Delta College

CST 283
Programming Assignment 7

Winter 2023
Instructor: T. Klingler

Objective

This program will provide an opportunity to solve a problem using stack operations.

Overview & Instructions

Write a program that will assist a writer with version control on their written works. Your program should include a simple interface that includes a larger text area (for written content) along with a small set of buttons. The intent of the program is to allow the author to ***commit*** a version of the written work to store it. If the writing continues and the author does not like new changes, they can ***undo*** the work and revert back to the version committed. This intended LIFO behavior can be managed with a stack.

Create a simple class to manage one version of a written document (**`Version`** or something similar). This can be a very basic class that minimally needs the following data variables:

- String with captured version of writing
- Date and time the work was captured

Include the following in the driver program:

- Utilize the generic stack class created within the course to then further define a stack of **`Version`** objects
- Create a simple (JavaFX) interface with one text area, an information label, and the following buttons:

Commit	Capture all of the text in the text area, and "set" it to a new **`Version`** object. Push the **`Version`** object onto the stack.
Undo	Remove content of text area and replace with string content stored in the **`Version`** object popped from the top of the stack. Display the date and time of the version retrieved in the information label.
Save	Store the content in the text area to a file. Also, store the contents of the **`Version`** stack. You can store this in the same file or a second one, but be sure to utilize a format that allows the stack to be retrieved and rebuilt with a "load" action.
Load	Load the latest version of the written document and load it to the text area. Load the **`Version`** stack information from a file and rebuild the **`Version`** stack.

Be sure to include error-checking mechanisms to avoid issues like popping from an empty stack, loading from a non-existent file, etc. Be sure to test "first-time" commits/undos and loads/saves to avoid unwanted program exceptions.

Deliverables

Deliver the following to the online course management system **Assignment** dropbox:

- **Upload** your **source code** (.java) file(s). Multiple file submissions preferably zipped.

Notice

This is an individual assignment. You must complete this assignment on your own. You may not discuss your work in detail with anyone except the instructor. You may not acquire, from any source (e.g., another student or an internet site), a partial or complete solution to a problem or project that has been assigned. You may not show another student your solution to an assignment. You may not have another person (current student, former student, tutor, friend, anyone) "walk you through" how to solve the assignment.