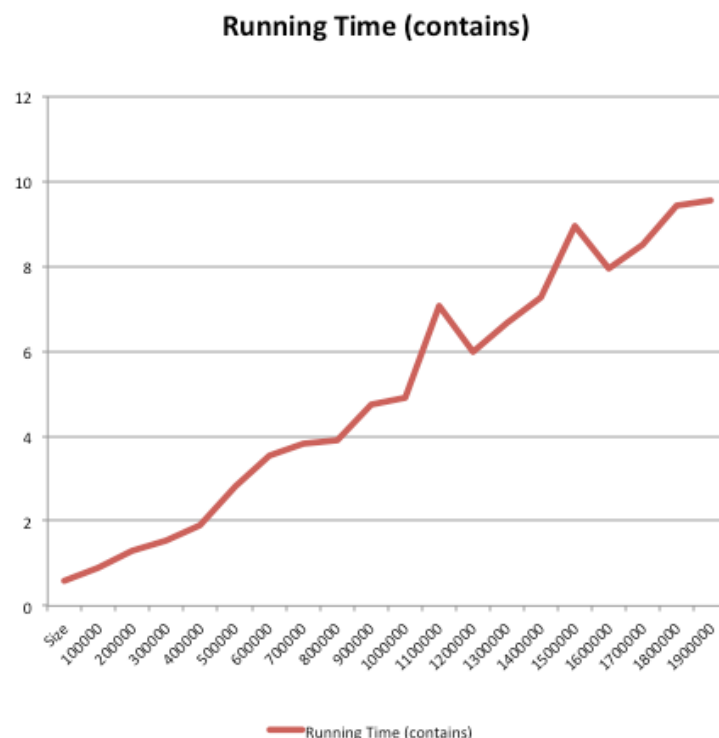1. My programming partner was Alexey Motro. He turned in the assignment on canvas.

2.  We didn't really switch roles on regular intervals. Whenever the navigator wanted to type something, we would switch, and we usually switched after finishing one method and were moving on to the next one. I didn't feel like we weren't switching often enough.

3. My partner is awesome. We are planning on working on the next assignment together.

4.  If we had've been allowed to use a list, we would not have had to grow the array when it ran out of space. The list class in Java already has a remove and removeAll method and a contains and containsAll method, so we would not have had to write those ourselves. The program would've been quicker to develop if we'd used a list, and probably equally or more efficient in terms of running time.

5.  Contains is $O(\log(N))$, because it uses a binary search.

6.



**Running Time (contains)**

This graph resembles $\log(N)$. Perhaps with more repetition, and averaging the values received, the graph would be closer to $\log(N)$.

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

Around 10.