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// Arduino Obstacle Avoiding Robot
// Code adapted from http://www.educ8s.tv
// First Include the NewPing and Servo Libraries


#include <NewPing.h>
#include <Servo.h>

#define TRIG_PIN A4
#define ECHO_PIN A5
#define MAX_DISTANCE 200
NewPing sonar(TRIG_PIN, ECHO_PIN, MAX_DISTANCE);
Servo myservo;

boolean goesForward=false;
int distance = 100;
int speedSet = 0;

const int motorPin1  = 11;
const int motorPin2  = 10;
//Motor B
const int motorPin3  = 6;
const int motorPin4  = 5;

void setup() {

  myservo.attach(9);
  myservo.write(115);
  delay(2000);
  distance = readPing();
```

```
    delay(100);
    distance = readPing();
    delay(100);
    distance = readPing();
    delay(100);
    distance = readPing();
    delay(100);
}

void loop() {
 int distanceR = 0;
 int distanceL =  0;
 delay(40);

 if(distance<=20)
 {
  moveStop();
  delay(100);
  moveBackward();
  delay(300);
  moveStop();
  delay(200);
  distanceR = lookRight();
  delay(200);
  distanceL = lookLeft();
  delay(200);

  if(distanceR>=distanceL)
  {
   turnRight();
   moveStop();
```

```
    }else
    {
      turnLeft();
      moveStop();
    }
  }else
  {
    moveForward();
  }
  distance = readPing();
}

int lookRight()
{
    myservo.write(50);
    delay(500);
    int distance = readPing();
    delay(100);
    myservo.write(115);
    return distance;
}

int lookLeft()
{
    myservo.write(170);
    delay(500);
    int distance = readPing();
    delay(100);
    myservo.write(115);
    return distance;
    delay(100);
```

```
}

int readPing() {
  delay(70);
  int cm = sonar.ping_cm();
  if(cm==0)
  {
    cm = 250;
  }
  return cm;
}

void moveStop() {
  analogWrite(motorPin1, 0);
    analogWrite(motorPin2, 0);
    analogWrite(motorPin3, 0);
    analogWrite(motorPin4, 0);
  }

void moveForward() {


    analogWrite(motorPin1, 180);
    analogWrite(motorPin2, 0);
    analogWrite(motorPin3, 180);
    analogWrite(motorPin4, 0);


}

void moveBackward() {
```

```
    analogWrite(motorPin1, 0);

    analogWrite(motorPin2, 180);

    analogWrite(motorPin3, 0);

    analogWrite(motorPin4, 180);


}

void turnRight() {
 analogWrite(motorPin1, 180);

    analogWrite(motorPin2, 0);

  analogWrite(motorPin3, 0);

    analogWrite(motorPin4, 180);

  delay(300);

 moveForward();


}

void turnLeft() {
  analogWrite(motorPin1, 0);

    analogWrite(motorPin2, 180);

 analogWrite(motorPin3, 180);

    analogWrite(motorPin4, 0);

  delay(300);

  moveForward();
}
```