CSCI 1101 – Winter 2013
Laboratory No. 8

This lab focuses on Linked Lists.

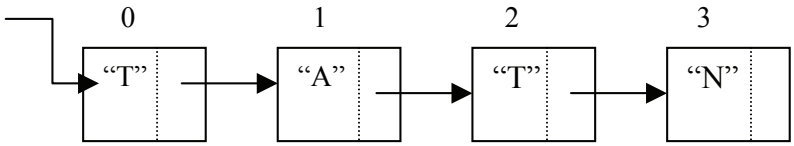
Your task is write and compile the class file followed by the tester program. Include all the source codes and outputs for each program. Please submit on Moodle by 12 noon on Saturday, March 16.

There are just three exercises in this lab. Use the remaining time to finish your assignment 3.

Review: Download the following files - Node.java, LinkedList.java and LinkedListDemo.java (given next to the Lab8 link). These were discussed in the lectures. Understand the methods in LinkedList.java and run and test the demo program (for different input sets).

Exercise 1: Add the following method to LinkedList.java:
Method `public void set(int index, String d)` that sets the value of the node at the given index to d. For example, set(3, "J") in the following linked list should change the last node from "N" to "J". If the index is out of bounds, the method should print the error message and not make any changes.

Test your method by including appropriate test statements in the demo program.



Exercise 2: Add the following method to LinkedList.java.
Method `public void listAll(String d)` that prints the indices of all the nodes that contain the String s. For instance in the linked list given above, listAll("T") should print 0, 2.

Test your method by including appropriate test statements in the demo program.

Exercise 3: Add the following method to LinkedList.java.
Method `public ArrayList<String> convertToArrayList()` that returns an ArrayList containing the linked list elements in the same order. Don't forget to add the import statement.
Test your method by including appropriate test statements in the demo program.