

Servomotor a snímač vzdialenosti

```
#include <Servo.h>
```

```
#define TRIG_PIN 7 // The Arduino UNO R4 pin connected to the ultrasonic sensor's TRIG pin  
#define ECHO_PIN 6 // The Arduino UNO R4 pin connected to the ultrasonic sensor's ECHO pin  
#define SERVO_PIN 9 // The Arduino UNO R4 pin connected to Servo Motor's pin  
#define DISTANCE_THRESHOLD 50 // centimeters
```

```
Servo servo; // create servo object to control a servo
```

```
float duration_us, distance_cm;
```

```
void setup() {  
  Serial.begin(9600); // initialize serial port  
  pinMode(TRIG_PIN, OUTPUT); // set arduino pin to output mode  
  pinMode(ECHO_PIN, INPUT); // set arduino pin to input mode  
  servo.attach(SERVO_PIN); // attaches the servo on pin 9 to the servo object  
  servo.write(0);  
}
```

```
void loop() {  
  // generate 10-microsecond pulse to TRIG pin  
  digitalWrite(TRIG_PIN, HIGH);  
  delayMicroseconds(10);  
  digitalWrite(TRIG_PIN, LOW);  
  
  // measure duration of pulse from ECHO pin  
  duration_us = pulseIn(ECHO_PIN, HIGH);  
  // calculate the distance  
  distance_cm = 0.017 * duration_us;  
  
  if(distance_cm < DISTANCE_THRESHOLD)  
    servo.write(90); // rotate servo motor to 90 degree  
  else  
    servo.write(0); // rotate servo motor to 0 degree  
  
  // print the value to Serial Monitor  
  Serial.print("distance: ");  
  Serial.print(distance_cm);  
  Serial.println(" cm");  
  
  delay(500);  
}
```

