IOT ASSIGNMENT 1

TOPIC: ASSIGNMENT ON SMART HOME IN TINKERCARD

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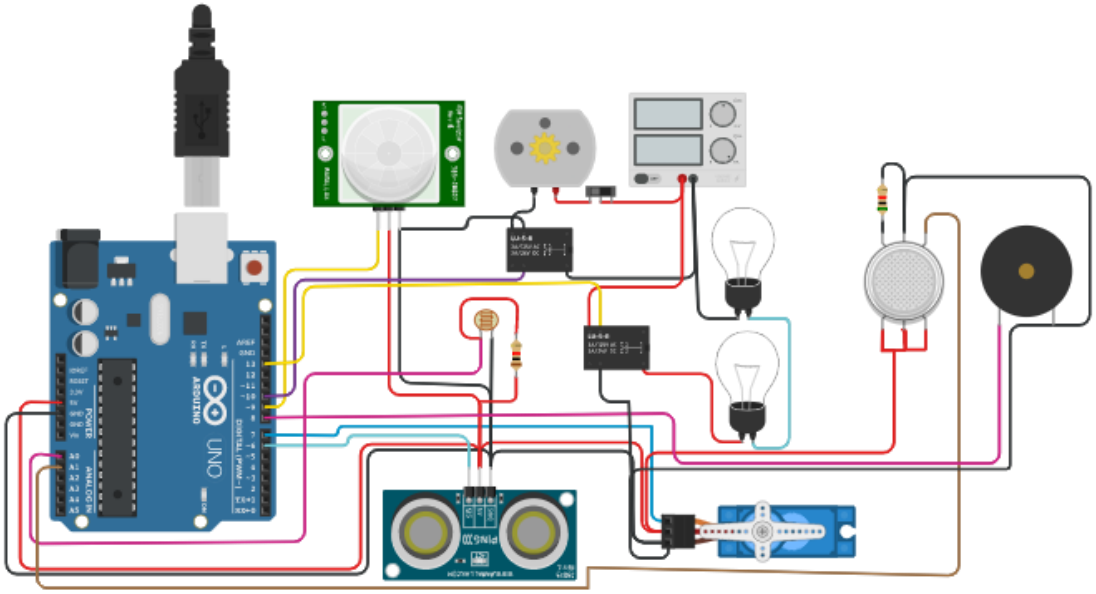

CODE:

```
#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);
  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);
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);//npn as switch ON
   delay(3000);
        digitalWrite(4, LOW);
        digitalWrite(3, HIGH);
    Serial.print("              || Motion Detected!      " );
        }
  delay(300);
  int val = analogRead(gas_sensor);      //read sensor value
```

```
  Serial.print("|| Gas Sensor Value = ");
  Serial.print(val);                                    //Printing in serial monitor
//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);
}
```