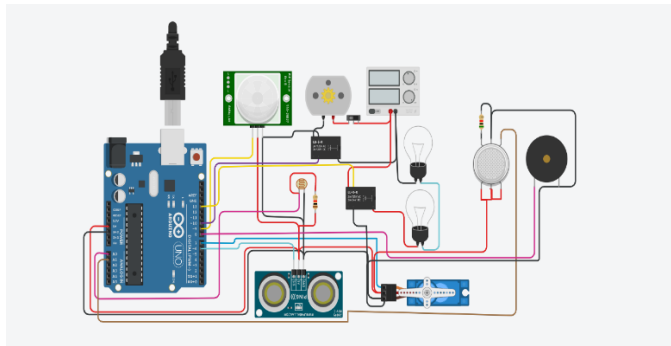**IOT-ASSIGNMENT 1**

TOPIC-ASSIGNMENT ON SMART HOME IN TINKER CARD

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```
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);
```

```arduino
  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()

{
```

```arduino
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);
```

```arduino
    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);

}
```