

## cis1.5-spring2008-azhar, lab I, part 2

### instructions

- This is the second part of the first homework/lab assignment for cis1.5. Read the first part of the assignment for complete instructions, due date and submission details.

### keeping roomba in the room

- Let's say that the size of the room is  $10 \times 10$ . That means that the roomba's  $x$  and  $y$  values must be between 0 and 10.
- Add error checking in your code to make sure that the roomba does not go outside of the room. Hint: you will need to add a check in each of the **moveXXXX()** methods, before you increment or decrement  $x$  or  $y$ . (1 point)
- If the user's action causes the roomba's  $x$  or  $y$  value to be invalid, then do not increment or decrement the  $x$  or  $y$  value — this would be like the roomba is bumping up against the wall. (1 point)
- Add a messages to be printed to the screen, telling the user when the roomba is bumping up against the wall. (1 point)
- Add a behavior for each direction, e.g., **moveForwardToWall()** that causes the roomba to go forward until it hits the wall, and then stop (and print a message to the user). Do this for each of the four directions. (1 point)
- Add four more letters to the set of user commands that will allow the user to tell the roomba to move forward (or backward or left or right) until it hits the wall. Use the following letters:

Q	quit the program
n	move the robot forward (to the north) one step
s	move the robot backward (to the south) one step
e	move the robot right (to the east) one step
w	move the robot left (to the west) one step
N	move the robot forward (to the north) until it hits the wall
S	move the robot backward (to the south) until it hits the wall
E	move the robot right (to the east) until it hits the wall
W	move the robot left (to the west) until it hits the wall

Note the distinction between upper and lower case letters!

*You will also have time to work on this in class on Thursday, February 14.*