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LAMPIRAN

Lampiran 1

Listing Program

```
#define sensorKeruh A1

#include <Wire.h>

#include <LiquidCrystal_I2C.h>

float teganganInRata2, teganganInTotal, turbidity;

float data[10];

LiquidCrystal_I2C lcd(0x27, 16, 2);

const int analogInPin = A0;

float Vrata2, Vin, pH;

float buf[10];


// declaration pin

int r1  = 8;

int r2  = 42;

int r3  = 7;

int r4  = 46;

int r5  = 48;

int r6  = 50;

int on  = 10 ;

int  nilai;

int x;

int y;
```

```

void setup() {

  lcd.begin();

  lcd.backlight();


  Serial.begin(9600);

  pinMode(sensorKeruh, INPUT);

  pinMode(analogInPin, INPUT);

  //xyz

  pinMode(r1,  OUTPUT);// PAC Dosis

  pinMode(r2,  OUTPUT);// ANIONIK Dosis

  pinMode(r3,  OUTPUT);// PUSH BUTTON

  pinMode(r4,  OUTPUT);// SELENOID VALVE

  pinMode(r5,  OUTPUT);// MOTOR DC

  pinMode(r6,  OUTPUT);// -----

  pinMode(on,  INPUT);// PUSH BUTTON


  // zxc force on

  digitalWrite(r1, HIGH);

  digitalWrite(r2, HIGH);

  digitalWrite(r3, HIGH);

  digitalWrite(r4, HIGH );

  digitalWrite(r5, HIGH);

  digitalWrite(r6, HIGH);

```

```
// zvx
```

```
delay(50);
```

```
lcd.setCursor(2, 0);
```

```
lcd.print("THESAR RIZKY");
```

```
lcd.setCursor(3, 1);
```

```
lcd.print("1111300020");
```

```
delay(5000);
```

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

```
lcd.print(" ");
```

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

```
lcd.print(" ");
```

```
x == 0;
```

```
y == 0;
```

```
nilai == 0;
```

```
}
```

```
void loop() {
```

```
for (int i = 0; i < 10; i++)
```

```

{

    buf[i] = analogRead(analogInPin) * 5.0 / 1023;

    Vin += buf[i];

    delay(10);

}

Vrata2 = Vin / 10;

pH = (-3 * Vrata2 + 11.5) / 0.55;

for (int i = 0; i < 10; i++) {

    data[i] = analogRead(sensorKeruh) * 5.0 / 1023.0;

    teganganInTotal += data[i];

}

teganganInRata2 = teganganInTotal / 10;

if (teganganInRata2 <= 2.5) {

    turbidity = 3000;

}

else if (teganganInRata2 >= 3.9 && teganganInRata2 <= 4.2) {

    turbidity = map(teganganInRata2, 3.9, 4.2, 1000, 0);

}

else if (teganganInRata2 > 4.2) {

    turbidity = 0;

}

else {

```



```
turbidity = (-1120.4 * teganganInRata2 * teganganInRata2) + (5742.3 * teganganInRata2) - 4352.9;
```

```
}
```

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

```
lcd.print("Kekeruhan=");
```

```
lcd.print(turbidity);
```

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

```
lcd.print("Nilai pH =");
```

```
lcd.print(pH);
```

```
Serial.print("Tegangan = "); Serial.print(teganganInRata2); Serial.print(" ");
```

```
Serial.print("Kekeruhan = "); Serial.print(turbidity); Serial.print(" NTU ");
```

```
Serial.print("Vin = "); Serial.print(Vrata2); Serial.print(" ");
```

```
Serial.print("pH = "); Serial.print(pH); Serial.print(" ");
```

```
Serial.println();
```

```
teganganInTotal = 0;
```

```
Vin = 0;
```

```
//START CONTROL
```

```
nilai = digitalRead (on);
```

```
if (nilai == 1 && x == 0 && turbidity > 1500 && turbidity < 3000 )// air pembuangan pemukiman warga dengan pH == 6 - 8.5
```

```
{
```

```

digitalWrite(r1, LOW);//PAC

delay(16000);//detik FLOW PAC

digitalWrite(r1, HIGH);

delay(3000);

digitalWrite(r5, LOW);//motor DC

delay(180000);// detik pengadukan motor DC

digitalWrite(r5, HIGH);

delay(30000);

digitalWrite(r2, LOW);//ANIONIK

delay(7000);//detik FLOW ANIONIK

digitalWrite(r2, HIGH);

delay(2000);

digitalWrite(r5, LOW);//motor DC

delay(180000);// detik pengadukan motor DC

delay(15000);

digitalWrite(r4, LOW);// Selenoid Valve

delay(1000000); // turun ke aquaScape 3

digitalWrite(r4, HIGH);

}

    delay(500);

}

```