

When you are satisfied that your program is correct, write a brief analysis document. The analysis document is 20% of your Assignment 7 grade. Ensure that your analysis document addresses the following.

1. Have you worked with more than one partner yet? Remember, you are required to switch at least once this semester.

I have not worked with more than one partner yet; however, I plan on working with a new partner on the next assignment.

2. In the LinkedListStack class, the stack data structure is implemented using a doubly-linked list. Would it be better to use a singly-linked list instead? Defend your answer.

It would not be better to use a singly-linked list because of the proprietary functions that a doubly-linked list provides. For example, how it's insertion and deletion is much faster and effective than singly-linked list for this assignment.

3. Would it be possible to replace the instance of DoublyLinkedList in the LinkedListStack class with an instance of Java's LinkedList? Why or why not?

Not likely, at least without making significant changes to the program. DoublyLinkedList has a specific way of managing linked lists when it comes to insertion, deletion and navigation of the nodes.

4. Comment on the efficiency of your time spent developing the LinkedListStack class.

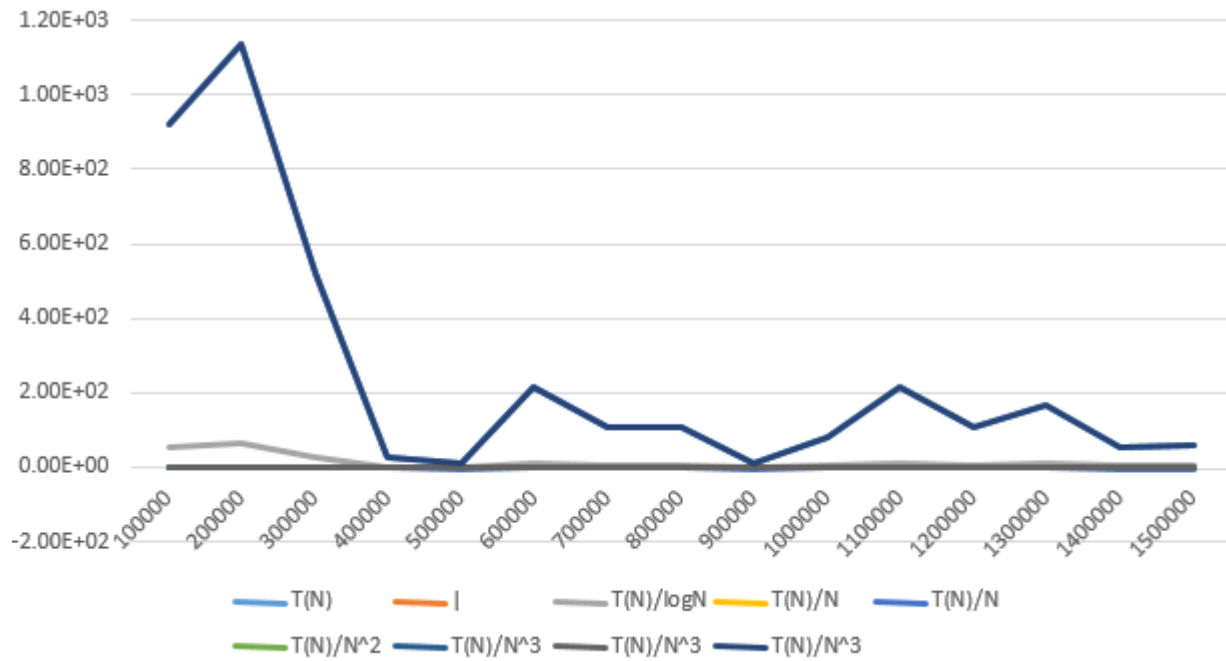
I had to put a lot of thought into my approach to the 'checkFile' method as it required a lot of meticulous detail. It's more about breaking the problem down.

5. Note that the line and column number given by BalancedSymbolChecker indicate the location in a file where an unmatched symbol is detected (i.e., where the closing symbol is expected). Explain how you would also keep track of the line and column number of the unmatched opening symbol. For example, in Class1.java, the unmatched symbol is detected at line 6 and column 1, but the original '(' is located at line 2 and column 24.

I would implement another method such as checkFile. However, this one would loop through the java file and store the line and column of designated variables. There would be Boolean statements to see if there is an unmatched boolean symbol first. I would have to have scanner loop through line by line and column by column then save the location of the line and column one the unmatched opening symbol Boolean is triggered.

6. Collect and plot running times in order to determine if the running times of the LinkedListStack methods push, pop, and peek are $O(1)$ as expected.

It seems that they are overall $O(1)$ behavior as expected. However, there is a tangent going to what looks like $O(\log n)$.



7. How many hours did you spend on this assignment?

It took about 10 -12 hours of work and testing this assignment.

Upload your solution (in .pdf format only) to the Assignment 7 page by 11:59pm on October 13.