#include <Servo.h>

int pos = 90;

Servo servo\_9;

int val = 0 ;

//...........IR\_SENSOOR...............

int IRSensor = 3; // connect ir sensor module to Arduino pin 9

int LED = 13; // conect LED to Arduino pin 13

//....................................

//.............GAS\_SERVOR.............

#define ledPin 6

#define sensorPin A0

//....................................

//......ULTRASONIC\_SENSOR........

int inches = 0, cm = 0;

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);

}

//................................

//........GAS\_SENSOR..............

// This function returns the analog data to calling function

int readSensor()

{

unsigned int sensorValue = analogRead(sensorPin); // Read the analog value from sensor

unsigned int outputValue = map(sensorValue, 0, 1023, 0, 255); // map the 10-bit data to 8-bit data

if (outputValue > 65)

analogWrite(ledPin, outputValue); // generate PWM signal

else

digitalWrite(ledPin, LOW);

return outputValue; // Return analog moisture value

}

//................................

void setup()

{

servo\_9.attach(9, 500, 2500);

Serial.begin(9600);

//........IR\_SENSOR...............

Serial.begin(9600); // Init Serila at 115200 Baud

Serial.println("Serial Working"); // Test to check if serial is working or not

pinMode(IRSensor, INPUT); // IR Sensor pin INPUT

pinMode(LED, OUTPUT); // LED Pin Output

//................................

//.........GAS SENSOOR............

Serial.begin(9600);

pinMode(ledPin, OUTPUT);

digitalWrite(ledPin, LOW);

//................................

//.........FLAME\_SENSOR...........

Serial.begin(9600);

pinMode(2,INPUT); // Flame sensor output pin connected

//................................

}

void loop()

{

//......ULTRASONIC\_SENSOR........

cm = 0.01723 \* readUltrasonicDistance(7, 7); // Both echo & trig are connected with D7

inches = (cm / 2.54);

Serial.print(inches);

Serial.print("in, ");

Serial.print(cm);

Serial.println("cm");

//delay(100); // Wait for 100 millisecond(s)

//...............................

//.........SERVO.................

for (pos = 90; pos <= 180; pos += 1)

{

servo\_9.write(pos);

delay(15);

}

for (pos = 180; pos >= 90; pos -= 1)

{

servo\_9.write(pos);

delay(15);

}

for (pos = 90; pos >= 0; pos -= 1)

{

servo\_9.write(pos);

delay(15);

}

for (pos = 0; pos <= 90; pos += 1)

{

servo\_9.write(pos);

delay(15);

}

//delay(100);

//.................................

//...........IR\_SENSOR.............

int sensorStatus = digitalRead(IRSensor); // Set the GPIO as Input

if (sensorStatus == 1) // Check if the pin high or not

{

// if the pin is high turn off the onboard Led

digitalWrite(LED, LOW); // LED LOW

Serial.println("Motion Ended!"); // print Motion Detected! on the serial monitor window

}

else

{

//else turn on the onboard LED

digitalWrite(LED, HIGH); // LED High

Serial.println("Motion Detected!"); // print Motion Ended! on the serial monitor window

}

//.................................

//............GAS\_SENSOR...........

Serial.print("Analog output: ");

Serial.println(readSensor());

delay(100);

//.................................

//..........FLAME\_SENSOR...........

val = digitalRead(2); // Flame sensor output pin connected

Serial.println(val); // see the value in serial mpnitor in Arduino IDE

delay(10);

//.................................

}