

Arduino code for “Automatic disinfection door handle”

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#define LEDlampRed 13
#define LEDlampYellow 12
#define trigPin 6 //Define the HC-SE04 trigger on pin 6 on the arduino
#define echoPin 5 //Define the HC-SE04 echo on pin 5 on the arduino

#include <Servo.h>
Servo myservo; // create servo object to control a servo
int pos = 0; // variable to store the servo position

void setup() {
  Serial.begin (9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(LEDlampRed, OUTPUT);
  pinMode(LEDlampYellow, OUTPUT);
  myservo.attach(9); // attaches the servo on pin 9 to the servo object
}

void loop() {
  long durationindigit, distanceincm;
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  durationindigit = pulseIn(echoPin, HIGH);
  distanceincm = 2.73*((durationindigit/5) / 29.1);

  if (distanceincm > 25) {
    digitalWrite(LEDlampYellow, HIGH);
  }
  else {
    digitalWrite(LEDlampYellow, LOW);
  }
  if (distanceincm < 25) {
    digitalWrite(LEDlampRed, HIGH);
    for (pos = 0; pos <= 180; pos += 1) { // goes from 0 degrees to 180 degrees
      // in steps of 1 degree
      myservo.write(pos); // tell servo to go to position in variable 'pos'
      delay(15); // waits 15ms for the servo to reach the position
    }
    for (pos = 180; pos >= 0; pos -= 1) { // goes from 180 degrees to 0 degrees
      myservo.write(pos); // tell servo to go to position in variable 'pos'
```

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    delay(15);           // waits 15ms for the servo to reach the position
  }

}
else {
  digitalWrite(LEDlampRed,LOW);
}

if (distanceincm > 30 || distanceincm <= 0){
  Serial.println("Outside the permissible range of distances");
}
else {
  Serial.print(distanceincm);
  Serial.println(" cm");
}

delay(300);
}
```