RIVER WATER.INO

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| DATE | 25 NOVEMBER 2022 |
| Student Name | PNT2022MID11410 |
| PROJECT Name | REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM |

**CODE :**

**include <Wire.h>**

**#include <LiquidCrystal\_I2C.h> //https://github.com/fdebrabander/Arduino-LiquidCrystal-I2C-library**

**LiquidCrystal\_I2C lcd(0x27, 16, 2);**

**int sensorPin = A0;**

**float volt;**

**float ntu;**

**void setup()**

**{**

**Serial.begin(9600);**

**lcd.begin();**

**lcd.backlight();**

**}**

**void loop()**

**{**

**volt = 0;**

**for(int i=0; i<800; i++)**

**{**

**volt += ((float)analogRead(sensorPin)/1023)\*5;**

**}**

**volt = volt/800;**

**volt = round\_to\_dp(volt,2);**

**if(volt < 2.5){**

**ntu = 3000;**

**}else{**

**ntu = -1120.4\*square(volt)+5742.3\*volt-4353.8;**

**}**

**lcd.clear();**

**lcd.setCursor(0,0);**

**lcd.print(volt);**

**lcd.print(" V");**

**lcd.setCursor(0,1);**

**lcd.print(ntu);**

**lcd.print(" NTU");**

**delay(10);**

**}**

**float round\_to\_dp( float in\_value, int decimal\_place )**

**{**

**float multiplier = powf( 10.0f, decimal\_place );**

**in\_value = roundf( in\_value \* multiplier ) / multiplier;**

**return in\_value;**

**}**