

Lab 25

Instructions: Complete the steps below. Be sure to show your code to one of the lab TAs before you leave, so that you can receive credit for this lab. You must also upload a copy of all your source code (.java) files to the link on Blackboard by **11:59 PM on Monday December 7, 2020 for L01, L02, L03, L05 and by 11:59 PM on Thursday December 3, 2020 for L06, L07, L08 and L09.**

1. Write a method that returns an array list of Character from a string using the following header:

```
public static ArrayList<Character> toCharacterArray(String s)
```

For example toCharacterArray("abc") returns an array list that contains characters 'a', 'b' and 'c'. Write a test method that prompts the user to enter a String. Call the method toCharacterArray() on the input string. Print the elements of the Character array list separated by exactly one space.

Here is a sample run:

Enter the input string: Stony Brook

Elements of the Character array list: S t o n y B r o o k

2. Given two ArrayLists of sorted strings (alphabetically ascending), write down a method to merge these sorted strings' ArrayLists into a single sorted ArrayList. The signature of the method is given below:

```
public static ArrayList<String> mergeList(ArrayList<String> lst1,  
ArrayList<String> lst2)
```

Write down a test method that tests the above method.

As an example if:

List1 has its elements: "Austin" "Dallas" "San Francisco" and

List2 has its elements : "Boston" "Chicago" "Denver" "Seattle" then the merged sorted list should have the elements in the following order : "Austin" "Boston" "Chicago", "Dallas" "Denver" "San Francisco" "Seattle"

Grading Guidelines: This lab is graded on a scale of 0-6 points, assigned as follows:

- **0 points:** Student is absent or does not appear to have completed any work for the lab
- **2 point (2*1):** Student has written the program, but it has errors.
- **4 points (2*2):** Student has written the program it compiles without error, but it does not produce the correct output.
- **6 points (2*3):** Student has written the program and it compiles and runs correctly, without any errors.