

Important

There are a few guidelines you must follow in this homework. If you fail to follow any of the following guidelines you will receive a **0** for the entire assignment.

1. All submitted code must compile under **JDK 7**. This includes unused code, don't submit extra files that don't compile. (Java is backwards compatible so if it compiles under JDK 6 it *should* compile under JDK 7)
2. Don't include any package declarations in your classes.
3. Don't change any *existing* class headers, constructors, or method signatures. (It is fine to add extra methods and classes)
4. Don't import anything that would trivialize the assignment. (e.g. don't import `java.util.LinkedList` for a Linked List assignment. Ask if you are unsure.)
5. You must submit your source code, the `.java` files, not the compiled `.class` files.

After you submit your files, redownload them and run them to make sure they are what you intended to submit. We are not responsible if you submit the wrong files. Do NOT submit .class files.

Assignment

A linked list is a data structure consisting of a group of nodes which together represent a list. Under the simplest form, each node is composed of some data and a link to the next node in the list. The principal benefit of a linked list over a conventional array is that the list elements can easily be inserted or removed without reallocation or reorganization of the entire structure, because the data items need not be stored contiguously in memory.

In this assignment, you will create a doubly linked list with head and tail pointers. The javadocs for each of the methods will tell you what needs to be done.

We will not provide any JUnit test cases, however, you should test all the methods yourself to make sure they are correct. You do NOT have to submit a test case file.

NOTE Please be sure to look over ALL files provided by us before you start coding. This will make the homework much easier to do.

Exceptions

In this homework, rather than ignoring bad cases, we will throw exceptions. Please read the javadocs for more information on which exceptions to throw.

Deliverables

You must submit all of the following files.

1. `LinkedList.java`

You may attach them each individually, or submit them in a zip archive.