Cosc 1p03 Assignment 5

(Due date April 8th 16:00 est, Late date April 11th 16:00 est)

Part A:

From class, create an implementation of the list interface using linked lists. Your implementation should include the iterator.

For submission, show that it is compliant to the conlist using a direct comparison to the conlist test harness. Hence both should give the same output. See class example.

Part B.

Now write a new interface, called SortableList, that **extends the interface List**, which describes an additional sort method that performs bubble sort on the list.

Create an implementation of this interface using linked lists (you can obviously re-use the code from your linked list implementation to write this).

Finally, write a test class that creates a sortableList of size 100 by randomly generating integers in the range [0,100] and then perform the sort on it. Assume that 1 comparison will be 1 time unit -- print the list using the iterator and the time (time units), that it takes to run this sort method. Consider the sort method prototype as follows:

```
public int Sort();              //which sorts the list and returns the time units.
```

Submission

For both parts A and B, package the code into 1 zip file and submit via Sakai.
Be sure to provide proper commenting and layout of your code.