

CS120 - Computer Science I

Lab #14

Spring 2014

The purpose of this lab is to give you practice working with linked lists, and further practice with files and strings.

We will be discussing ways to sort array-based lists later in the course, but this exercise will use a linked list to do so. The idea is that as we build the linked list, we can insert the nodes into the list in their proper order. In other words, we can achieve a sorted list by doing the sorting while creating the list.

Specifically, you are given a file that contains a list of the states and territories of the United States, one per line, in random order. Your program should read a name from the file, then insert the name into a linked list. Then, you should read the next name, determine whether it should come before or after the previous name, then insert this name in the proper place in the list. If you do this for each name in the list, once the entire file has been processed, your linked list will hold the complete list, sorted in alphabetical order.

For this lab, you should open the file containing names, input each name, and insert it into the list in the proper place. Once you have processed all of the names, you should then print the list on standard output, one per line, in alphabetical order.

Once you are certain your program works correctly, submit the code using `cscheckin`, as well as a paper copy.

LAB