cs171: Introduction to Computer Science

String Gymnastics

1. Write an application that prompts the user to enter a string as input and reads this string. Then use a loop to print the string characters in reverse order on one line.

2. Look up the java api to find a method that will return the last part of a string (a substring) if you give the character index of the starting part to return. Write an application that prompts the user to enter a string, a start index, and an end index. Then print the appropriate substring specified by these indices.

3. In the java api, find a method that returns the middle portion of a string if you provide the starting and ending indices. Test this method out on several strings by changing the application you wrote for the previous question.

4. Write an application that prompts the user to enter a string. Create a new string in which all the lower case 'a's are converted to upper case 'A's. Print the new string.

5. Find a java api String method that does the same thing as your application above (replaces all occurrences of a character by another).

6. Write an application that prompts the user to enter a string. Then reverse all the characters in the string. Then print out the new string.

7. Write an application that prompts the user to enter a string. Print out `true` or `false` depending upon whether the input string was a palindrome or not. Test out your application with several inputs.

8. Write an application that reads a string from the user and counts (prints) the number of vowels found in that string.

9. Write an application that reads in three strings from the keyboard and prints them in alphabetical order.

10. Write an application that converts each 'a' to a 'b', each 'b' to a 'c', each 'c' to a 'd', ..., and each 'z' to an 'a'. This is called a rotation cipher because we are rotating the characters to the next letter in the alphabet. Print out the "encoded" string.

11. Write an application that converts in reverse order ('b' to a 'a', each 'c' to a 'b', each 'd' to a 'c', ..., and each 'a' to an 'z'). This will "decode" the strings from the previous program. Send someone an encoded message on email (or send one to me) and have them decode it and send you back a reply.