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

No, I have not.

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.

I think doubly-linked list is better than single one. Because the rule of stack is last in and first out. Every time we call the methods push (), pop () and peek (). We need to find the tail of the stack. If we use singly-linked list, we need to iterator the whole list every time. But doubly-linked list can access the tail directly.

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?

It is possible. Java's LinkedList contains most methods as DoublyLinkedList. So we can replace the instance of DoublyLinkedList in the LinkedListStack class with an instance of Java's LinkedList.

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

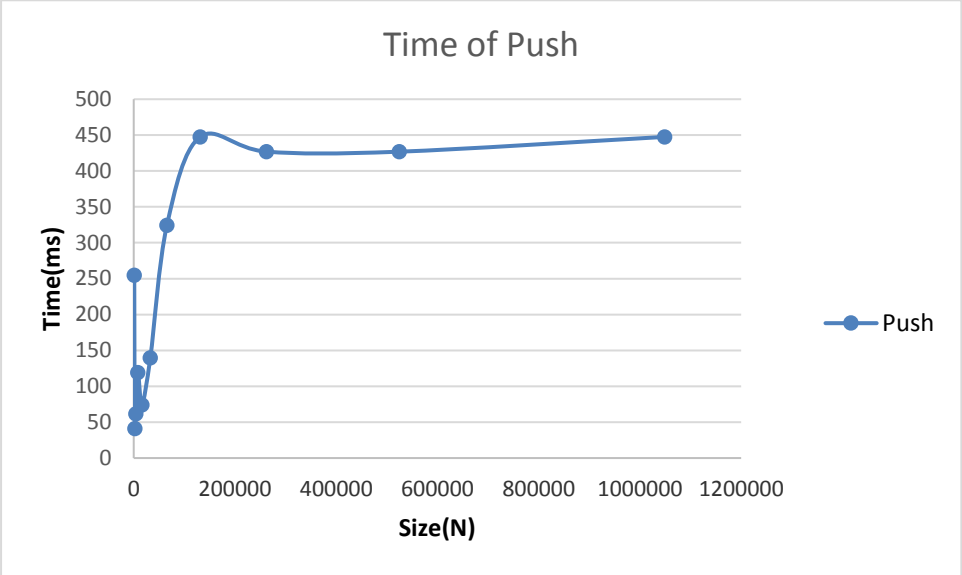
It is very efficient to develop the LinkedListStack class. Because it can use the methods in DoublyLinkedList.

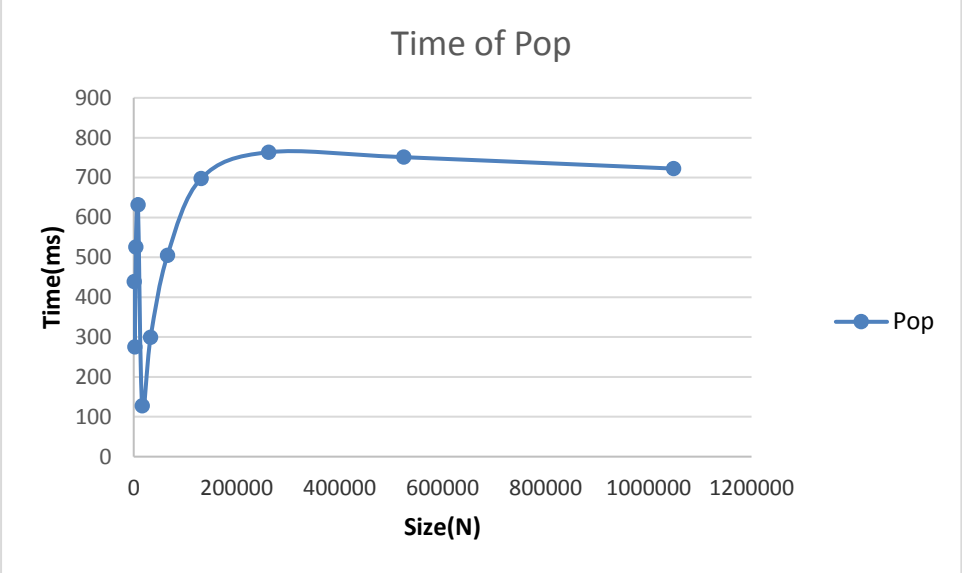
5. Note that the line and column number given by BalancedSymbolChecker indicate the location in a file where an unmatched symbol is detected (i.e., where the closing symbol is expected). Explain how you would also keep track of the line and column number of the unmatched opening symbol. For example, 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.

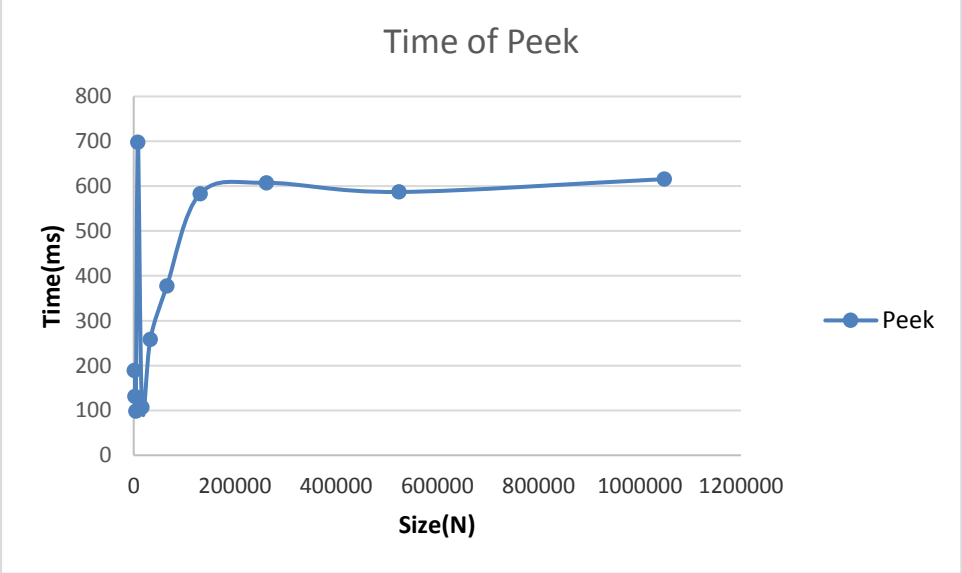
I set an int number i and original value 0. Then I use for loop to loop the whole line. And I set an int number linenumber to track the line number when the char goes next. After finishing iterator a line, lineNumber will plus one. When I found the unmatched opening symbol which is not the pair of one in stack, I will get the int number i. So I can get the line and column number.

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.

The methods push, pop, and peek are O(1) as expected. Because they are all can directly find the tail to do something.







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

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