SMART HOME:

```
#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);
  pinMode(13, OUTPUT);
  servo_7.attach(7, 500, 2500);

  pinMode(8,OUTPUT);
  pinMode(9, INPUT);
  pinMode(10, OUTPUT);
  pinMode(4, OUTPUT);
  pinMode(3, OUTPUT);

}
```

SMART HOME:

```
41
42  void loop()
43  {
44     int val1 = analogRead(LDR);
45     if (val1 > 500)
46  {
47     digitalWrite(13, LOW);
48     Serial.print("Bulb ON = ");
49     Serial.print(val1);
50  }
51    else
52  {
53     digitalWrite(13, HIGH);
54     Serial.print("Bulb OFF = ");
55     Serial.print(val1);
56  }
57
58    sen2Value = digitalRead(9);
59    if (sen2Value == 0)
60  {
61  digitalWrite(10, LOW);
62  digitalWrite(4, HIGH);
63  digitalWrite(3, LOW);
64  Serial.print("  || NO Motion Detected " );
65  }
66
67    if (sen2Value == 1)
68  {
69  digitalWrite(10, HIGH);
70  delay(5000);
71  digitalWrite(4, LOW);
72  digitalWrite(3, HIGH);
73     Serial.print(" || Motion Detected! " );
74  }
75
76    int val = analogRead(gas_sensor);
77    Serial.print("|| Gas Sensor Value = ");
78    Serial.print(val);
79  //val = map(val, 300, 750, 0, 100);
80    if (val > limit)
```

SMART HOME:

```
81  {
82  tone(8, 650);
83  }
84   delay(300);
85   noTone(8);
86
87    sen1Value = 0.01723 * readUltrasonicDistance(6, 6);
88
89    if (sen1Value < 100)
90  {
91      servo_7.write(90);
92      Serial.print(" || Door Open!  ; Distance = ");
93      Serial.print(sen1Value);
94      Serial.print("\n");
95
96  }
97    else
98  {
99      servo_7.write(0);
100     Serial.print(" || Door Closed! ; Distance =  ");
101     Serial.print(sen1Value);
102     Serial.print("\n");
103   }
104  delay(10);
105 }
```

TINKERCAD-LINK :

SMART HOME-TINKERCAD LINK

SMART HOME:

SMART HOME-IMAGE: