CS 2420

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Analysis Document of Assignment3

I did this homework with Bolun Gao. He will submitted the sours code of our program. Basically, we were switch roles every 20 mins. Each of us are finish some of the method then change another one. Compare to thinking, I’m prefer to be a driver because I feel that written the code is the good way to organizing my thoughts. So, most of time, Bolun give the idea for the program and I try to write in code. He is a really good partner, so I really look forward to work whit him again.

If I can use the sorted set with a Java List instead of a basic array, if will make me feel more convenient. First, if we use the Java list, we don’t need care about the size of list. The basic array should always set the capacity first but the list don’t need to do that. Also, the list do not need to double the size when add more element. Second, the Java list can handle every type of the variable without the implementation. For example, if you have a new list, you can add integer, string or object in to the list. However, if you make a new array without implementation such as int[] array = new int[10]() you can only use it to store the integer.

The Big-o I expect for the contain method is O(log n) for n

element, because we use the binary search in the contain method. The time running through the contain method is between 1700 to 2500. Actually, it is bigger than the big-o behavior in question5. The O(log n) is the best case for the binary search which is mean that it is hard to happen. Usually, it is reasonable if the number of complexity is bigger than the log n. For the add method, basically, we use the same way as contain method to find the right position of the element. For the binary search, the best case of big-o behavior is log(n). So for add n item, it will be O(n/2^n)

We spend at least 20 hours to finish this assignment.