

Para instalar el Mindstorm en sus computadoras:

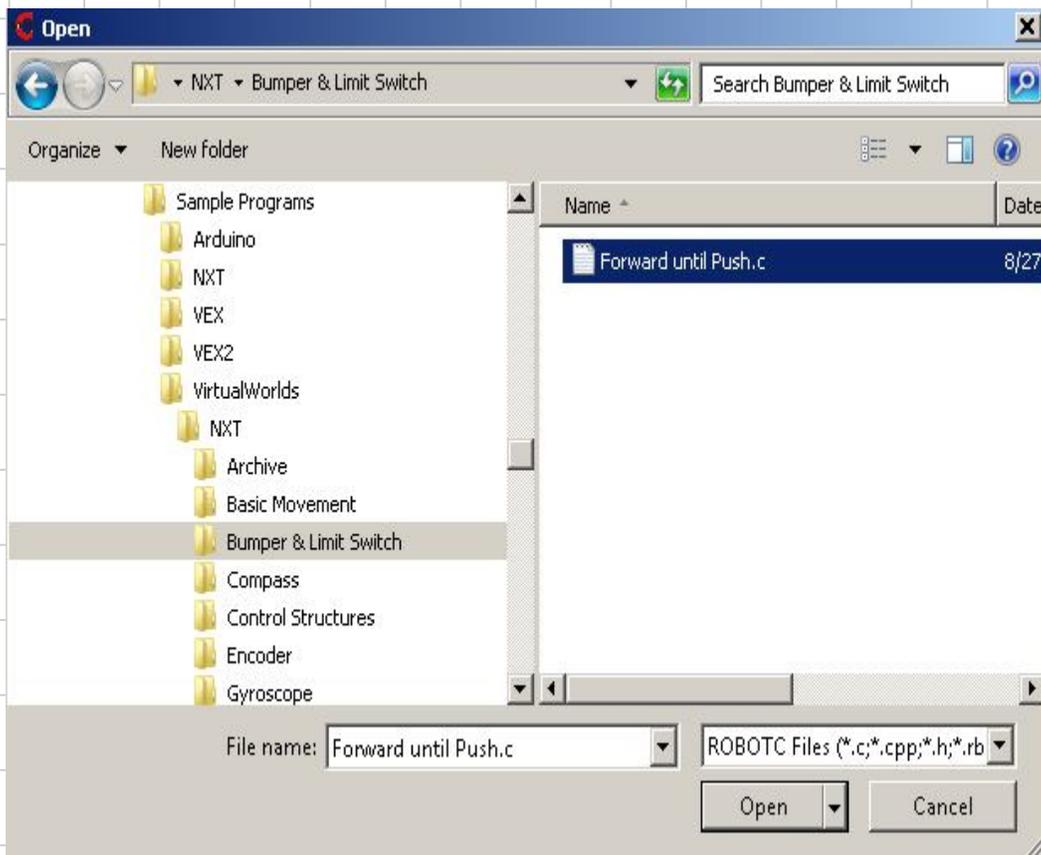
- Instalar primero: ROBOTCVirtualWorlds_LEGO_362.exe
- Instalar luego: RVWLevelPack_CurriculumTables311.exe

Una vez instalado:

Abrir el Lego Mindstorms

Por defecto debe trabajar tal y como está la configuración.

Abran el siguiente fichero "forward until push"



