#include &lt;Servo.h&gt;

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()

{

//------light intensity control------//

int val1 = analogRead(LDR);

if (val1 &gt; 500)

{

digitalWrite(13, LOW);

Serial.print(&quot;Bulb ON = &quot;);

Serial.print(val1);

}

else

{

digitalWrite(13, HIGH);

Serial.print(&quot;Bulb OFF = &quot;);

Serial.print(val1);

}

//------ light &amp; fan control --------//

sen2Value = digitalRead(9);

if (sen2Value == 0)

{

digitalWrite(10, LOW);

digitalWrite(4, HIGH);

digitalWrite(3, LOW);

Serial.print(&quot; || NO Motion Detected &quot; );

}

if (sen2Value == 1)

{

digitalWrite(10, HIGH);//npn as switch ON

delay(5000);

digitalWrite(4, LOW); // RED LED OFF

digitalWrite(3, HIGH);//GREEN LED ON , indicating motion detected

Serial.print(&quot; || Motion Detected! &quot; );

}

// ------- Gas Sensor --------//

int val = analogRead(gas\_sensor); //read sensor value

Serial.print(&quot;|| Gas Sensor Value = &quot;);

Serial.print(val); //Printing in serial monitor

//val = map(val, 300, 750, 0, 100);

if (val &gt; limit)

{

tone(8, 650);

}

delay(300);

noTone(8);

//------- servo motor ---------//

sen1Value = 0.01723 \* readUltrasonicDistance(6, 6);

if (sen1Value &lt; 100)

{

servo\_7.write(90);

Serial.print(&quot; || Door Open! ; Distance = &quot;);

Serial.print(sen1Value);

Serial.print(&quot;\n&quot;);

}

else

{

servo\_7.write(0);

Serial.print(&quot; || Door Closed! ; Distance = &quot;);

Serial.print(sen1Value);

Serial.print(&quot;\n&quot;);

}

delay(10);

}