

Problem Statement : REAL- TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

Domain :

Internet of Things

ASSIGNMENT 1

By,

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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(valPI
R);
Serial.println();
}

long microsecondsToCentimeters(long
microseconds) { return microseconds / 29 / 2;
}

```

Simulation :

