Data Structures I - HW1

Instructions:

1. If you have not done so already, install both Java 17 and Eclipse Java 2022-06, set up your workspace, and unzip the hw1 files into the src folder of your workspace for this course. Videos walking you through the process are available under Content → Modules → Week 0 - Setting up your computer. Note that the links for Java, Eclipse, and the workspace files are all under Content → Software while the hw1-files.zip file is under Submissions → HW1.

2. Assuming you have eclipse set up correctly, you should see three files in the hw1 package. You will be modifying HW1.java. The file HW1Test.java will be used to test your homework and must not be changed. The file MyTest.java is a file you can modify to create your own tests for the methods in HW1. Note that the MyTest.java file will <u>not</u> be submitted and is intended solely to help you get started writing your own tests.

3. The file HW1.java has 5 methods inside that you must implement. Currently, each of the methods is hardcoded to return a value of the correct type. Remove that code in each method and replace it with code that will cause the methods to behave as specified in the Javadoc documentation for the method.

4. You should test your solution by adding code to the MyTest.java file. (The code I already provided in MyTest.java is nowhere near sufficient.) Even though I include the testing harness we will use to grade your homework, you should write your own tests as well. It really does help to understand how your code is being called (by writing your own tests), and in the "real world", you will be writing your own tests.

5. The HW1Test.java file will be used to grade your HW1.java file. You can run it yourself to see what grade you will receive (assuming you also submit the required screenshot as explained below). See the Grading section for details on how you will be graded. IMPORTANT: You won't know what the errors are unless you read through and understand my test code. It can often be easier to write your own test code so that you know what is being tested.

Submission

First, make sure you submit by the due date so that you don't lose points for submitting late. The folder will remain open an additional 8 hours just in case, but you will lose 2 points for every hour your submission is past the due date.

Also, you may submit multiple times. We will only grade the last submission you make. So don't submit 5 hours late (-10 points) to fix an error that was only worth 5 points!

Your submission consists of two parts. You must submit both parts to get full credit.

- Submit your **HW1.java** file. On my windows machine, I am able to drag it from the Eclipse window into the submission folder on D2L. Make sure you do not have any print statements in your submission!
- Submit a screenshot of what happens when you run the **HW1Test.java**. Make sure the window containing the results of the tests is expanded so I can easily see the results. Save the screenshot to a .png, .jpg, or .bmp file. Failure to submit a screenshot will result in a 10 point deduction to your grade for HW1.

Do not submit any files other than these two. Also make sure you are submitting ".java" files and not ".class" files.

Grading

The name of each test function ends in a 2-digit number indicating how many points that test is worth. The tests in HWTest.java add up to 100 points, 20 for each function you are asked to implement. Your grade will be the sum of the points for all the tests that pass.

If the passing tests add up to less than 50, then we will look at your code itself to try to assign some partial credit. For this reason, it is very important that you use good variable names and include comments explaining your idea. If we cannot understand what you are trying to do, we cannot assign partial credit. Note however, that partial credit will never raise your score above 50. At this point in your programming career, the expectation is code that runs correctly.

Don't forget to submit the required screenshot listed under Submission or you will lose points!