1. Let's say you write a main method where you create a Robot named 'robbie'.

If you ran that code, then tried to use robbie.moveForward() in the Code Pad, what would happen. Why?

It would not work because robbie was not created in the Code Pad.

2. Given the following methods:
   initialize(int x, int y, int z); // starts the robot at the desired location (x,y) and direction z where 0 = up, 1 = right, 2 = down, 3 = left.
   moveForward(int x); // moves a robot forward x spaces
   turnLeft(); //turns a robot left
   turnRight(); //turns a robot right

   How many method calls would it take to draw each individual number in the seven segment form? Try to minimize the number of calls you use.

   1. Initialize(1, 0, 2);
      moveForward(2);
   2. Initialize(0, 0, 1);
      moveForward(1);
      turnRight();
      moveForward(1);
      turnRight();
      moveForward(1);
      turnLeft();
      moveForward(1);
      turnLeft();
      moveForward(1);
   3. Initialize(0, 0, 1);
      moveForward(1);
      turnRight();
      moveForward(1);
      turnRight();
      moveForward(1);
      turnRight();
      turnRight();
      moveForward(1);
      turnRight();
      moveForward();
      turnRight();
   4. Initialize(0, 0, 0);
      moveForward(1);
      turnLeft();
      moveForward(1);
      turnLeft();

moveForward(1);
turnLeft();
turnLeft();
moveForward(2);

5. Initialize(1, 0, 3);
   moveForward(1);
   turnLeft();
   moveForward(1);
   turnLeft();
   moveForward(1);
   turnRight();
   moveForward(1);
   turnRight();
   moveForward(1);
6. Initialize(1, 0, 3);
   moveForward(1);
   turnLeft();
   moveForward(2);
   turnLeft();
   moveForward(1);
   turnLeft();
   moveForward(1);
   turnLeft();
   moveForward(1);
7. Initialize(0, 0, 1);
   moveForward(1);
   turnRight();
   moveForward(2);
8. Initialize(0, 1, 0);
   moveForward(1);
   turnRight();
   moveForward(1);
   turnRight();
   moveForward(1);
   turnRight();
   moveForward(1);
   turnLeft();
   moveForward(1);
   turnLeft();
   moveForward(1);
   turnLeft();
   moveForward(1);
9. Initialize(1, 1, 0);
   moveForward(1);

turnLeft();
moveForward(1);
turnLeft();
moveForward(1);
turnLeft();
moveForward(1);
turnRight();
moveForward(1);
turnRight();
moveForward(1);

10. (NUMBER “0”) Initialize(0, 0, 1);
moveForward(1);
turnRight();
moveForward(2):
turnRight();
moveForward(1);
turnRight();
moveForward(2);

Lab 4 - Understanding and Creating Constructors and Methods

Driver - Alan Xiao

Scribe - Froilan Zarate

Driver: Take a screenshot of the robot you created and paste it into your report.

- 

Scribe: Assist the driver, and ensure that the driver does not miss any steps.

- **Driver assisted 😎**

What happens when you call moveHorizontally(100) and moveVertically(50)?

- **The robot is translated 100 pixels right and 50 pixels down. An after image is not created like before.**

Scribe: You might notice that there are more methods that the RobotTester class needs? What are they? What do you think they do? Write those two methods.

- **The RobotTester class needs to draw, getX, and getY. The draw method would draw the robot; getX would get the horizontal position of the robot; getY would get the vertical position of the robot.**

Do your robot values match the expected tester values? Why or why not?

- **No. It did not work because we could not get the getX and getY method to work.**

Lab 4 - Understanding and Creating Constructors and Methods

Driver - Froilan Zarate

Scribe - Alan Xiao

Method called	**Input**	**Expected Out**		**Actual Out**
multiply(x,2)	**4, 2**	**8**		**8**
add (x,4)	**8,4**	**12**		**12**
divide(x,2)	**12, 2**	**6**		**6**
subtract(x,-20)	**6,6**	**0**		**-12**

- **Scribe: From this test, did you find which method is functioning incorrectly? If not, try a different number. See if you get a different result.**
- **The subtract method is not functioning correctly**
- **Driver: When you finish this table, paste it into the document.**