ELEC 2543 Object-Oriented Programming and Data Structures

Programming Exercise 3b

Topics: Class Libraries

Due Date: Feb 16, 2017

Overview: There are many useful library functions available in Java, and it is not possible for a single book to list them all. It is crucial to know how to use online resources to help your programming. In this exercise, you have to study some java library descriptions to identify library methods that help you to finish the programs in an efficient manner. The documentation of class String can be found in <https://docs.oracle.com/javase/7/docs/api/java/lang/String.html>.

Class Lab3bString contains methods for comparing and manipulating Strings. Methods in the class are *class methods*. That is, use the class name to invoke the methods. For example, we have defined method

public static boolean sameString(String s1, String s2) {

s1 = s1.trim();

s2 = s2.trim();

return s1.equals(s2);

}

in the class. When a method is static, it can be invoked using the class name. In Lab3bMain.java, we call the method by statement Lab3bString.sameString(…, …).

Method sameString returns true if after removing the leading and trailing whitespaces, the two strings in the parameter list are the same. To remove the whitespaces, method trim() of class String is used. The full definition of trim() can be found in the java documentation.

In your search engine, input “String java” and locate the Oracle documentation for String. There is a section called “Method Summary” that tells all the methods available for you in class String. Find out trim() and understand what it does. Read also others for the following.

Develop the following class methods in Lab3bString. Lab3bMain.java contains test cases for each method.

1. public static boolean sameStringIgnoreSpace(String s1, String s2)

This method returns true if s1 and s2 are the same after removing the white spaces inside the strings. This method also ignores cases. That is, "This IS a TEST” is the same as " This is aTEST! "

1. public static int countPattern(String s, String pattern)

This method tells how many times the specified pattern appears in s. Case difference should be ignored. That is, pattern “AbC” is the same as “abc”.

1. public static String remove(String s, String pattern)

This method returns a String with all sub-strings matching pattern removed from s. pattern is **case sensitive** that “AbC” is different from “abc”.

1. public static String truncate(String s, String pattern)

This method returns a String with s truncated from the last occurance of pattern. pattern is **case sensitive** that “AbC” is different from “abc”.

Handin

Submit your Lab3bString.java (no other file) to Moodle before the deadline. We will use our own driver program to test your submission.