CS 180 Problem Solving and OO Programming

Practice Problems for Exam 1
September 30, 2011

The problems given below are to help you prepare for Exam1. These problems are in addition to the homework (HW1 through 5) and recitation (recitation 1 through 5) problems that you may solve to prepare for the exam. Note that these problems are for practice only and your solutions are not to be turned in and will not be graded.

1. Write a Java program that reads a string from the console. The program should extract the character at index 5 in the string and display it. For example, if the input string is:

   ```
   Hello! How do you do?
   ```

   Then the output from your program should be:

   ```
   !
   ```

2. Write a Java program that reads an integer from the console and then reads a string of characters. It then extracts the character from the string that is at the position given by the integer. If the integer entered is negative or larger than the length of the string entered, then the program must display the error message "`There is no such character`." For example, if the integer entered is 7 and the string entered is "`Hello! How do you do?`" then the program must display the character `H`. However, if the integer entered is 96 and the string entered is the same as above then the program should display the error message.

3. Write a Java program that reads a string from the console and prints out the number of times the character 'a' occurs in the input string. For example, if the input string is

   ```
   It was dark when he arrived.
   ```

   Then the output from your program should be

   ```
   3
   ```

4. Write a Java program that adds numbers entered from the console by a user. Prompt the user for a number and add it to the numbers already entered by the user. When the user enters a zero, then print the sum obtained so far and exit. The sum should be printed to 3-digit accuracy/ For example, if the sequence of numbers typed by the user is

   ```
   20.5
   10
   34.5
   0
   ```

   then your program's output should be

   ```
   65.000
   ```

5. Write a Java program that reads a sequence of numbers entered by the user as in the previous problem and prints the largest number typed. Assume that the last number entered by the user is 0 and this should not be considered while finding the largest number. For example, if the numbers typed by a user are as in the previous problem, then the output from your program should be 34.5

<End of practice problems>