#include <NewPing.h>

const int LeftMotorForward = 7;

const int LeftMotorBackward = 6;

const int RightMotorForward = 5;

const int RightMotorBackward = 4;

//sensor pins

#define trig\_pin A1 //analog input 1

#define echo\_pin A2 //analog input 2

#define maximum\_distance 200

boolean goesForward = false;

int distance = 100;

NewPing sonar(trig\_pin, echo\_pin, maximum\_distance); //sensor function

void setup(){

pinMode(RightMotorForward, OUTPUT);

pinMode(LeftMotorForward, OUTPUT);

pinMode(LeftMotorBackward, OUTPUT);

pinMode(RightMotorBackward, OUTPUT);

}

void loop(){

int distanceRight = 0;

int distanceLeft = 0;

delay(50);

if (distance <= 20){

Serial.println(distance);

moveStop();

delay(300);

moveBackward();

delay(400);

moveStop();

delay(300);

if (distance >= distanceLeft){

turnRight();

moveStop();

}

else{

turnLeft();

moveStop();

}

}

else{

moveForward();

}

distance = readPing();

}

int readPing(){

delay(70);

int cm = sonar.ping\_cm();

if (cm==0){

cm=250;

}

return cm;

}

void moveStop(){

digitalWrite(RightMotorForward, LOW);

digitalWrite(LeftMotorForward, LOW);

digitalWrite(RightMotorBackward, LOW);

digitalWrite(LeftMotorBackward, LOW);

}

void moveForward(){

if(!goesForward){

goesForward=true;

digitalWrite(LeftMotorForward, HIGH);

digitalWrite(RightMotorForward, HIGH);

digitalWrite(LeftMotorBackward, LOW);

digitalWrite(RightMotorBackward, LOW);

}

}

void moveBackward(){

goesForward=false;

digitalWrite(LeftMotorBackward, HIGH);

digitalWrite(RightMotorBackward, HIGH);

digitalWrite(LeftMotorForward, LOW);

digitalWrite(RightMotorForward, LOW);

}

void turnRight(){

digitalWrite(LeftMotorForward, HIGH);

digitalWrite(RightMotorBackward, HIGH);

digitalWrite(LeftMotorBackward, LOW);

digitalWrite(RightMotorForward, LOW);

delay(500);

digitalWrite(LeftMotorForward, HIGH);

digitalWrite(RightMotorForward, HIGH);

digitalWrite(LeftMotorBackward, LOW);

digitalWrite(RightMotorBackward, LOW);

}

void turnLeft(){

digitalWrite(LeftMotorBackward, HIGH);

digitalWrite(RightMotorForward, HIGH);

digitalWrite(LeftMotorForward, LOW);

digitalWrite(RightMotorBackward, LOW);

delay(500);

digitalWrite(LeftMotorForward, HIGH);

digitalWrite(RightMotorForward, HIGH);

digitalWrite(LeftMotorBackward, LOW);

digitalWrite(RightMotorBackward, LOW);

}