Alessandro Ljubicic
u0753409
Analysis Document – Assignment 3

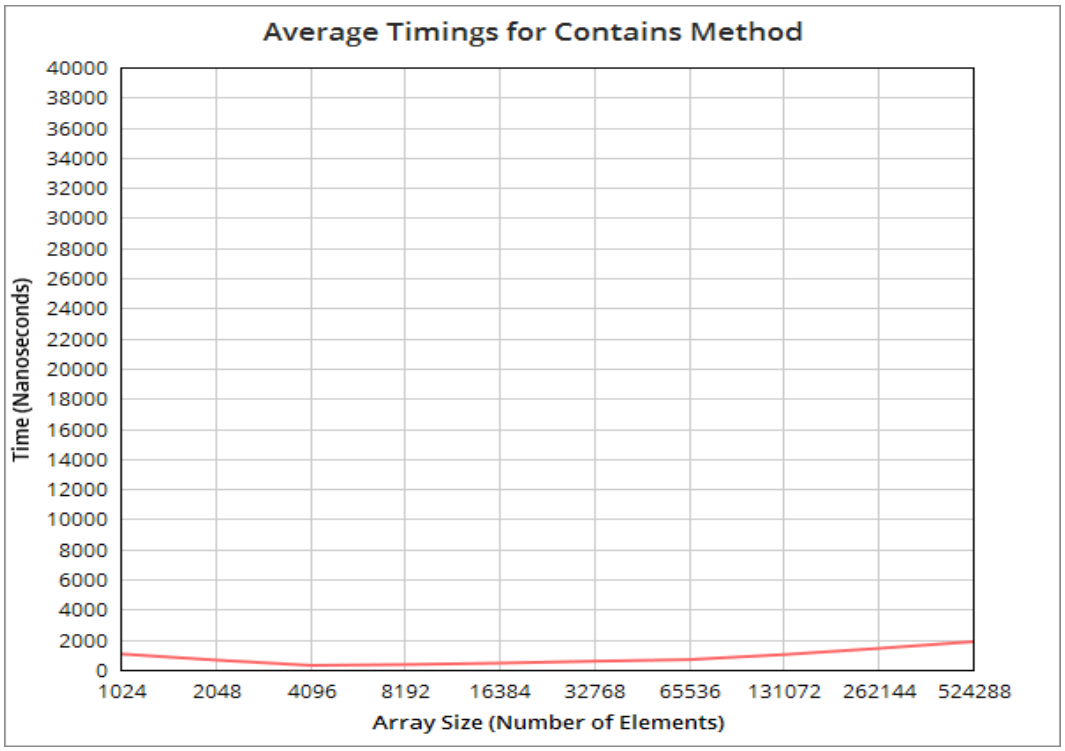
1. My programming partner was Zachary Cutler, and he submitted the source code.

2. We rarely switched roles mainly due to the fact that we didn't really establish roles when we started this assignment. In the future, I plan on making sure there are defined roles for when I'm working with a partner, it seems as though that will make the time we spend working on the code more sufficient.

3. I found Zachary to be a diligent and hard-working partner. He was always on time when we arranged meetings and gave valuable input when we were attempting to solve a problem. I would most certainly work with him again and have plans to.

4. If we used an array list for this assignment we would not have had to account for the array becoming full, as the array list would resize itself; in addition, array lists, unlike arrays, can be used for generics, and thus we would not have had to hard cast variables. While it may have been simpler to implement an array list, due to the automatic resizing function, it would have probably made our code less efficient.

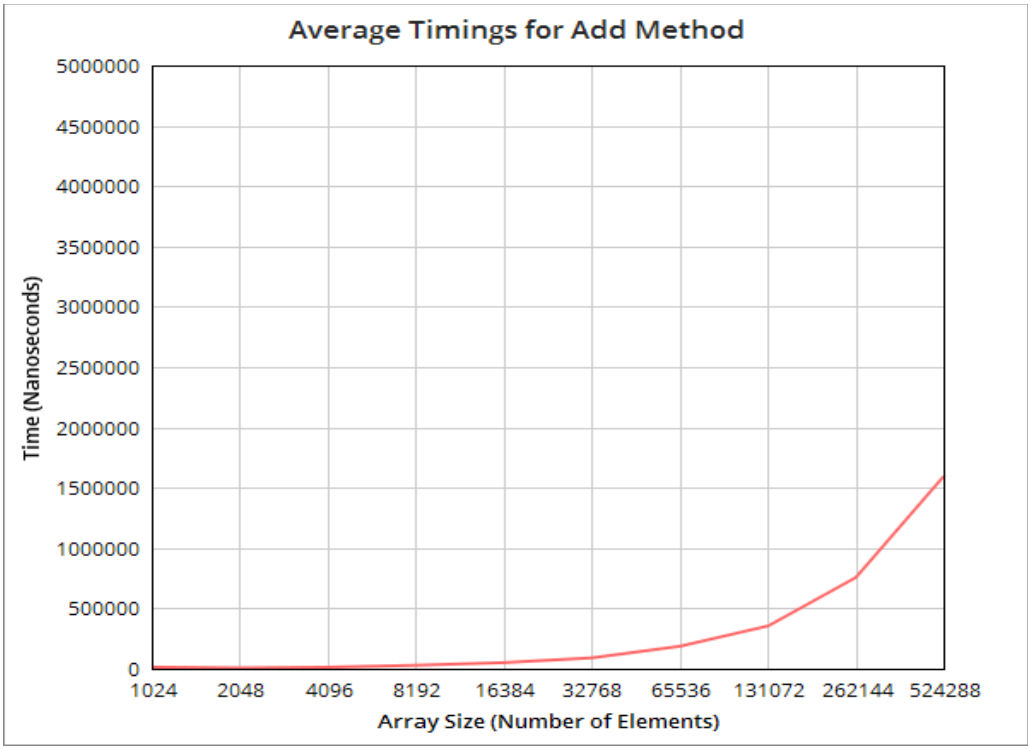
5. I believe the Big-O behavior of the contains method to be (O)log(n); due to its recursive nature, as the size of an array increases, the relative time it takes to locate the element will differ by a relatively insignificant amount.

6. 

Alessandro Ljubicic
u0753409
Analysis Document – Assignment 3

As we can see from the graph, the growth rate does indeed match our predicted Big-O behavior of (O)log(n).

7.



Even in the worst case, the time it takes for our add method to complete is still showing a growth rate of (O)log(n).

8. Probably around 20 hours.