

ASSIGNMENT 1

Problem Statement:

IoT - Based Industry - Real-Time River Water Quality Monitoring and Control System

Topic: Circuit design Home automation system in TinkerCad

Code:

```
const int pingPin = 10;
const int ledUS = 2;
const int light = 7;

const int pir = 4;
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(ping Pin, HIGH);
  delayMicroseconds(5);
  digitalWrite(ping Pin, 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(val PIR);  
Serial.println();  
}  
}
```

OUTPUT:

