

Real-Time River Water Quality Monitoring and Control System

Domain: Internet of Things

ASSIGNMENT 1

BY

M.Esakkimuthu-19EC022

M.kaviarasan-19EC046

M.Ayyanar-19EC011

A.ArokiyaJeyaPrakash-19EC008

Code :

```
const int pingPin = 10;

const int ledUS = 2;

const int light = 7;

const int pir = 4;

#define photoSensor A0

#define buzzer 3

int const PINO_SGAS = A5;

int const ledGas = 8;

int const button = 5;

int const motor = 13;

void setup()
{
    pinMode(ledUS, OUTPUT);
    pinMode(light, OUTPUT);
    pinMode(buzzer, OUTPUT);
    pinMode(ledGas, OUTPUT);
    pinMode(motor, OUTPUT);
    pinMode(pir, INPUT);
    pinMode(button, INPUT);
    pinMode(photoSensor, INPUT);
    Serial.begin(9600);
}

void loop()
{
    long duration, cm;

    int valLight = analogRead(photoSensor);

    int valPIR= digitalRead(pir);

    int valGAS = analogRead(PINO_SGAS);
```

```
valGAS = map(valGAS, 300, 750, 0, 100);
int valBt = digitalRead(button);
pinMode(pingPin, OUTPUT);
digitalWrite(pingPin, LOW);
delayMicroseconds(2);
digitalWrite(pingPin, HIGH);
delayMicroseconds(5);
digitalWrite(pingPin, LOW);
pinMode(pingPin, INPUT);
duration = pulseIn(pingPin, HIGH);
cm = microsecondsToCentimeters(duration);
if(cm < 336){
    digitalWrite(ledUS, HIGH);
}else{
    digitalWrite(ledUS, LOW);
}
if(valLight < 890){
    digitalWrite(light, HIGH);
}else{
    digitalWrite(light, LOW);
}
if(valPIR == 1){
    digitalWrite(buzzer, HIGH);
}else{
    digitalWrite(buzzer, LOW);
}
if(valBt == 1){
    digitalWrite(motor, HIGH);
}else{
```

```

    digitalWrite(motor, LOW);
}
if(valGAS > 20){
    digitalWrite(ledGas, HIGH);
}else{
    digitalWrite(ledGas, LOW);
}
Serial.print(valPIR);
Serial.println();
}
long microsecondsToCentimeters(long microseconds) {
    return microseconds / 29 / 2;
}

```

Simulation :

