CSE218 Data Structures HW 2

1. Implement a stack of String type using an array list.

2. Reverse the order of all the sentences in a paragraph using the stack created in the previous problem. The paragraph should have at least five sentences. These sentences could be separated by a period, a question mark, or an exclamation mark. After that, reverse all the characters in the original paragraph using the same stack implementation.

3. Create a GUI program using JavaFX to check if a Java program is balanced in its use of parentheses, curly braces, and square brackets. You do it by using the **Stack** API in the Java library.

   The program consists of a text area, a button, and a label. The text area allows the user to paste a short Java program into it. The button allows the user to click to start checking, and the label displays TRUE if the program is balanced and FALSE if it is not balanced in any fashion.

4. Create a GUI program using JavaFX that displays a 3 x 3 game board filled with 9 black buttons. As the user clicks a button, the button will change its color from black to red. Each time the user clicks a separate, stand-alone button marked "**UNDO**" located above the board, the most recently clicked button will be changed back to black. When the "**UNDO**" button is clicked again, the button clicked before the last clicked button will also be changed back to black, and so on so forth. This can potentially be carried out until all the red buttons are turned back to black. After which time, the program will display a message saying "No more buttons to turn black." Also, at any time, a black button, if any, can always be clicked and turned to red.