214 Assignment2 Test Plan

We are using linear search for both process and thread search function.

Test Prepare:

Test the run time for searching in random array with size 20000 in both process and thread to make sure our search function work properly. In this test, we will run it 50 times and calculate the average runtime.

Test:

From array size 2000 to 20000, we will try to search in different size of arrays to collect the runtime for both in process and thread. Increment size 2000 for each data collection. Since we split each process/thread with 250 elements, the number of more process/thread we need for searching is 8. For each number of process/thread, we collect the data of the average time(avg time) from the output, and list them in the excel.

Conclusion:

As our graph shown, as the size of the array increases, the time needed to search in process will be larger than the time needed to search in thread.

From our test range 2000 to 20000, we didn't find the trade off point for process vs threads. From the graph, we are assuming the trade off point are something below array size of 2000.