Analysis Document

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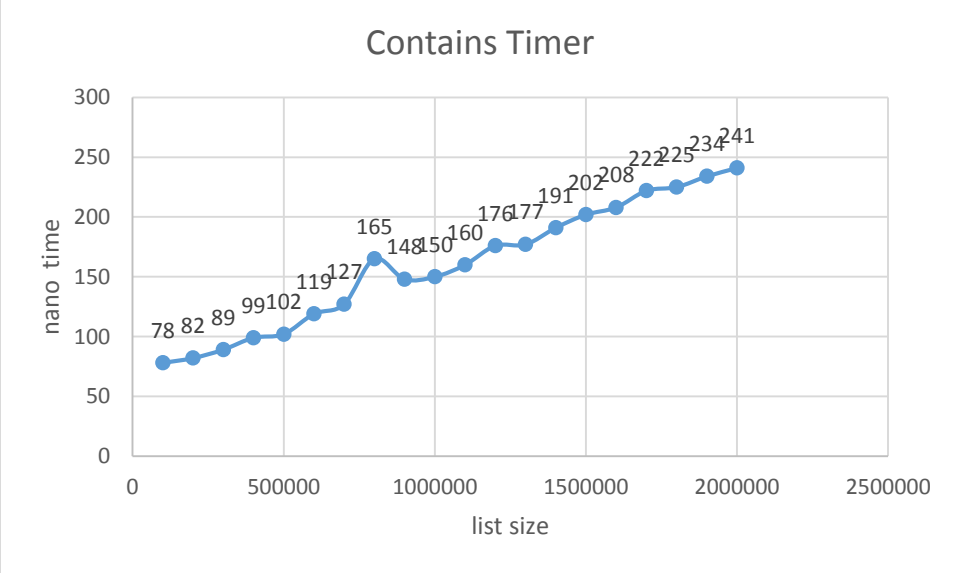
1. My partner is Yan Tan. I submitted the source code of our program.
2. We do all the stuff together and discuss the problem we have together. So we do not have specific roles.
3. My partner is good, I would like to work with her again.
4. The Java List has method like add, addAll, remove, and so on. If we use Java List we could call theses method and it make things simple. I expect that using a Java List would have more efficient. As I said, the methods in Java List class make things easier, it saves our program development time. And when we run a program, ArrayList stores its items in an Object[] array and use the faster untyped toArray method. The type we passed in array use ArrayList<Type> is also checked by the compiler. This improves the type safety.
5. The best case is our list is empty or the object we want to check is null. The capacity is O(0).

   The worst case is O(log(n)), since I use the binary search to locate the element.

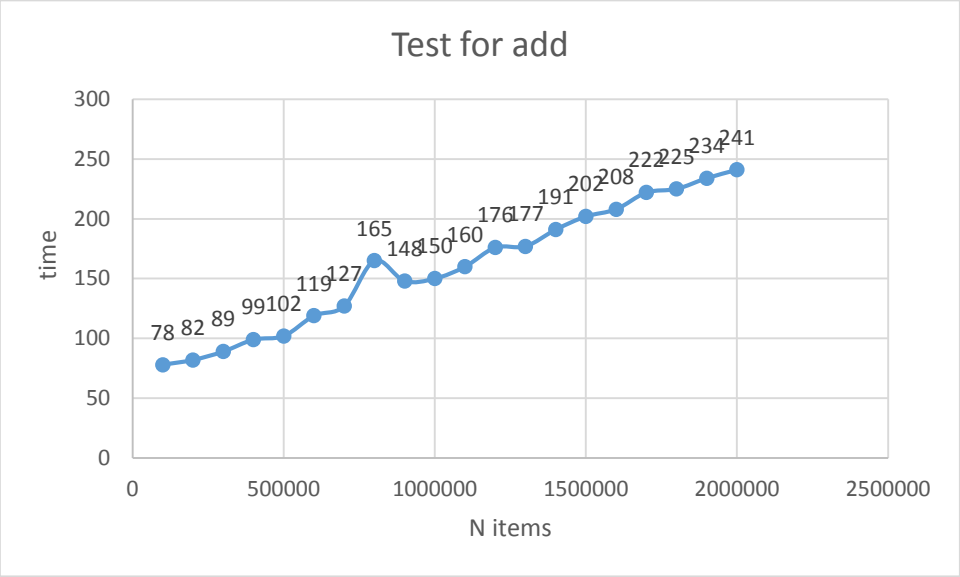
   The average case is also O(log(n)).

6. The growth rate of these running times match the Big-oh behavior I predicted in question 5.



7. It takes O(N) times to locate the correct position at which to insert the element.

   In the worst-case, it takes O(N) times to locate the position to add an element.



8. It takes me about 12 hours to finish this assignment.