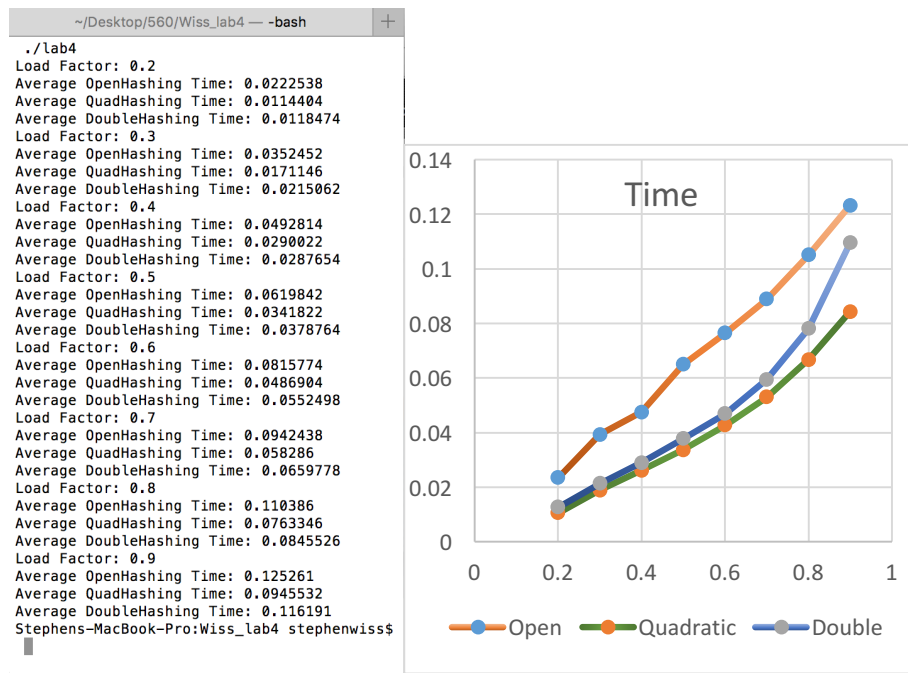


Stephen Wiss Lab 4 Report

This week's lab required that we test the time performance of three different hashing functions. In order to see the effect on performance with an increase in the size of the data set, I set a main function that computed the average of five different time values associated with inserting eight ascending amounts of numbers into each of the three hash tables. (Open, Closed-Quadratic Hashing, Closed-Double Hashing)



The data generated through my program and the values returned were stored into a spreadsheet on excel (the output of said program is displayed above) I then graphed the values and plotted the curves generated by the graph.

As seen in the graph, The Open-Hashing insertion's time complexity followed a linear rate of growth and was outperformed significantly by the other two methods. The other 2 methods however, followed an exponential curve and therefore would eventually catch up in time complexity to the Open-Hashing method. I was surprised by the data, I expected better performance from all of the tables. I also expected Open-hashing to perform much worse than it did. I was also surprised to see that the to closed-hashing methods had comparative levels of performance. I expected quadratic hashing to be the better of the two, however it was always slightly slower than Double-hashing.

