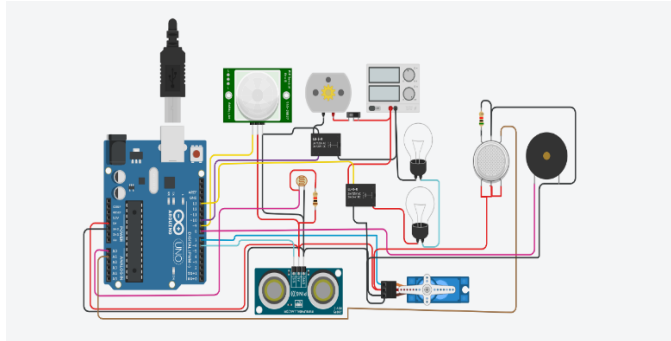


DEPARTMENT OF INFORMATION TECHNOLOGY

IOT-ASSIGNMENT 1

TOPIC-ASSIGNMENT ON SMART HOME IN TINKER CARD

REGNO:610819205001



```
include <Servo.h>
```

```
int output1Value = 0;
```

```
int sen1Value = 0;
```

```
int sen2Value = 0;
```

```
int const gas_sensor = A1;
```

```
int const LDR = A0;
```

```
int limit = 400;
```

```
long readUltrasonicDistance(int triggerPin, int echoPin)
```

```
{
```

```
    pinMode(triggerPin, OUTPUT);
```

```
    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);  
return pulseIn(echoPin, HIGH);  
}
```

```
Servo servo_7;
```

```
void setup()  
{  
  Serial.begin(9600);  
  pinMode(A0, INPUT)  
  pinMode(A1,INPUT);  
  pinMode(13, OUTPUT);  
  servo_7.attach(7, 500, 2500);  
  
  pinMode(8,OUTPUT);  
  pinMode(9, INPUT);  
  pinMode(10, OUTPUT);  
  pinMode(4, OUTPUT);  
  pinMode(3, OUTPUT);  
  
}
```

```
void loop()  
{  
  
  int val1 = analogRead(LDR);
```

```
if (val1 > 500)
{
    digitalWrite(13, LOW);
    Serial.print("Bulb ON = ");
    Serial.print(val1)
}
else
{
    digitalWrite(13, HIGH);
    Serial.print("Bulb OFF = ");
    Serial.print(val1);
}

sen2Value = digitalRead(9);
if (sen2Value == 0)
{
    digitalWrite(10, LOW);
    digitalWrite(4, HIGH);
    digitalWrite(3, LOW);
    Serial.print("    || NO Motion Detected    ");
}

if (sen2Value == 1)
{
    digitalWrite(10, HIGH);
    delay(3000);
    digitalWrite(4, LOW);
```

```

digitalWrite(3, HIGH);

Serial.print("      || Motion Detected!   ");
}

delay(300);

// ----- Gas Sensor -----//
int val = analogRead(gas_sensor);

Serial.print("|| Gas Sensor Value = ");

Serial.print(val);

//val = map(val, 300, 750, 0, 100);

if (val > limit)
{
    tone(8, 650);
}

delay(300);

noTone(8);

sen1Value = 0.01723 * readUltrasonicDistance(6, 6);

if (sen1Value < 100)
{
    servo_7.write(90);

    Serial.print("      || Door Open! ; Distance = ");

    Serial.print(sen1Value);

    Serial.print("\n");

}

else

```

```
{  
  servo_7.write(0);  
  Serial.print("      || Door Closed! ; Distance = ");  
  Serial.print(sen1Value);  
  Serial.print("\n");  
}  
delay(10);  
}
```