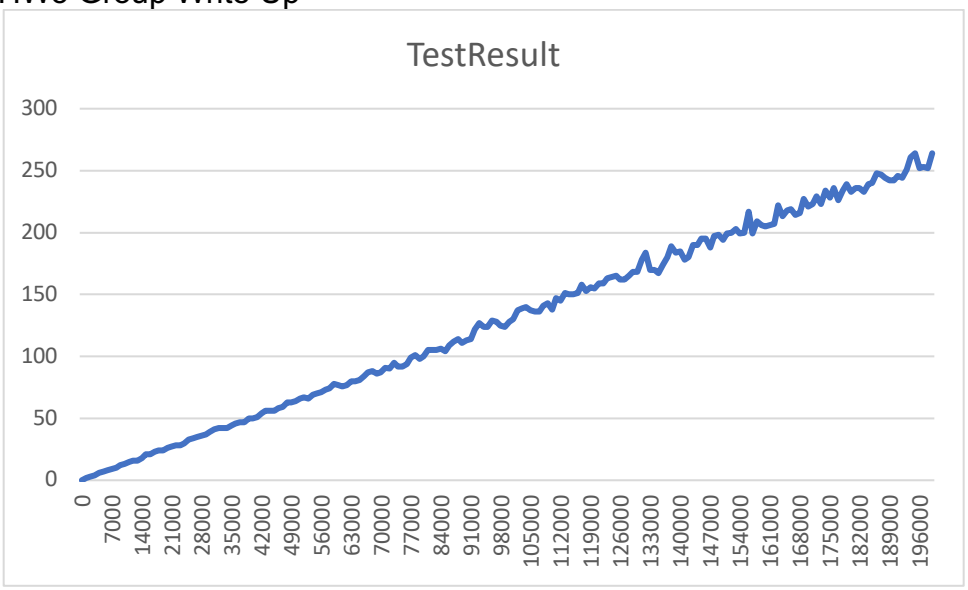
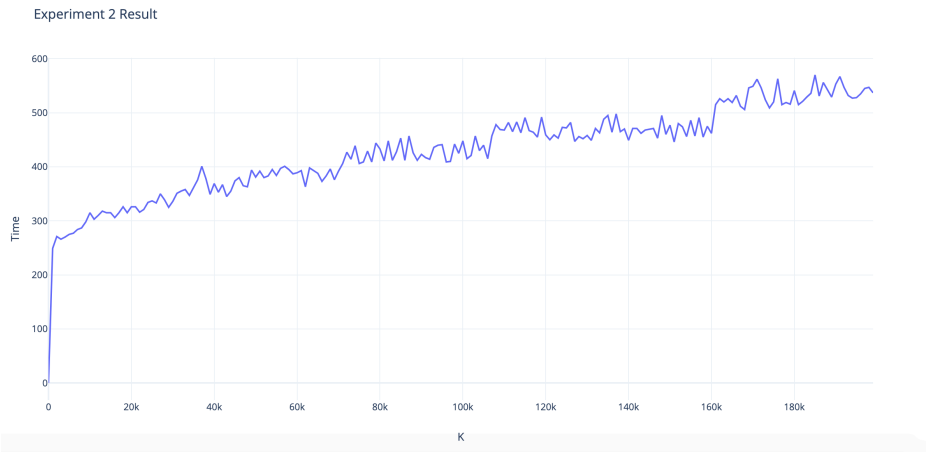
CSE 373 HW5 Group Write Up



Experiment1:

The results are consistent with my prediction. From the code, it is obvious to see the listSize is a variable and the test method returns runtime of topKSort. So with the increase the listSize, the runtime is increasing linearly. Therefore, we can have a conclusion that experiment one tests about the runtime of topKSort with a constant K and different listSizes. Besides, the big-O runtime of topKSort is O(nlog(k)), the k is a constant, which means the runtimes will increase like a linear function as listSize increases. The analysis above is consistent with the plot.

Experiment2:



The results in a curve. Because in the code, the value of K in experiment2 is a variable and test returns the runtimes of topKSort for different K. Since the big-O of topKSort is n*log(k), and in the test2, the value of k are increasing (variable) and n is listSize(a constant), so the testResult looks like a curve since the figure of log(n) is a curve.