

Quiz: Obstacle Detection

Introduction to Mobile Robotics > Obstacle Detection

1. How does the Touch Sensor bumper detect obstacles?
2. How does the Ultrasonic Sensor differ from the Touch Sensor when used as an obstacle detector?
3. Fancy Fragile is a store that sells expensive, breakable glassware. Everything in the store is made of glass, including the walls and shelves. The owner of Fancy Fragile would like you to develop a robot to help keep the store clean and count the items on the shelves to keep track of inventory.

Obviously, it is of utmost importance that your robot should not crash into the shelves, displays, or customers. For your robot's obstacle detection, you have three sensor technologies to choose from:

- Touch Sensor
 - Ultrasonic Sensor
 - Laser Reflectance Sensor (a long-ranged version of a light sensor)
- a. Would the Touch Sensor be a good choice in this situation? Explain why or why not.
 - b. Would the Ultrasonic Sensor be a good choice in this situation? Explain why or why not.
 - c. The Laser Reflectance Sensor senses distances by shining a laser forward and watching for light that reflects back from any object that may be in the laser's path. Would the Laser Reflectance Sensor be a good choice in this situation? Explain why or why not.

NAME

DATE