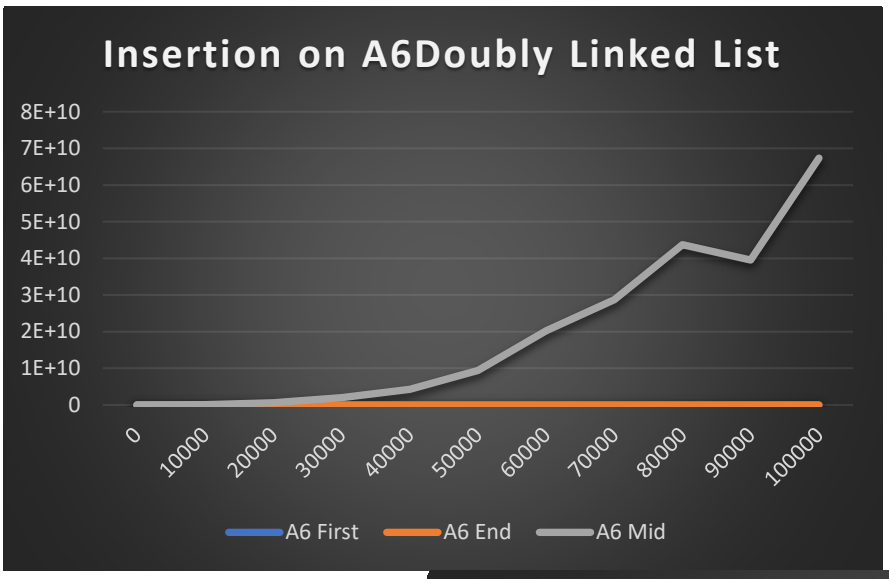
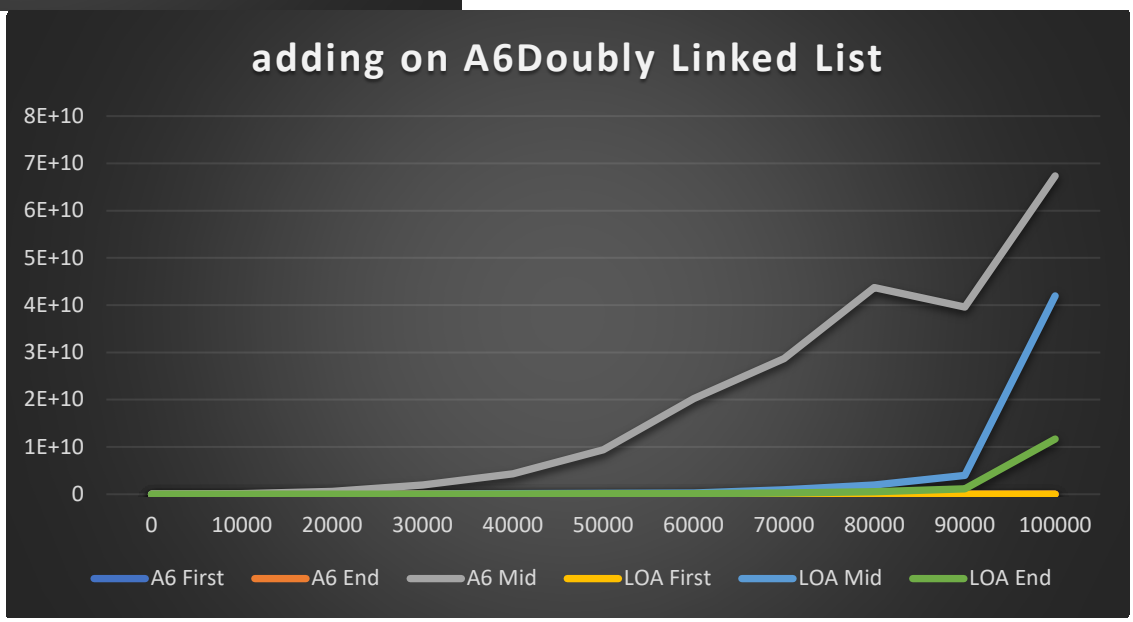
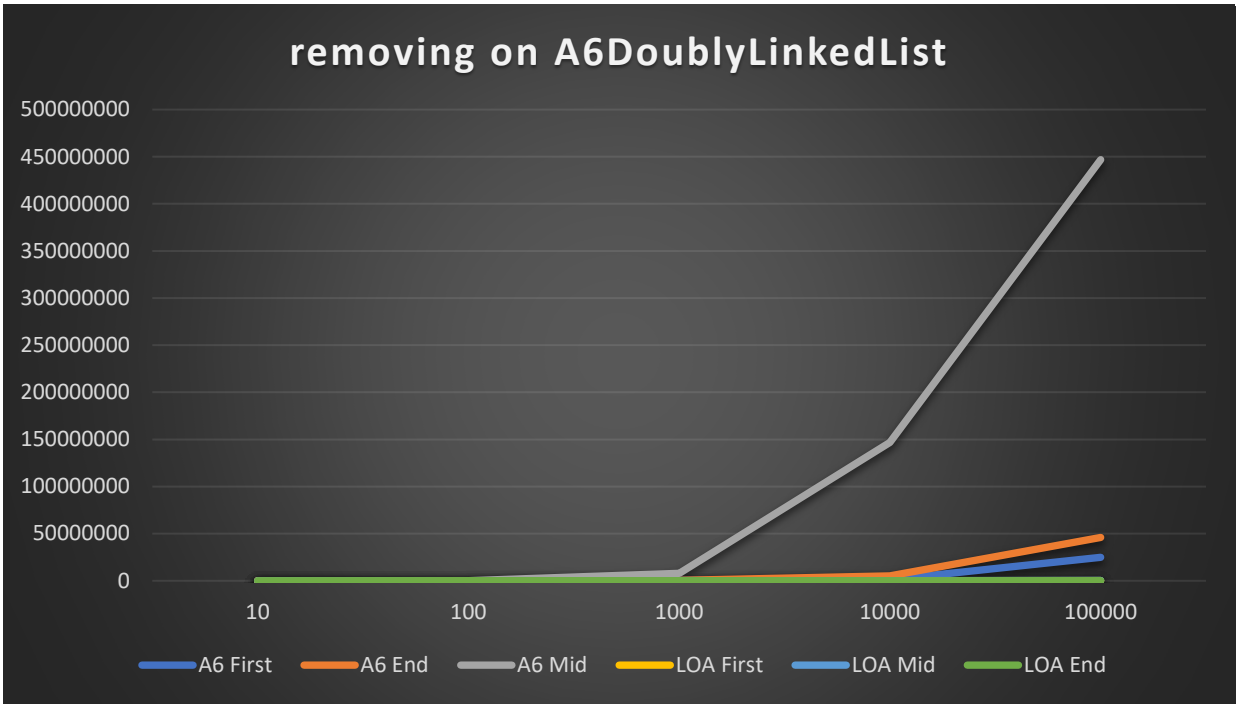
Harrison Smith
Samuel Hancock

