IOT ASSIGNMENT 1

Topic: Assignment on Smart Home in Tinker Card

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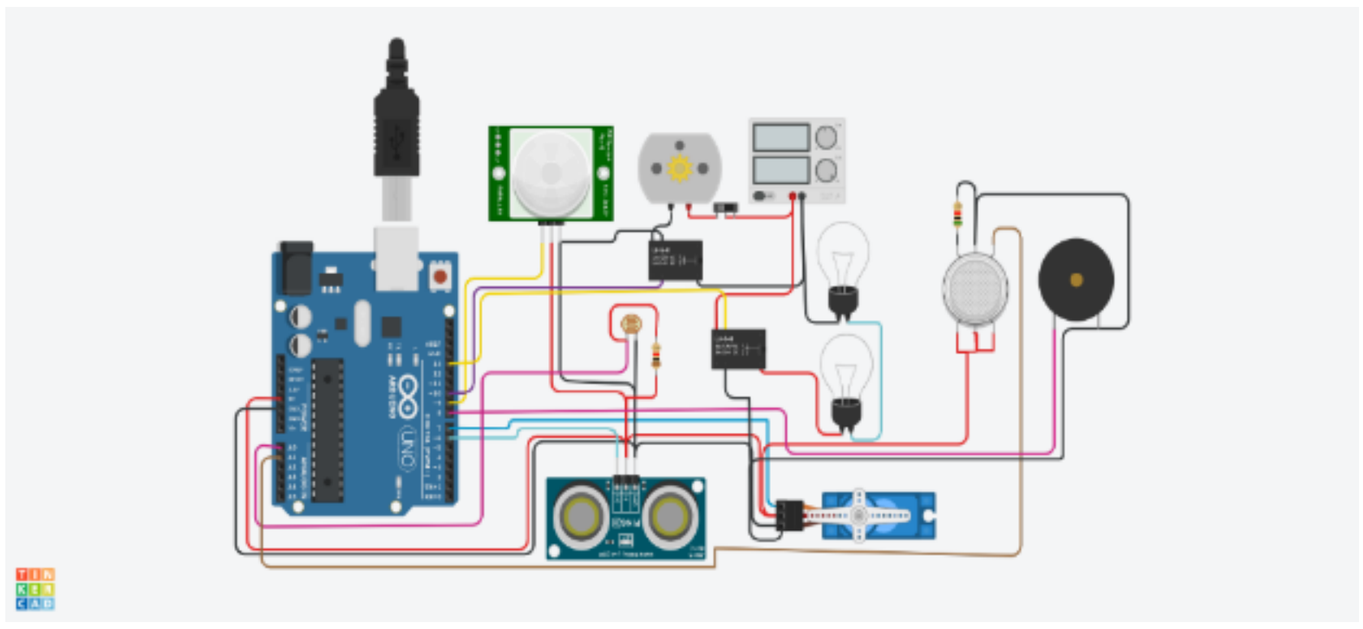

Code:

```
#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);  // 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);
  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);


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); // Delay a little bit to improve simulation
performance
}
```