**2017 2018**

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Equipos Micro-programables

2017 2018



FIRMWARE

#include <NewPing.h>

NewPing sonar(3,4);

int distancia;

char dato;

int elegir;

void setup() {

//DIRECCIONES RUEDA DERECHA

pinMode(12,OUTPUT);

pinMode(7,OUTPUT);

//DIRECCIONES RUEDA IZQUIERDA

pinMode(8,OUTPUT);

pinMode(9,OUTPUT);

Serial.begin(9600);

}

void loop() {

if (Serial.available()>0){

dato=Serial.read();

Serial.print(dato);

switch(dato){

case('W'):{

elegir=0;

break;

}

case('w'):{

elegir=1;

break;

}

}

if(elegir==0){//programa evitaobstaculos

distancia=sonar.ping\_cm();

Serial.println(distancia);

if(sonar.ping\_cm()>=30){

analogWrite(10,250);

digitalWrite(7,1);

digitalWrite(12,0);

//MOTOR 2

analogWrite(11,250);

digitalWrite(8,0);

digitalWrite(9,1);

delay(20);

Serial.println(sonar.ping\_cm());

}

if(sonar.ping\_cm()<30){

analogWrite(10,255);

digitalWrite(7,1);

digitalWrite(12,0);

//MOTOR 2

analogWrite(11,250);

digitalWrite(8,1);

digitalWrite(9,0);

delay(400);

Serial.println(sonar.ping\_cm());

}

}

if(elegir==1){

switch(dato){

case('S'):{ //COCHE PARADO

//motor derecha

analogWrite(10,0);

digitalWrite(7,0);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,0);

digitalWrite(8,0);

digitalWrite(9,0);

break;

}

case('F'): { //MOV.ADELANTE

//motor derecha

analogWrite(10,255);

digitalWrite(7,1);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,255);

digitalWrite(8,0);

digitalWrite(9,1);

break;

}

case('I'): { //MOV.ADELANTE IZQUIERDA

//motor derecha

analogWrite(10,255);

digitalWrite(7,1);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,170);

digitalWrite(8,0);

digitalWrite(9,1);

break;

}

case('G'): { //MOV.ADELANTE DERECHA

//motor derecha

analogWrite(10,170);

digitalWrite(7,1);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,255);

digitalWrite(8,0);

digitalWrite(9,1);

break;

}

case('B'): { //MOV.ATRAS

//motor derecha

analogWrite(10,255);

digitalWrite(7,0);

digitalWrite(12,1);

//motor izquierda

analogWrite(11,255);

digitalWrite(8,1);

digitalWrite(9,0);

break;

}

case('J'): { //MOV.ATRAS IZQUIERDA

//motor derecha

analogWrite(10,255);

digitalWrite(7,0);

digitalWrite(12,1);

//motor izquierda

analogWrite(11,170);

digitalWrite(8,1);

digitalWrite(9,0);

break;

}

case('H'): { //MOV.ATRAS DERECHA

//motor derecha

analogWrite(10,170);

digitalWrite(7,0);

digitalWrite(12,1);

//motor izquierda

analogWrite(11,255);

digitalWrite(8,1);

digitalWrite(9,0);

break;

}

case('R'):{ //MOV.IZQUIERDA

//motor derecha

analogWrite(10,210);

digitalWrite(7,1);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,100);

digitalWrite(8,0);

digitalWrite(9,0);

break;

}

case('L'):{ //MOV.DERECHA

//motor derecha

analogWrite(10,100);

digitalWrite(7,0);

digitalWrite(12,0);

//motor izquierda

analogWrite(11,210);

digitalWrite(8,0);

digitalWrite(9,1);

break;

}

}

}

}

}