A6 Analysis

CS2420 Fall 2019
Prof Swaroop Joshi







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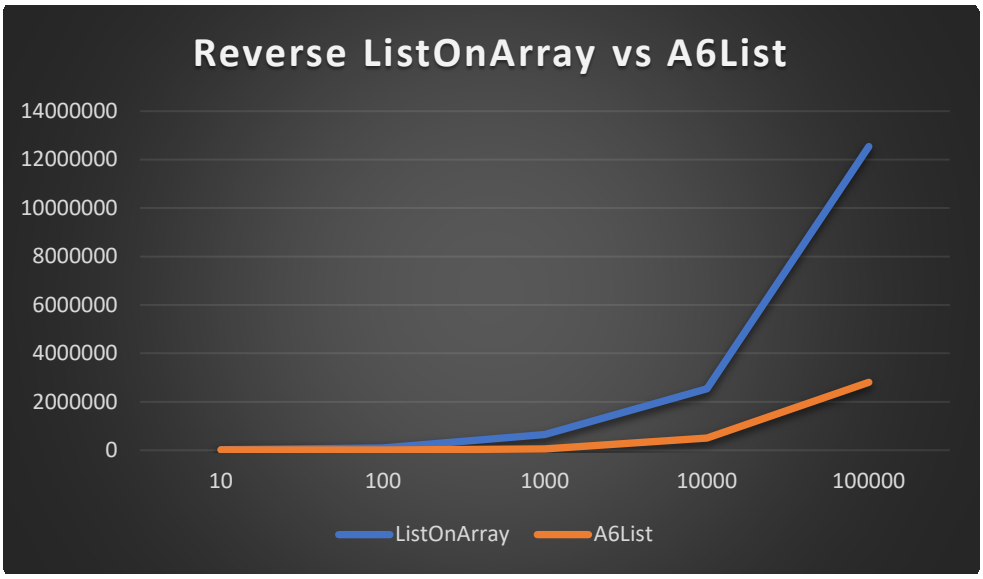

Q: What does the graph reveal about the cost of inserting into and removing from collections built on arrays and built on linked lists? Why is this the case? Make sure to discuss the cases of inserting/removing from the front, back, and middle.

A: The graphs reveal that if we are able to remove at the head or tail of the linked list, it will work efficiently, however, if we only have the two head and tail nodes we run into issues when we are trying to manipulate the data in the middle of it, it can have more cost to it, since we will have to touch more items.

Arrays are able to more effectively modify the data within the middle of the array because it can directly modify that index, however, if you need to remove something in the middle then you will have to move everything forward, while with a linked list we are able to easily modify the references because there are only three nodes that need to be updated, rather than the full list of data.

Q: How much time did you spend on this project? What was the most time consuming part of the programming? What can you do better in the future? Did you plan enough? Did you allocate enough time from the start of the week or did you wait until the last minute to get things done?

A: The total time spent on this project was about 13 hours. We spent about a total time of 7 hour programming and understanding what we needed to accomplish, our planning was well done for the most part. One of the partners needed to travel so we could have planned a little better for timing the code. We started the project last weekend, and were able to allocate enough time to understand what was necessary and what we needed to do, avoiding the last minute rush to finish our code.