Robot Maze Problem (8x45)

PURPOSE: When introducing the simulator, students learn the basics of encapsulation. This is primarily a problem-solving algorithm assignment as opposed to many of our software design assignments.

DESCRIPTION: You are given a robot simulator. Your challenge is to give the robot commands so that it can get from the start of any maze to the goal point. Once it gets to the goal it needs to go back to the start the most efficient way possible (ie taking no wrong turns).

* Program your robot to find the goal then return to the start the fastest way (ie without going down any dead ends).
* Maze notes:  the maze will never have a loop inside it.  It could have an unlimited number of corners, t-junctions, dead-ends etc.
* Make sure you test on multiple mazes - the final maze will not be revealed to you.
* You may only add code in the first tab where specified.
* You will be working in groups and each person in the group must submit the solution.
* You can ask the following questions of the robot at any time: canGoRight() canGoLeft() canGoStraight(), isAtGoal(), isAtStart(), hasFoundGoal()
* You can move the robot using the commands: move(), turnRight(), turnLeft()