<http://youtu.be/Ibg7M7Qoqag>

//for this code you need to install the NewPing librairies to your arduino software

#include <NewPing.h>

#define TRIGGER\_PIN 3

#define ECHO\_PIN 2

#define MAX\_DISTANCE 100

const int Motor1Pin1 = 8;

const int Motor1Pin2 = 9;

const int Motor2Pin2 =10;

const int Motor2Pin1 = 11;

NewPing sonar(TRIGGER\_PIN, ECHO\_PIN, MAX\_DISTANCE);

unsigned int time;

int distance;

int triggerDistance = 30;

int fDistance;

int lDistance;

int rDistance;

void setup()

{

pinMode(Motor1Pin1, OUTPUT);

pinMode(Motor1Pin2, OUTPUT);

pinMode(Motor2Pin1, OUTPUT);

pinMode(Motor2Pin2, OUTPUT);

}

void loop()

{

scan();

fDistance = distance;

if(fDistance < triggerDistance){

moveBackward();

delay(1000);

moveRight();

delay(500);

moveStop();

scan();

rDistance = distance;

moveLeft();

delay(1000);

moveStop();

scan();

lDistance = distance;

if(lDistance < rDistance){

moveRight();

delay(200);

moveForward();

}

else{

moveForward();

}

}

else{

moveForward();

}

}

void scan(){

time = sonar.ping();

distance = time / US\_ROUNDTRIP\_CM;

if(distance == 0){

distance = 100;

}

delay(10);

}

void moveBackward(){

digitalWrite(Motor1Pin1, LOW);

digitalWrite(Motor1Pin2, HIGH);

digitalWrite(Motor2Pin1, LOW);

digitalWrite(Motor2Pin2, HIGH);

}

void moveForward(){

digitalWrite(Motor1Pin1, LOW);

digitalWrite(Motor1Pin2, HIGH);

digitalWrite(Motor2Pin1, LOW);

digitalWrite(Motor2Pin2, HIGH);

}

void moveRight(){

digitalWrite(Motor1Pin1, LOW);

digitalWrite(Motor1Pin2, HIGH);

digitalWrite(Motor2Pin1, LOW);

digitalWrite(Motor2Pin2, HIGH);

}

void moveLeft(){

digitalWrite(Motor1Pin1, LOW);

digitalWrite(Motor1Pin2, HIGH);

digitalWrite(Motor2Pin1, LOW);

digitalWrite(Motor2Pin2, HIGH);

}

void moveStop(){

digitalWrite(Motor1Pin1, LOW);

digitalWrite(Motor1Pin2, LOW);

digitalWrite(Motor2Pin1, LOW);

digitalWrite(Motor2Pin2, LOW);

}