Getting Where You Want to Go (Avoiding Walls)

Background Information

It’s nice to be able to tell a robot to return to the origin (1,1), but what if there are walls in the way?

1: Easy
Write a returnToOrigin() method that will get the robot back to (1,1) assuming that there is a path leading back to the origin. There might be walls in the way, but it will be possible to go around them.

2: Harder
Write a boolean method called something like pathToOriginExists() that returns true if there is a path from the robot’s present position back to the origin, and false if there is not. Below are two reasons a robot might not be able to get back to the origin. Are there others?

3: Hardest
Write a boolean method similar to that in part 2, called something like pathToIntersectionExists() that takes as arguments a street and avenue, and returns true if it is possible for the robot to get there, false if there is no path to that intersection.

Now write a goTo() method that sends a robot to an intersection, given the street and avenue as arguments.