A Robot object’s default initial conditions are to start at (1, 1) facing east with zero beepers. If you don’t want the default settings, you may specify the x-coordinate, y-coordinate, direction, and number of beepers. For instance:

Robot ophelia = new Robot(); **//calls the *default constructor***

Robot horatio = new Robot(5, 4, Display.SOUTH, 37); **//calls the *4-arg constructor***

1) What does ophelia know? What does horatio know? What do both robots know?

Ophelia knows that she has to start at grid point (1,1) and face east and that there are no beepers. Horatio knows he has to start at grid point (5,4) and has to face south and that there are 37 beepers. Both robots know their starting point and which direction they have to face.

2) Write the command to create a robot named pete starting at (4, 3) facing west with 50 beepers.

Robot pete = new Robot(4, 3, Display.West, 50);

3) Complete the main method to have lisa move one block, put down a beeper, then move another block. Since we have not set-up a specific map, the *default robot-map* will be used. The default map is empty except for the two infinite-length walls on the southern and western edges.

**public static void** main (String[] args)

{

Robot lisa = **new** Robot(7, 7, Display.SOUTH, 15);

lisa.move();

lisa.putBeeper();

lisa.move();

}

4) Complete the main method to have martha move forward five blocks and “hand-off” her beeper to george. Have george move forward two blocks and put the beeper down.

**public static void** main (String args[])

{

Robot martha = **new** Robot(1, 1, Display.NORTH, 1);

Robot george = **new** Robot(1, 6, Display.EAST, 0);

martha.move();

martha.move();

martha.move();

martha.move();

martha.move();

martha.putBeeper();

george.pickBeeper();

george.move();

george.move();

}

5) Question #3 has no Display.openWorld. In that case, what map is used?

The default map which is empty except for two walls going up the west and east sides.