Assignment 07 analysis
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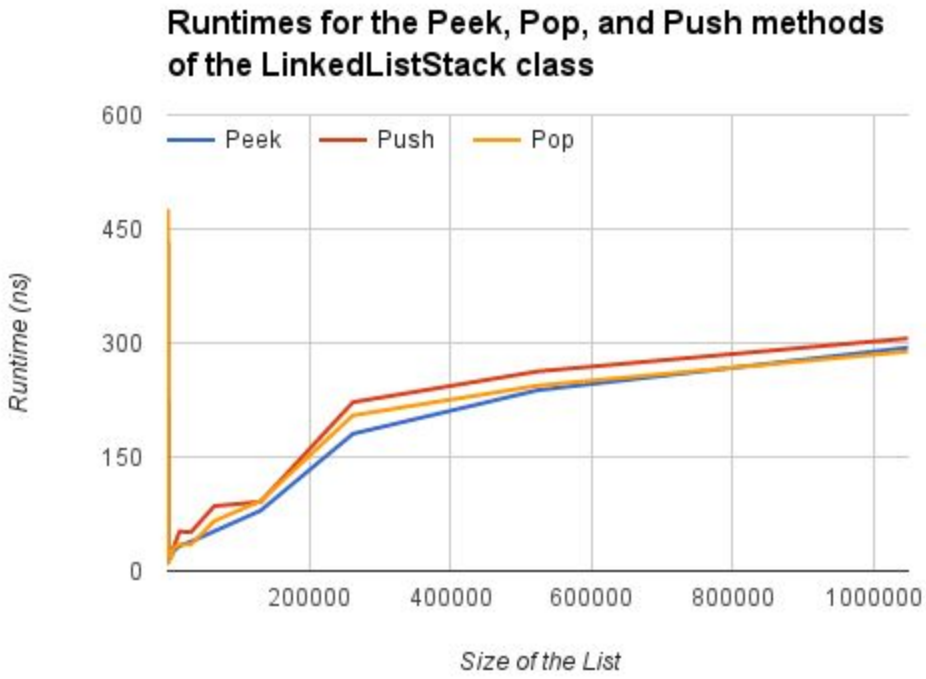
1) No, I have not switched partners yet, but will for the next assignment.
2) Since elements are only added to, removed from, and looked at one end of the list I think a stack could be implemented with a singly linked list. The tail of the doubly linked list was never used. The list is never traversed. I think it would even be slightly faster to implement a stack using a singly linked list because no calls would need to be made to the tail. It would also lower the space requirements for using the stack.
3) Yes, I think it would be possible to use Java's LinkedList as the basis for the LinkedListStack. I did it and it worked. This is likely because the two are both doubly linked lists.
4) The LinkedListStack class was very quick to make since it does the same thing as some of the methods that were already made in the DoublyLinkedList class. The LinkedListStack only needed to call these methods from the DoublyLinkedList class.
5) To report the location of the opening brace that is missing an ending the line number and column number of every brace added to the stack would need to also be added to the stack. This information could then be reported when the brace is found to not have a pair. This could easily be done using an object.
6) The graph below shows that the running time for the push, pop, and peek methods. As expected each of them have a complexity of O(c). Notice the scale for the vertical axis is in nanoseconds.



7) This assignment took me 14 hours to complete.