NOISE POLUTION MONITORING

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Python Code :

1. #include <LiquidCrystal.h>
2. LiquidCrystal lcd(7,8,10,11,12,13);
3. int num\_Measure = 128 ; // Set the number of measurements
4. int pinSignal = A0; // pin connected to pin O module sound sensor
5. int redLed = 5;
6. long Sound\_signal; // Store the value read Sound Sensor
7. long sum = 0 ; // Store the total value of n measurements
8. long level = 0 ; // Store the average value
9. int soundlow = 40;
10. int soundmedium = 500;
11. void setup ()
12. {
13. pinMode (pinSignal, INPUT); // Set the signal pin as input
14. Serial.begin (9600);
15. lcd.begin(16,2);
16. }
17. void loop ()
18. {
19. // Performs 128 signal readings
20. for ( int i = 0 ; i <num\_Measure; i ++)
21. {
22. Sound\_signal = analogRead (pinSignal);
23. sum =sum + Sound\_signal;
24. }
25. level = sum / num\_Measure; // Calculate the average value
26. Serial.print("Sound Level: ");
27. lcd.print("Sound Level= ");
28. Serial.println (level-33);
29. lcd.print(level-33);
30. if(level-33<soundlow)
31. {
32. lcd.setCursor(0,2);
33. lcd.print("Intensity= Low");
34. digitalWrite(redLed,LOW);
35. }
36. if(level-33>soundlow && level-33<soundmedium)
37. {
38. lcd.setCursor(0,2);
39. lcd.print("Intensity=Medium");
40. digitalWrite(redLed,LOW);
41. }
42. if(level-33>soundmedium)
43. {
44. lcd.setCursor(0,2);
45. lcd.print("Intensity= High");
46. digitalWrite(redLed,HIGH);
47. }
48. sum = 0 ; // Reset the sum of the measurement values
49. delay(200);
50. lcd.clear();
51. }