

The main task in this recitation is for you to fix a version of A3, doubly linked lists, so that it implements interfaces `Iterator` and `Iterable`. Do the following steps to prepare for this —you can use either your solution to A3, if you *know* it is correct, or our solution, which is available on CMS.

- A. Start a new Eclipse project, call it something like `r7Iterable`.
- B. Create a new package called `LinkedList`.
- C. Put the correct files into the project :
 - a. Download `DLLTest.java` from the lecture notes page and copy it into the new project. You can do this by selecting the file, doing a copy, selecting the directory `src/LinkedList`, and doing a paste. This file includes new test functions to test your implementation of `iterable`.
 - b. To use OUR `DLL.java`: Download a3 solution from CMS and copy `DLL.java` into your project as above.
 - c. To use YOUR `DLL.java`: Copy your `DLL.java` from your old a3 project to the new one.
- D. If `JUnit4` is not available in the new project, insert a new `JUnit` test-case class and then delete it in the usual way.
- E. Look at the code at the bottom of class `DLLTest`. Look at how it tests interfaces `Iterator` and `Iterable`. Of course, there are errors because `Iterator` and `Iterable` have not yet been implemented by class `DLL`.
- F. Write inner class `DLLIterator` with this specification and header:

```
/** An instance is an iterator over the elements of this list. */  
private class DLLIterator implements Iterator
```
- G. Write method `iterator` with this specification and header:

```
/** Return an Iterator over the elements of this list. */  
public Iterator<E> iterator()
```
- H. Change the class of declaration of `DLL` to implement `Iterable<E>`.
- I. If you did the above correctly, both classes should have no syntax errors. And if you Run class `DLLTest` and made no mistakes in the above, the test should run without errors.