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Assignment #3: Analysis Document

1. My partner for this assignment was Steven Malecki. He was the one who submitted the code for us.
2. During this assignment I felt I took on the role of navigator more than driving. I would have liked to have switched roles more often just because I like to type when working on the assignment.
3. My partner is excellent. I will be working with him in the future.
4. If I had used a Java List instead of a basic array we would have not needed to grow our function at any point. Therefore we would have not needed to keep track of its size. I expect that using a Java List would be more efficient in program development time because it already has a lot methods built in that we needed to code for this assignment. In terms of run time I expect it to be the same or more efficient because the people who make these methods are probably experts and would've chosen very efficient ways to implement these methods.
5. I expect the Big-O behavior of the contains method to be of order $\log(N)$ because the search range is cut in half everytime you cannot find the element.
6. Our contains method doesn't exactly work (since our binary search doesn't work) so we could not run any timing experiments.
7. Our binary search doesn't work so we could not run timing experiments but I would expect it to be an order of N. This is because while the binary search is $\log(N)$ the scooting over of elements is of order N which is a more dominant term than $\log(N)$.
8. We spent a little under 15 hours on this assignment in total.