Instructions

These problems are due by 5:00pm, Friday, November 19, 1999. You may refer to your textbook and notes as you work on them. You may NOT consult with anyone else, except to ask me for clarifications. You may use the computer to verify your solutions if you wish. Write each answer on a separate piece of paper.

1. Write a recursive method which takes an integer N as a parameter and which returns a string which contains N ‘-’ characters. Call your method “makeBar.” For example, executing the call “makeBar(5)” should produce a return value of “-----”. Recall that a string can be “built up” in the same way a numeric sum can, i.e. if s is a string value, s = s + ‘y’ will attach the character ‘y’ to the end of String s.

2. Write a recursive procedure-style method called “fillStackBackwards” which takes two parameters: a BufferedReader called in, and a Stack called s. Use the BufferedReader method “readLine( )” to read in lines until a null value is returned (this is readLine’s way of signaling that the end of input has been reached). Put the strings you have read in into the stack so that when they are popped, they come out in the same order they were read in. For example, if the input is:
   The first line
   The second line
   The third line
then the result of doing three pops on the stack and printing out the results should be
   The first line
   The second line
   The third line
rather than the reverse, which is what would happen if you simply pushed each string as it was read in.

3. Suppose you have deposited a sum of money in an account which pays 10% interest, compounded annually. Write a recursive method which calculates the value of the account at the beginning of the Nth year. The method takes two parameters, the initial amount, and the number of years.

Pledge: On my honor, I have neither given nor received unauthorized help on this work.

Signed: _________________________________