



# ROBOTICS CHALLENGE

## Challenge Description

### “Garage Door Opener”

Design, construct and program a device that will open the garage door when the car is within a certain distance of the door. The door should close once the car is inside the garage. The lights in the garage should turn on when the door is opened and stay on as long as there are people in the garage.

This challenge involves 2 RCX robots: one that is the “car” and one that operates the garage (door, lights, etc).

## Specifications

- The robot design must open the garage door when the car is within the designated distance from the door. The distance may be determined by a dark line on the surface.
- The robot design may use mail, touch sensors or light sensors to activate the door mechanism.
- The robot design must have a method of turning the lights on when the car is inside the garage.
- You do not have to build a complete garage: it is sufficient to build a door assembly and we'll imagine the walls.
- Robots must be made with LEGO Mindstorms Robotics Invention System and be programmed with Robolab programming environments.
- Robots can consist of a maximum 2 RCX, 8 Wires, and 4 motors.
- Nothing can be added or removed from the robot during a round.
- No non-lego parts are allowed
- Challenge is maximum 1 minute long

## HINTS

- use touch sensor on port 1 to make door go up and touch sensor on port 3 to make it go down
- use the light sensor to determine when the car passes a certain location on the driveway

## Scoring

- 100 point challenge.
- 20 points for each adaptation noted above.
- Robot may not be handled during trial.