
In this programming assignment, you will demonstrate your knowledge of dynamic data structures (in particular, linked lists) by revising the tropical storm data program from Programming Assignment 2 to incorporate dynamic data structures.

New Internal Requirements

For this assignment, you should replace your `Database` class with another implementation which uses instances of the Java Collections `java.util.LinkedList` class to replace your hand-crafted `LinkedList` classes. Note the following:

- `LinkedList` is a generic type; you must instantiate it with concrete class types. Thus, your `Database` object will contain several `LinkedList<Storm>` objects; you will need to organize these lists into another instance of `LinkedList`. (Consider creating a `Year` object to help with this.)
- You are still required to maintain your lists in sorted order. The pre-built `LinkedList` methods do not directly support relative insertion into a linked list; you will need to find ways to accomplish this with the tools available to you. (There are at least a couple of ways to do this.)

New Functional Requirements

Your program will be an extension of Programming Assignment 2, and thus should operate in the same manner as that assignment, unless otherwise specified herein. In particular, this means that any errors present in your submissions for Programming Assignment 2 should be fixed for this assignment.

The following new requirement should be implemented as well:

- A new command should be implemented which allows the user to edit a storm from the main menu. If selected, the program should prompt the user for the year and storm name to be edited.

If a matching storm is found, the corresponding record should be displayed and the user prompted for new information to be placed in the record. Users may not change the year or storm name, but may change any of the other information. If no matching storm is found, no action should be taken. The user should be informed of the outcome in any case.

Submitting Your Program

Before 11:59:59 p.m., Wednesday, 9 November 2012 (6th Wednesday), you must upload a zip archive to the course Blackboard assignment for Programming Assignment 3. This zip archive must contain all source code files for your program, including a class named `Prog3` with a `main` method.

In addition, you must deliver to the instructor a printout of your program files at the start of class on Friday, 11 November 2016 (6th Friday).

Notes

1. *Plan for the future!* If your submission for Programming Assignment 2 was well designed, the number of changes to classes outside of the Database class should be minimal. In future assignments, you will be asked to replace the Database class with an implementation of a different dynamic data structure; again, changes outside of the Database class should be minimal. Design your program with this in mind.
2. Obviously, this assignment will require you to learn about the Java Collections Framework in general, and the `java.util.LinkedList` class in particular. Documentation may be found at the Sun website:
 - **Java Collections:**
<http://docs.oracle.com/javase/8/docs/technotes/guides/collections/>
 - **LinkedList:**
<http://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html>
3. Reminder: The midterm exam is scheduled for 4 November (5th Friday).