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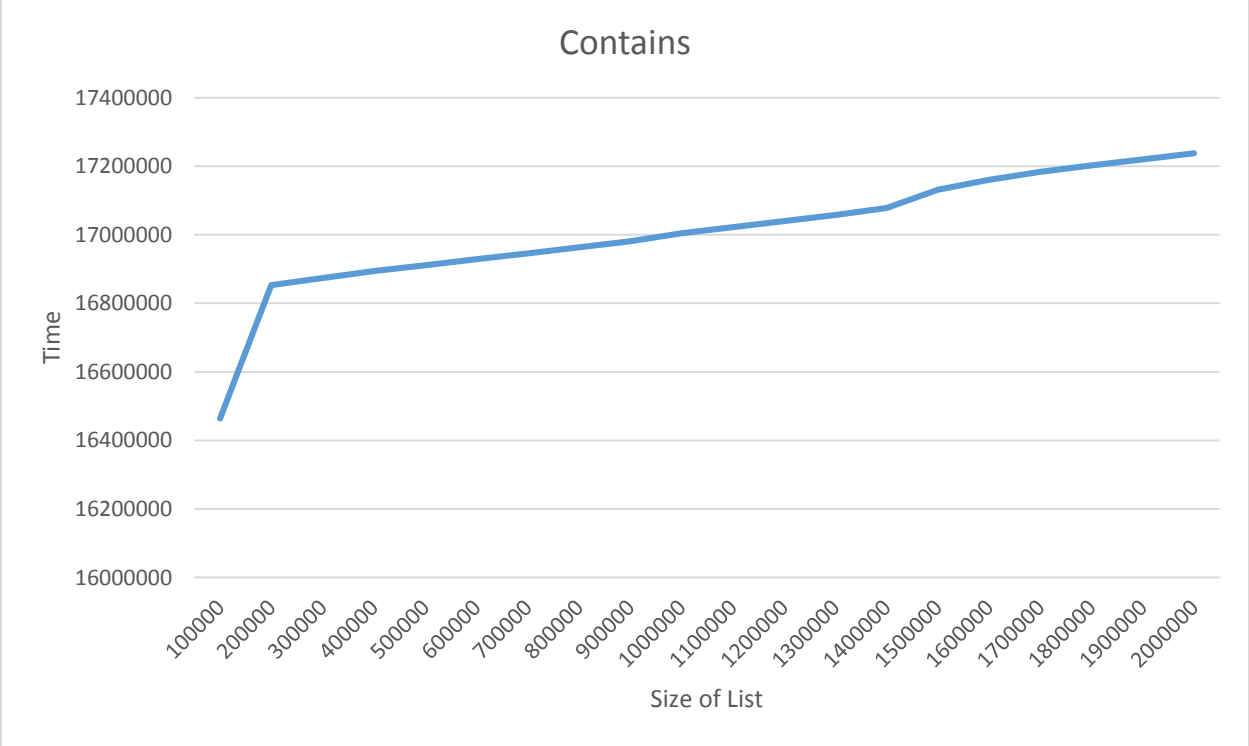
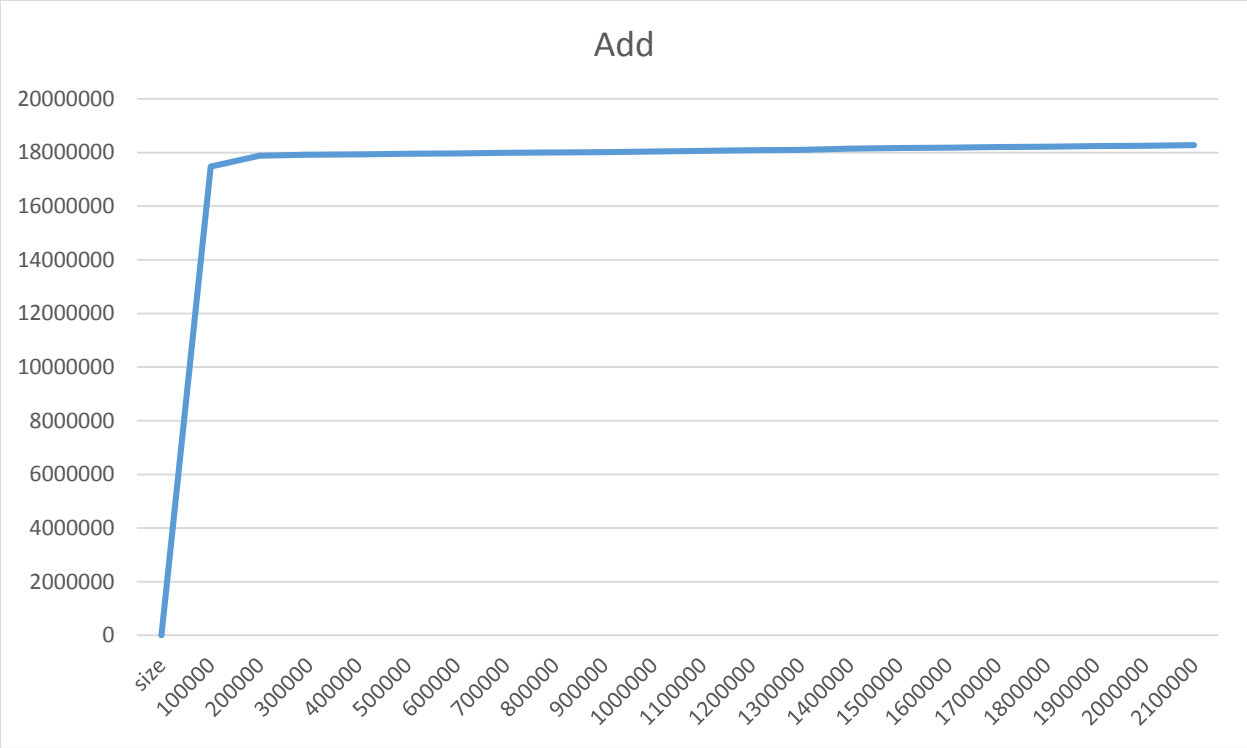
CS2420

Assignment 3 Analysis

1. I programmed with Giorgi Kvernadze, I submitted the code.
2. We switched roles approximately every twenty minutes. I thought the frequency with which we switched roles was perfect.
3. I do plan on working with Giorgi again. He does his share of the work, keeps on task, and he is an able programmer.
4. Java List comes with several methods already implemented that would have been very useful in implementing MySortedSet. For example, List already implements contains and removeAll methods. For this reason, I suspect that using Java List to back MySortedSet would have been more efficient in terms of program development time. I think List would have been more efficient in terms of running time, due to the dynamic nature of List, we wouldn't have needed to worry about growing the list.
5. I expect the Big-O behavior of the MySortedSet contains method to be log(n), because contains uses a binary search, which is a log(n) algorithm.
6. The plot seems to show a logarithmic progression.



7. Add uses binary search to find where the new element should go, which is a O(log N) algorithm. The worst case for add, however, is adding an element at the beginning of the set, meaning it will have to move N things over one spot, exhibiting an O(N) behavior. So I think add is and O(N log N) algorithm.



8. I spent about 13 hours on this assignment.