COMP 115 Robots, Games, and Problem Solving

Lab #3

In this lab, you will write short programs that use basic string processing operations.

1. Write a program that asks the user for a string. Then, print on screen a string consisting of a number of stars equal to the length of the string you received as input.

2. Write a program that asks the user for two strings (you will need two input lines for this). Then, print on screen a string whose first and last characters are from the first string, but whose other characters are from the second string, with first and last characters removed. For example, if the input strings are `foo` and `bar`, then the string printed on screen should be `fao`. If the input strings are `first` and `second`, then the string printed on screen should be `fecont`.

   _____ Show me the result when you are done.

3. Below the program from exercise 1, write a second piece of code that prints on screen a string that consists first of all the characters from even position indices of the original string, followed by all the characters from odd position indices in reverse order. For example, if the input string is `abcdefghijkl`, then the string printed on screen should be `acegikljhfdb`. Make sure you also test your program on a string of odd length!

4. Below the program from exercise 2, write a second piece of code that inserts the second string in the middle of the first; if the first string has odd length, the longer half should be at the beginning. For example, if the input strings are `foo` and `bar`, then the string printed on screen should be `fobaro`, and if the input strings are `fooo` and `bar`, then the string printed on screen should be `fobaroo`.

   _____ Show me the result when you are done.

In Python, strings are *objects*, meaning that in addition to containing data (a sequence of characters), they also contains *methods*: functions that can be called from the object. One of these methods is `find`, a method that will return the first index at which the input of `find` is found in the string from which the method is called. For example, after setting `s = "foobar"`, executing the method `s.find("b")` would get us the value 3.

5. Write a program that asks the user to enter a floating point number and then, without ever converting the number into a float (that is, keep it as a string), print on screen all the characters that come before the dot, and all the characters that come after the dot, clearly

identifying which is which. For example, on input `-45.773`, the program should print `before: -45, after:  773`. For this exercise, you can assume that there will always be a dot in the number entered by the user.

_____ Show me the result when you are done.

When you are done, write your name on the sheet and hand it to the lab instructor.

Name: _____