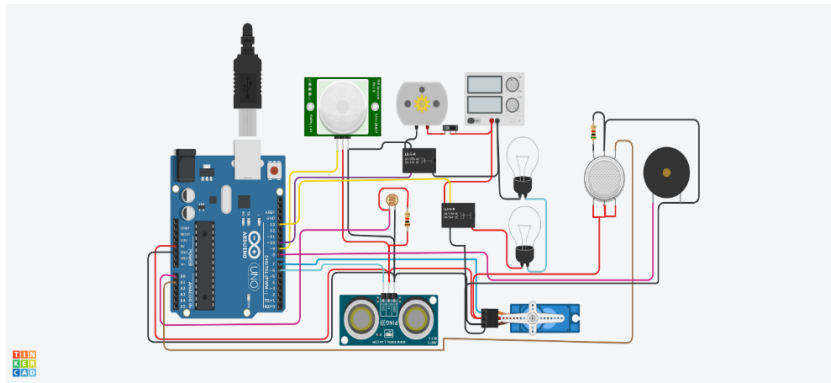


## IOT ASSIGNMENT 1

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  
}
```