CS 61B Lab 4
February 13-14, 2014

Goal: This lab will demonstrate how a sentinel node can simplify a
doubly-linked list implementation.

Copy the Lab 4 directory by starting from your home directory and typing:

```
    cp -r `cs61b/lab/lab4`
    cd lab4
```

Getting Started
---------
Please make sure you have a partner for this lab.

The files in the lab4 directory contain classes for two different types of
doubly-linked list. The DList1 class does not use a sentinel, whereas the
DList2 class does. The DList1 class is not circularly linked, but the DList2
class is (through the sentinel). Compile DList1.java and DList2.java (using
"javac -g DList1.java DList2.java").

Your task is to implement two insertFront() and two removeFront() methods—one
of each for each list class. insertFront() and removeFront() insert or remove
an item at the beginning of a list. Make sure your implementations work for
empty lists, one-node lists, and larger lists.

The main() methods of DList1 and DList2 include test code, which you can run
with "java DList1" and "java DList2".

Part I: insertFront in DList1 (1 point)
--------------------------------------
Write a method called DList1.insertFront() that inserts an int at the front of
"this" DList1.

Part II: removeFront in DList1 (1 point)
---------------------------------------
Write a method called DList1.removeFront() that removes the first item (and
node) from "this" DList1.

Part III: insertFront in DList2 (1 point)
----------------------------------------
Write a method called DList2.insertFront() that inserts an int at the front of
"this" DList2. Your code should NOT use any "if" statements or conditionals.

Part IV: removeFront in DList2 (2 points)
----------------------------------------
Write a method called DList2.removeFront() that removes the first item (and
non-sentinel node) from "this" DList2. Your code should not require separate
branches for the one-node case and the more-than-one-node case. (You will
need one "if", to handle the zero-node case.)

Check-off
-------
Run the DList1 and DList2 test code for your TA or Lab Assistant.

1 point: DList1.insertFront().
1 point: DList1.removeFront().
1 point: DList2.insertFront().
1 point: DList2.removeFront().