

# Lab 4

## Spring 2022

### Strings and Exception

Solutions limited in scope to:		
• Regular Expressions	• String	• Exception

#### Submission Rules:

1. Submissions must be zipped into a **handin.zip** file. A template file (StringUtility.java) is provided with the assignment. Fill the methods in the template file.
2. You must use standard input and standard output for ALL your problems. It means that if the input is needed the input should be entered from the keyboard while the output will be displayed on the screen.
3. The output of your solutions must be formatted exactly as the sample output to receive full credit for that submission.
4. Compile & test your solutions before submitting them. Programs that do not compile will receive 0 points.
5. This lab is worth a max total of 40 points.
6. Submission:
  - You have unlimited submission attempts until the deadline passes
  - You'll receive your lab grade immediately after submitting
7. Use the helpdesk if you need assistance with the assignment and start early. Read through the documentation provided to understand the requirement of the code.
8. Due Date: **March 20, 11:59 PM**. Submit the assignment to **gitlab** and **autolab**.

### **Problem 1: Reverse (10 points)**

This method takes in a sentence as a parameter and returns the reverse of the sentence by word. For this particular problem, we will convert all our sentences to lowercase. The result should only return the strings separated by a single space, although the input may contain multiple spaces in between them.

Example:

`reverse("This is a SENTENCE")` will return "sentence is a this".

`reverse("This        SENTENCE")` will return "sentence this".

### **Problem 2: maxOccuringCharacter (20 points)**

This method takes a sentence and counts the max occurring character. It ignores all the spaces, punctuations, digits and converts all the uppercase to lowercase letters. Example:

`maxOccuringCharacter("iiiiii")` = 'i'

`maxOccuringCharacter("liijjj")` = 'i'

### **Problem 3: isPalindrome (10 points)**

This method checks whether the given string is a palindrome or not. A palindrome is a word, number, phrase, or other sequences of characters that read the same backward as forward, such as madam or racecar. An empty string is considered to be a palindrome.