CSIT 150 Lab5: Recursion

Objectives
- Practice using recursion and iteration.
- Practice reading input from a file.

General Requirements

In this lab, you must write your code following the proper programming style. The bottom line is:

- Use indentation to show the logical structure of your code
- Use blank line to separate code blocks and give each code block a comment
- Give documentation comment to the class and each method

Programming Practice

1. Create a class named Lab5 following these requirements:
- A **recursive** method named *palindrome*(String) which returns true if the String parameter is a palindrome. A palindrome is a word, phrase, or sentence that reads the same forward and backward, such as: noon, racecar, desserts I stressed. You will need to handle odd-length and even-length palindromes.
- An **iterative** method named *palindromeIterative*(String) which does the same thing as the recursive method *palindrome*(String), but works iteratively.
- A method that read lines of text as Strings from a file and then calls the palindrome method(s) to see if the String on the line was a palindrome or not.
- Output all of the palindromes that were in the text file.
- Output a count of all palindromes in the text file.
- **Bonus**: output the palindromes in alphabetical order. (It is your choice how to store and sort these strings.)
- Use JavaDoc to document this class appropriately.

  FYI - This class uses all "static" methods.