#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);

// 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); //initialize serial communication pinMode(A0, INPUT); //LDR

pinMode(A1,INPUT); //gas sensor pinMode(13, OUTPUT); //connected to relay

servo\_7.attach(7, 500, 2500); //servo motor

|  |  |
| --- | --- |
| pinMode(8,OUTPUT); | //signal to piezo buzzer |
| pinMode(9, INPUT); | //signal to PIR |
| pinMode(10, OUTPUT); | //signal to npn as switch |
| pinMode(4, OUTPUT); | //Red LED |
| pinMode(3, OUTPUT); | //Green LED |

}

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); //npn as switch OFF digitalWrite(4, HIGH); // Red LED ON,indicating no motion digitalWrite(3, LOW);

//Green LED OFF, since no Motion detected

Serial.print(“ || NO Motion Detected “ );

}

If (sen2Value == 1)

{

digitalWrite(10, HIGH);//npn as switch ON delay(3000); digitalWrite(4, LOW); // RED LED OFF digitalWrite(3, HIGH);//GREEN LED ON , indicating motion detected

Serial.print(“ || Motion Detected! “ );

}

Delay(300);

Int val = analogRead(gas\_sensor); //read sensor value Serial.print(“|| Gas Sensor Value = “);

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

//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

* }