ASSIGNMENT 1

Problem Statement:

IoT - Based Industry - Real-Time River Water Quality Monitoring and ControlSystem

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(duratio n);
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: