Assignment -1

Problem Statement :

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

Domain :

Internet of Things

Assignment Date	15 September 2022
Student Name	John Jestin S
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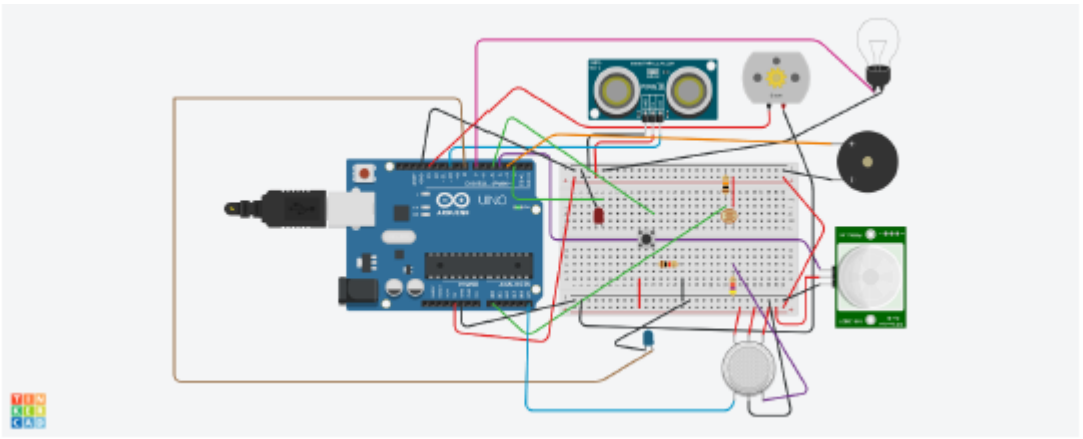
Maximum Marks	2 Marks

Assignment 1 : Circuit design Home automation system in TinkerCad.

https://www.tinkercad.com/things/9ylzaArYyOz-Home-Automation/editel?tenant=circuits

Circuit diagram :



Program:

```
Arduino Uno Code : const int pingPin = 10;
```

```
const int ledUS = 2;

const int light = 7;

const int pir = 4; #define photoSensor AO

#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(ping Pin, HIGH);

delayMicroseconds(5);

digitalWrite(ping Pin, LOW);

pinMode(pingPin, INPUT); duration

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