

IBM ASSIGNMENT 1-IOT DOMAIN

1. LINK

<https://wokwi.com/projects/362990025491381249>

2. CODE

```
#include <Servo.h>
int const LDR = A0;
long readUltrasonicDistance(int triggerPin, int echoPin)
pinMode(triggerPin, OUTPUT); // Clear the trigger
{
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    // Reads the echo pin, and returns the sound wave travel time in
microseconds
    return pulseIn(echoPin, HIGH);
}

Servo servo_7;
void setup()
{
    Serial.begin(9600); //initialize serial communication
    pinMode(LDR, INPUT); //LDR
    pinMode(13, OUTPUT); //connected to led
    servo_7.attach(4, 500, 2500); //servo motor

    pinMode(5, OUTPUT); //signal to piezo buzzer
}

void loop()
{
    int senValue = 0;
    //-----light intensity control-----//
    //-----
    int val1 = analogRead(LDR);
```

```

    if(val1 < 500)
    {
        digitalWrite(13, LOW);
        Serial.print("Bulb OFF = ");
        Serial.print(val1);
    }
else
    {
        digitalWrite(13, HIGH);
        Serial.print("Bulb ON = ");
        Serial.print(val1);
    }
//Servo motor control
senValue = 0.01723 * readUltrasonicDistance(2, 3);
if (senValue < 70)
{
    servo_7.write(90);
    tone(5, 650);
    Serial.print("    || Door Open!");
    Serial.print(senValue);
    Serial.print("\n");
}
else
{
    servo_7.write(0);
    noTone(5);
    Serial.print("    || Door Closed!");
    Serial.print(senValue);
    Serial.print("\n");
}
delay(10); // Delay a little bit to improve simulation performance
}

```

3. SCREENSHOT

