

Workshop 2

Description:

This assignment lets you practice basic concepts such as encapsulation and abstraction.

A *palindrome* is a word, phrase, number, or other sequence of characters which reads the same backward or forward. *Stack* is a simple data structure/container which acts as LIFO (last element in, would be the first element out.)

In this assignment, first, develop a **Stack** class. Second, develop a second Java class named **Palindrome** that in its **main** method, receives a string as a command-line argument, and then uses a **Stack** object to check whether the given string is a palindrome or not.

Please note the following regarding doing this workshop:

- 1 - You should implement **your version of Stack class** (Use [this link](#) if you need) first. **You should not use Stack class in Java API.** Objects based off our `Stack` class just know how to **push and pop characters, one at a time**. Your `Stack` class should be a reusable entity and doesn't need to know any of the logic that you are going to put in the second class.
- 2- Based on the specs for this workshop, your solution should be dealing with a sequence of characters and thus, **backed by a char array (as its storage.)** Please note that since we have not yet talked about `ArrayLists`, **you should use an array**. In case you like to new/initialize your array based on the size of the command-line argument's size, you could do it so through a constructor in your `Stack` class.

Marking Criteria and Task:

Please note that you should:

- a- have appropriate indentation.
- b- have proper file structures and modularization.
- c- follow Java naming conventions.
- d- document all the classes properly.
- e- not have debug/useless code and/or file(s) left in assignment.
- f- have good intra and/or inter class designs.

in your code!

- Task: Developing and running the desired solution: **(you should submit your source code - just individual .java files and screenshots which demonstrate the way your code runs in different scenarios): 5 marks.**

Deliverables and Important Notes:

- You are supposed to submit your solution online on BB by the end of the day on Tuesday, 7th of June 2022.)
- Please note that you would be allowed to submit just once, so please be super careful and double check before you hit submit.
- There would be a 20% penalty for each day (or part of it,) in case you submit late!
- Remember that you are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments, but the final solution may not be copied from any sources.