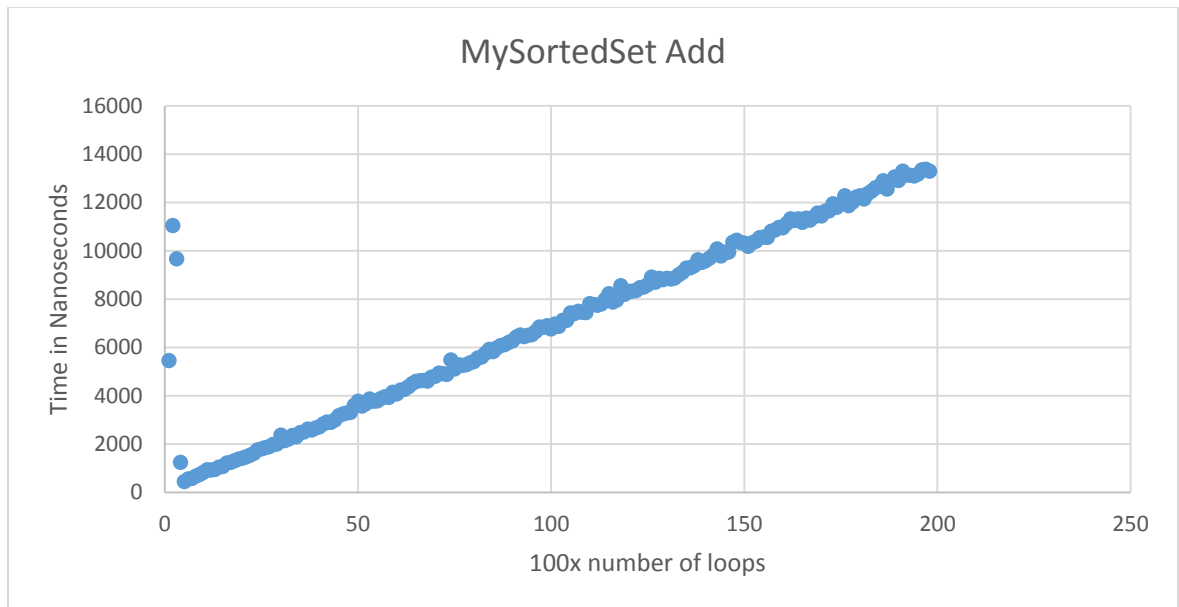Gage Glenn -Analysis Assignment 2

1. Cody Woolsey
2. Roughly every 15 minutes. Sometimes if we were in the middle of a method we would delay a swap a little bit, but we tried to swap on an even schedule.

3. Yes, I plan on working with Cody again. We work together well and I like having a partner that can explain what he is doing as well as understand me when I explain what I am doing.

4. The Java list allows for duplicates, however we handle duplicates in our add so it would not differ much there. We could, however let the Java List do our sorting for us it will call Java's ways of sorting the structure. It would definitely be more efficient in development time for us as we wouldn't have to worry about inserting values. Given that java has been in development for a long time they're probably using significantly more efficient sorting method.

5. I expect it to be O(log) complexity because it follows the rule of halves as it searches for a value at an index resulting in log n behavior.
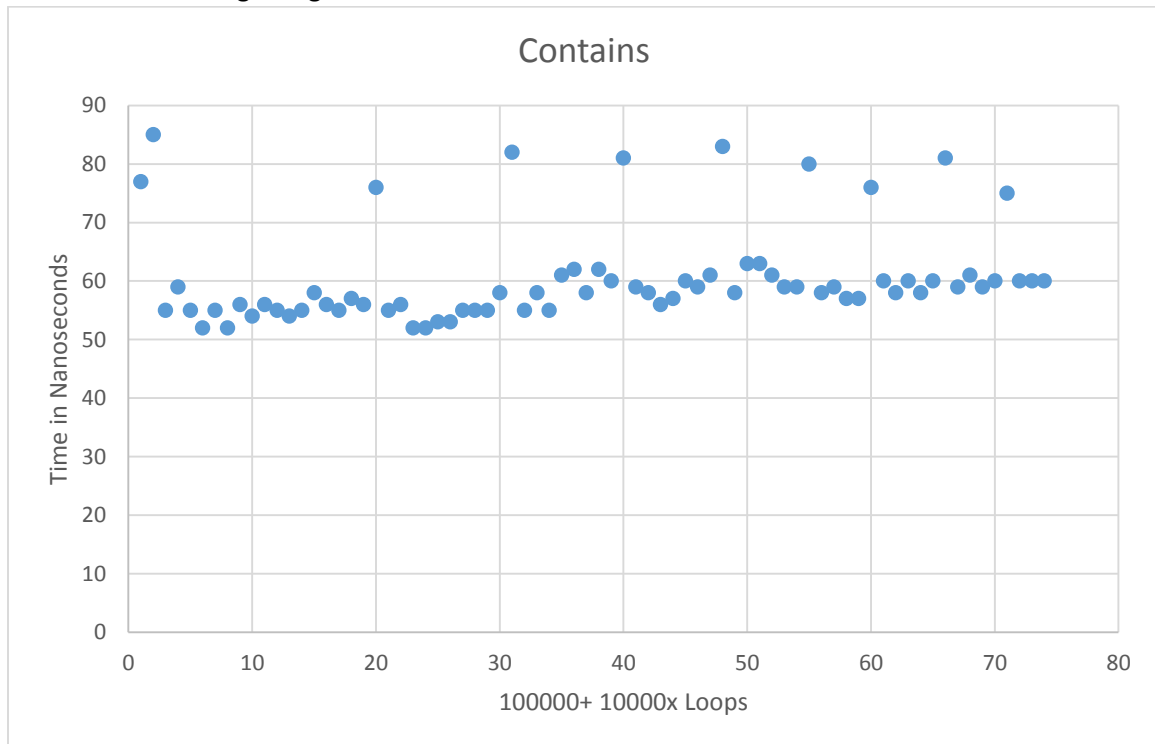
6. The run time is very similar to the time I would expect of log(n) after a large number of loops have run. The growth is almost constant this far into the looping, but increases slight as expected.

7. It takes O(n) time for our add method to add an element to the array as it uses insertion to place an element added. Our worst case scenario is that the added element must be moved to the very beginning of the array shifting everything as it goes through once, which is O(n).

MySortedSet Add

(Chart: X-axis "100x number of loops" ranging 0 to 250; Y-axis "Time in Nanoseconds" ranging 0 to 16000)

8. 7 hours or so