
The Genius of Dummies

1 Important Notes

This lab does not require a design document. Instead we ask that you:

- Read Chapter 9 up to and including “9.5 Implementation: Doubly Linked Lists” and bring your questions to class.
- Study the code in the `LinkedList.java` starter file before coming to lab and think carefully about how you might modify the various methods as described in the assignment.

2 Thought Questions

Answer the five Thought Questions on page 217. Include your answers inside a multi-line comment at the top of `LinkedList.java`. Java supports multi-line comments as follows:

```
/*  
A multi-line comment block starts with a '/*'  
and ends with a '*/'  
All text you write between these comment characters  
will be ignored by the Java compiler.  
*/
```

3 Lab

The central purpose of this week’s lab is to give you some hands-on experience writing code that manipulates a linked structure. Your task is to complete the Laboratory Assignment from Section 9.10 of your text, entitled *Lists with Dummy Nodes* (pages 215-217). You will start with already working code (a class called `LinkedList` that extends the `structure5` class `DoublyLinkedList`). The goal is to simplify the code by adding two “dummy” nodes to your `LinkedList` in order to simplify the implementations of several of the class methods. The Laboratory Assignment in Section 9.10 walks you through this process—you will have the best experience if you follow the instructions in that description carefully!

Before starting, copy the following starter file (don’t forget the period in this line):

```
cp /opt/mac-cs-local/share/cs136/labs/list/LinkedList.java .
```

You may want to make two copies of this file, so that you can better compare your modified version to the original as you progress. We have also posted starter code that you can use to test your linked list implementation and compare.

4 Deliverables

When you are finished, create and submit a folder `<unix>-lab5` that contains your well-documented source code and answers to the five warm-up/thought questions.

As in all labs, you will be graded on design, documentation, style, and correctness. Be sure to document your program appropriately.