

Due before class on 03 September 2013**Grading: Score out of 20 points**

You must understand object oriented programming to pass this course. This lab is designed to review some concepts you already know. It is given in Java, but if for some reason you'd like to use another language, please arrange it with the instructor *before* beginning to work on it. You must have approval to use another language.

A linked list is one of the most basic data structures. Its implementation and testing will help you review object oriented design as well as the use of an IDE. Eclipse is recommended for use in this class (especially for Java development). Extensive documentation on setting up and using the Eclipse IDE with the JDK is available on the eclipse.org website and by simple searches. If you wait too long to start this assignment and don't have your programming environment set up, you will be in a world of hurt. Points will be deducted for bad style and insufficient documentation. Always submit professional work. Late submissions will be penalized at 20% per day. So don't be late.

Linked List

1. A list (also known as a sequence or vector) is an ordered collection. Elements can be accessed by their index. There are several alternatives for implementing a list, but most commonly a list is implemented using either arrays or a linked data structure. This assignment uses a singly linked data structure for implementing a list.
2. Implement the class `LinkedList` whose skeleton is given, and write a Java program that tests your `LinkedList` class. Your work for this assignment should be contained in two separate files, a Java source file (.java) for the `LinkedList` class and a Java source file (.java) for the test program. You may modify parts with private visibility in the given class as desired, but *do not modify the parts with public visibility*.
3. Your testing program must be robust and cover boundary cases and test each function you implemented. Make sure your testing program is well documented and easy to follow – even if your code works, you can lose significant points for an insufficient testing program.
4. When your code is complete and tested, combine the files into an archive (ZIP/RAR/etc.) and submit to <http://dropitto.me/verdicchio>. The password is `fall113`. Name the archive: `602-LASTNAME-LAB1.zip`. You can re-submit until the deadline, and each will overwrite your previous submission.
5. Academic dishonesty in any form, no matter how minor, is grounds for a failing grade for the course and immediate withdrawal. I am not kidding. Write your own code and do the work yourself. Ask me for help if you get stuck.