Una vez abierto comentar la linea 21 con los siguientes caracteres: //

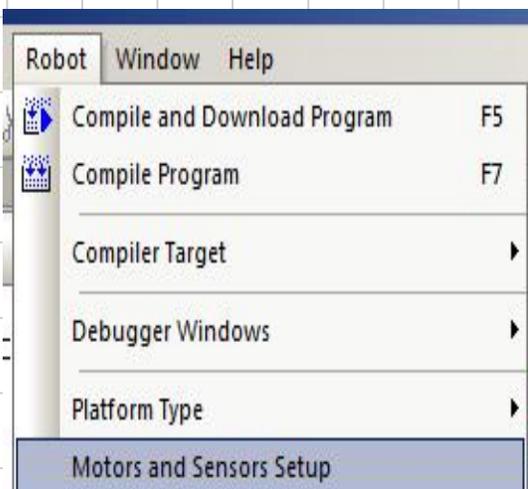
```

1  #pragma config(StandardModel, "RVW REMBOT")
2  /**!!Code automatically generated by 'ROBOTC' configuration wizard
3
4  /*+++++| Notes |+++++
5  Forward until Push
6  This program instructs the robot to move forward at half speed until the bum
7  There is a two second pause at the beginning of the program.
8
9  Robot Model(s): NXT REMBOT
10
11  [I/O Port]      [Name]      [Type]      [Description]
12  Motor Port 2    rightMotor  NXT Motor   Right side mot
13  Motor Port 3    leftMotor   NXT Motor   Left side moto
14  Sensor Port S1  touchSensor NXT Bumper Switch Front Mounted
15  -----
16
17
18  /**+++++| MAIN |+++++
19  task main()
20  {
21      //wait1Msec(2000);           // Robot waits for 2000 millise
22
23      while(SensorValue(touch) == 0) // Loop while robot's bumper/touch senso
24      {
25          motor[rightMotor] = 50;           // Motor on motorB is run at half
26          motor[leftMotor]  = 50;           // Motor on NXT is run at half (50
27      }
28  }
29  /**+++++
30

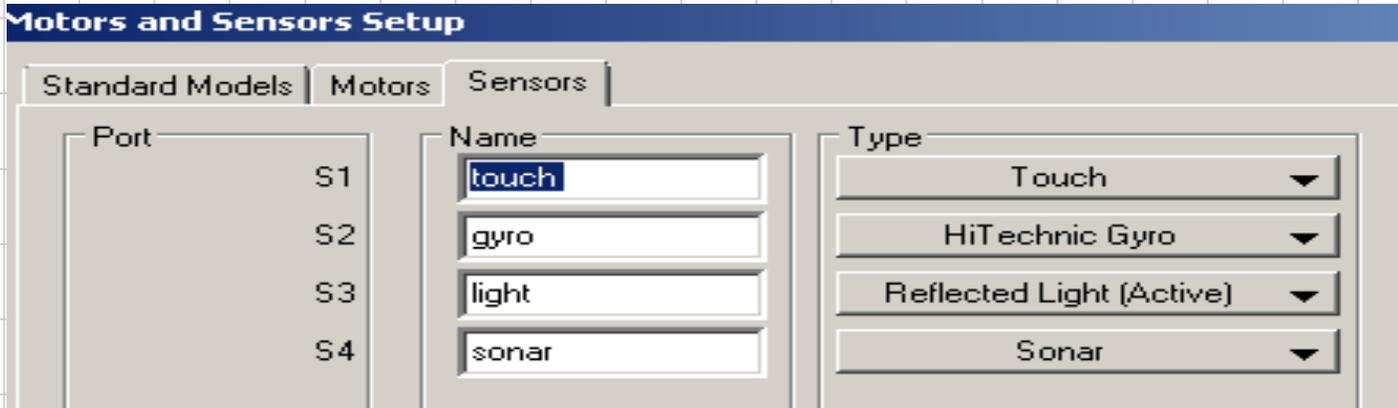
```

Mientras el sensor de contacto (touch) no cambie a 1, hacer que los motores del robot funcionen al 50% ambos!!!

Donde se configuran los sensores del Robot?



El Mindstorm tiene cuatro sensores (cuatro puertos, o cuatro conectores). Se pueden conectar diferentes sensores en cada puerto, pero hay que decirle al software quien es quien y como se llama la variable de control:



Seleccionen en robot el robot con sensor



Selecciones: En SENSING Robo 500 2

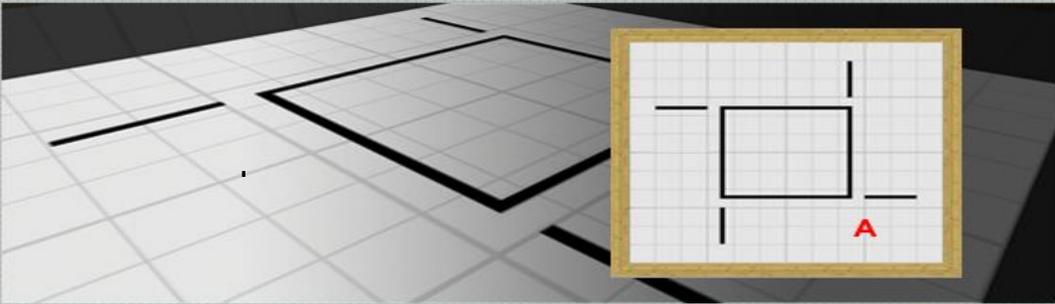
Curriculum Companion

HOME LOGIN OPTIONS BADGES

ROBOTS MOVEMENT SENSING VARIABLES REMOTE CONTROL UTILITY

SENSING

- Line Runner 1
- Firefly Bot 1
- Minefield Challenge 1
- ☆ Obstacle Course
- Can Bot Challenge
- ☆ **Robo 500 2**
- ☆ Robo 500 3
- ☆ Robo 500 4
- ☆ Robo Slalom II
- Robomower (Touch)
- Robomower (Ultrasonic)
- Robocci 1
- Robocci 2
- ☆ Table Bot 1
- ☆ Table Bot 2
- ☆ Sentry Simulation 1
- ☆ Sentry Simulation 2
- ☆ Sentry Simulation 3
- MouseBot Challenge



Robo 500 2

Program the robot to complete two laps around the given square course. The robot must use the touch sensor to accomplish this task.

 [Specification Document](#)

Achievements

- ☆ Robo 250 Level 2
- ☆ Robo 500 Level 2

Current Robot: REMBot (w. Touch)

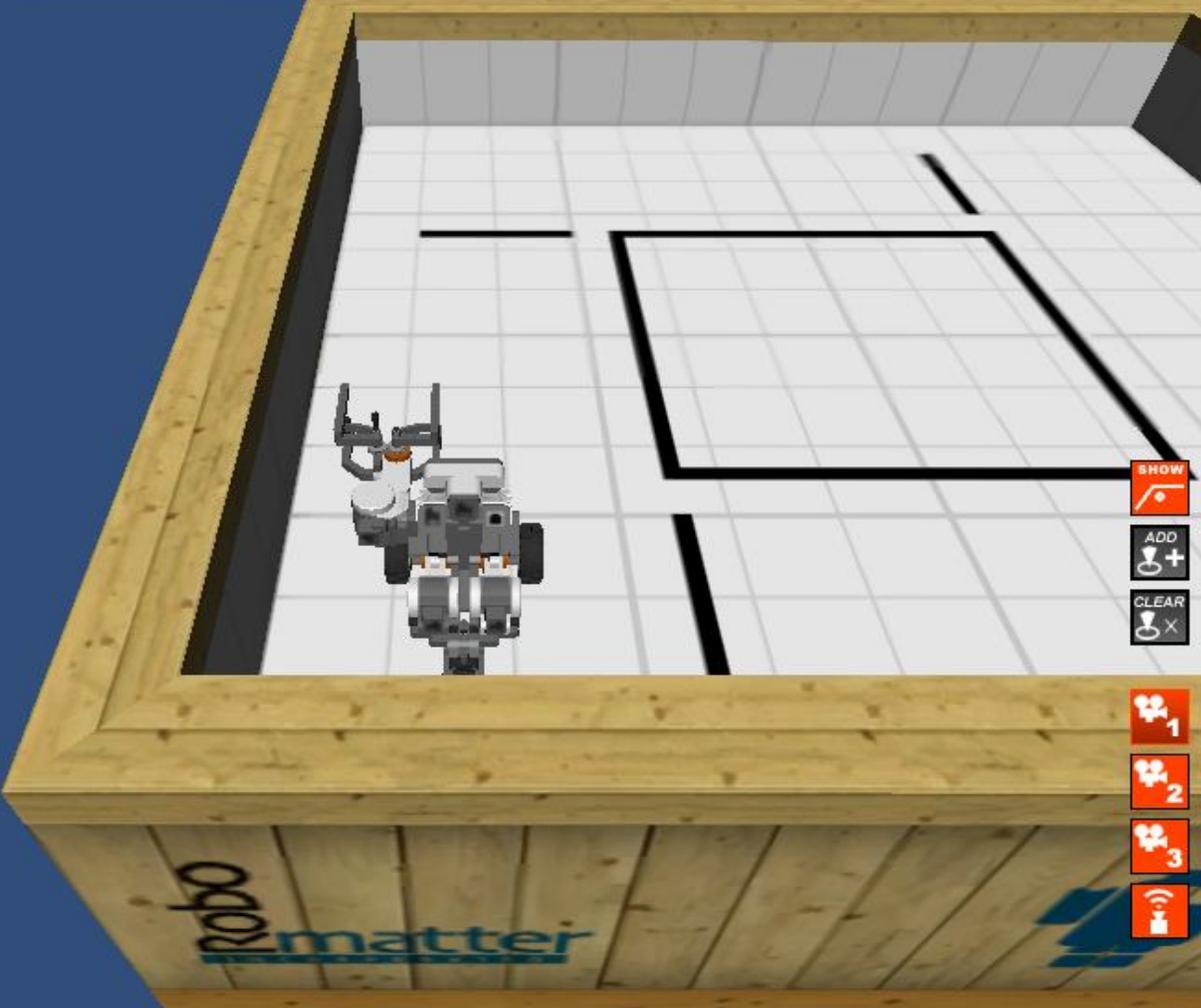
Fixed starting point:

START ACTIVITY ▶

Curriculum Companion for NXT v3.1.1 (C) 2013 Robomatter Inc.

Curriculum Companion

Laps : 0



Navigation controls:

- ▶ Play
- ↺ Reset
- ⬆ Home

Utility controls:

- SHOW
- ADD
- CLEAR
- 1
- 2
- 3
- Wi-Fi

robo matter

```

task main()
{
    //wait1Msec(2000);
    while(true) {
        while(SensorValue(touchSensor) == 0) {
            motor[rightMotor] = 50;
            motor[leftMotor] = 50;
        }

        motor[rightMotor] = -50;
        motor[leftMotor] = -50;
        wait1Msec(500);

        motor[rightMotor] = 0;
        motor[leftMotor] = 0;
        wait1Msec(100);

        motor[rightMotor] = -50;
        motor[leftMotor] = 50;
        wait1Msec(900);

        motor[rightMotor] = 0;
        motor[leftMotor] = 0;
        wait1Msec(100);
    }
}
//+++++

```

Mientras el sensor no cambie de 0 a 1 mover los dos motores al 50%.

En caso contrario mover los motores en reversa 50% durante medio segundo

Parar los motores durante 100msec.

Girar hacia la derecha durante 900msec

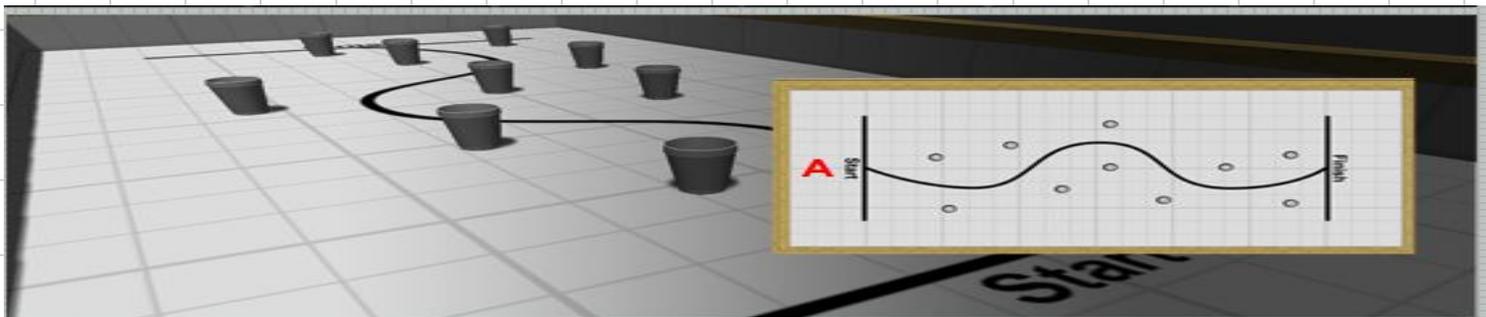
Parar los motores durante 100msec

Repetir por siempre!!!

Con este programa el robot va rotando 90 grados a la derecha cada vez que choca!!

Otro sensor interesante es el luminoso. Mide luz rebotada en el suelo y es capaz de seguir un rastro o camino de pintura negra. Ver el siguiente ejemplo:

```
1  #pragma config(StandardModel, "RVW REMBOT")
2  task main(){
3      int threshold = 45;          /* found by taking a reading
4                                   /* surfaces, adding them toge
5
6      nMotorEncoder[rightMotor] = 0; // Reset the right moto
7
8      //Line Track for 5 rotations...
9      //while(nMotorEncoder(rightMotor) < 1800)
10     while(true)
11     {
12         // sensor sees light:
13         if(SensorValue(light) < threshold)
14         {
15             // counter-steer left:
16             motor[leftMotor] = 25;
17             motor[rightMotor] = 55;
18         }
19         // sensor sees dark:
20         else
21         {
22             // counter-steer right:
23             motor[leftMotor] = 55;
24             motor[rightMotor] = 25;
25         }
26     }
27 }
28 //+++++
```



Robo Slalom II

Use the line tracking sensor on the robot to follow the curved line. Completion of this challenge is required for the Sensing Mastery badge.



Specification Document

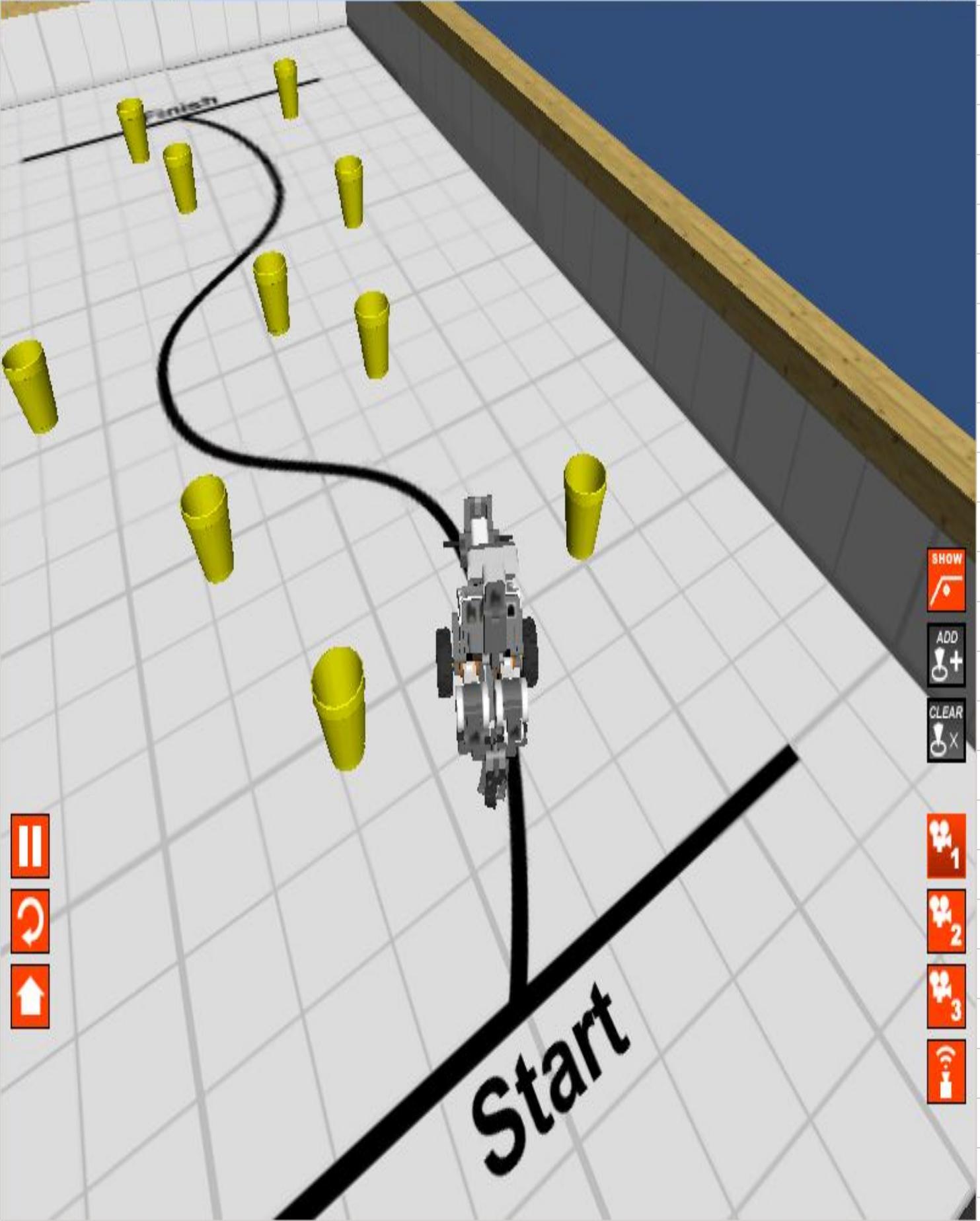
Achievements

☆ Slalom the Course

Current Robot: REMBot (w. Touch)

Fixed starting point:

START ACTIVITY ▶



Start

Finish

