#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;

}