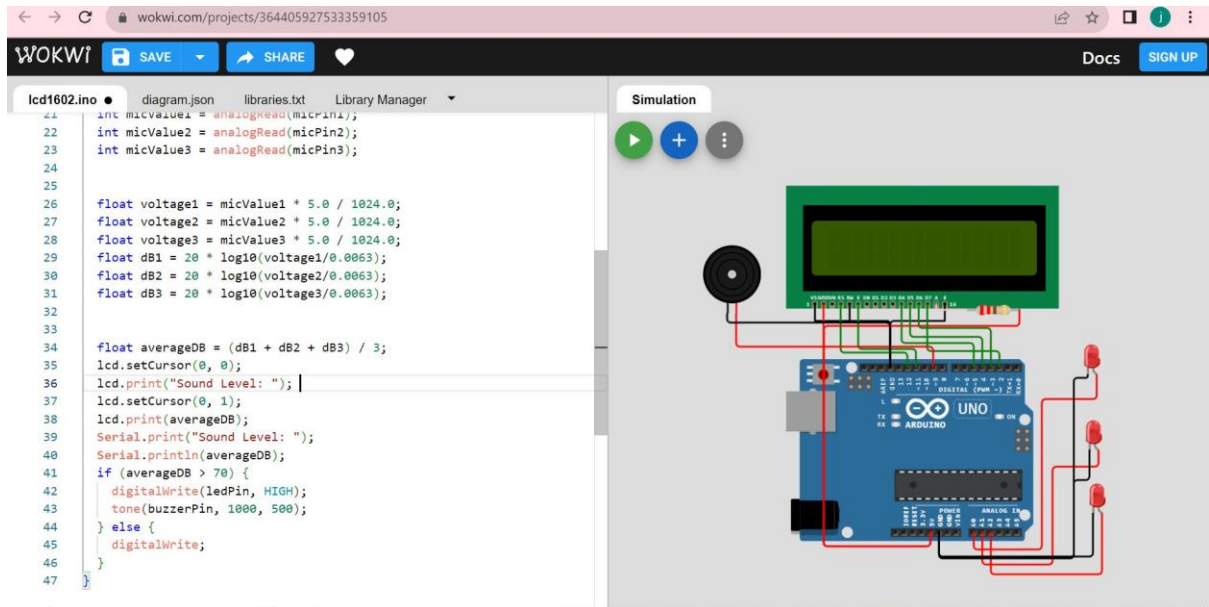
void setup() {
  pinMode(buzzerPin, OUTPUT);
  pinMode(ledPin, OUTPUT);
  lcd.begin(16, 2);
  analogWrite(6, contrast);
  Serial.begin(9600);
}

void loop() {

  int micValue1 = analogRead(micPin1);
  int micValue2 = analogRead(micPin2);
  int micValue3 = analogRead(micPin3);

  float voltage1 = micValue1 * 5.0 / 1024.0;
  float voltage2 = micValue2 * 5.0 / 1024.0;
  float voltage3 = micValue3 * 5.0 / 1024.0;
  float dB1 = 20 * log10(voltage1/0.0063);
  float dB2 = 20 * log10(voltage2/0.0063);
  float dB3 = 20 * log10(voltage3/0.0063);

  float averageDB = (dB1 + dB2 + dB3) / 3;
  lcd.setCursor(0, 0);
  lcd.print("Sound Level: ");
  lcd.setCursor(0, 1);
  lcd.print(averageDB);
  Serial.print("Sound Level: ");
  Serial.println(averageDB);
  if (averageDB > 70) {
    digitalWrite(ledPin, HIGH);
    tone(buzzerPin, 1000, 500);
  } else {
    digitalWrite;
  }
}
```



## COMPONENTS USED:

- ❖ piezoelectric buzzer
- ❖ A resistor
- ❖ Arduino Uno