```
#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);
}
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(5000);
          digitalWrite(4, LOW);
          digitalWrite(3, HIGH);
     Serial.print("; Motion Detected!" );
          }
int val = analogRead(gas_sensor);
  Serial.print("; Gas Sensor Value = ");
  Serial.print(val);
  if (val > limit)
          {
          tone(8, 650);
          }
          delay(300);
          noTone(8);
  sen1Value = 0.01723 * readUltrasonicDistance(6, 6);
 if (sen1Value < 75)
          {
          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);
}
```