

IBM ASSIGNMENT - IOT DOMAIN

Link:

<https://wokwi.com/projects/363057725321776129>

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}
```

Circuit diagram:

