



ROBOTICS CHALLENGE

Challenge Description

“WallFlower”

Design a robot that will follow along at least 2 walls that are at right angles to one another.

Specifications

- Challenge starts at any random distance from the corner of a wall.
- The best WallFlowers most seldom lose contact with the wall.
- The robot should turn when it senses a corner and follow a steady course along the wall.
- Robots must be made with LEGO Mindstorms Robotics Invention System and be programmed with Robolab programming environments.
- Robots can consist of a maximum 1 RCX, 8 Wires, and 3 motors.
- Nothing can be added or removed from the robot during a round.
- No non-lego parts are allowed
- Challenge is maximum 3 minutes long

Adaptations

- Count how many walls traversed by counting the number of corners.

Scoring

- 100 point challenge
- -5 points deduction each time robot must be handled
- 10 points bonus for adaptation noted above
- -10 points each time robot falls off the playing area
- Up to 5 points will be deducted from the total score for the total amount of damage sustained by the robot, as determined by the judge.

Hints and Tips

- A third wheel or bumper that runs along the wall can be connected to a touch sensor to monitor contact with the wall.
- Using two touch-sensors means you may need to use a task split in your program.