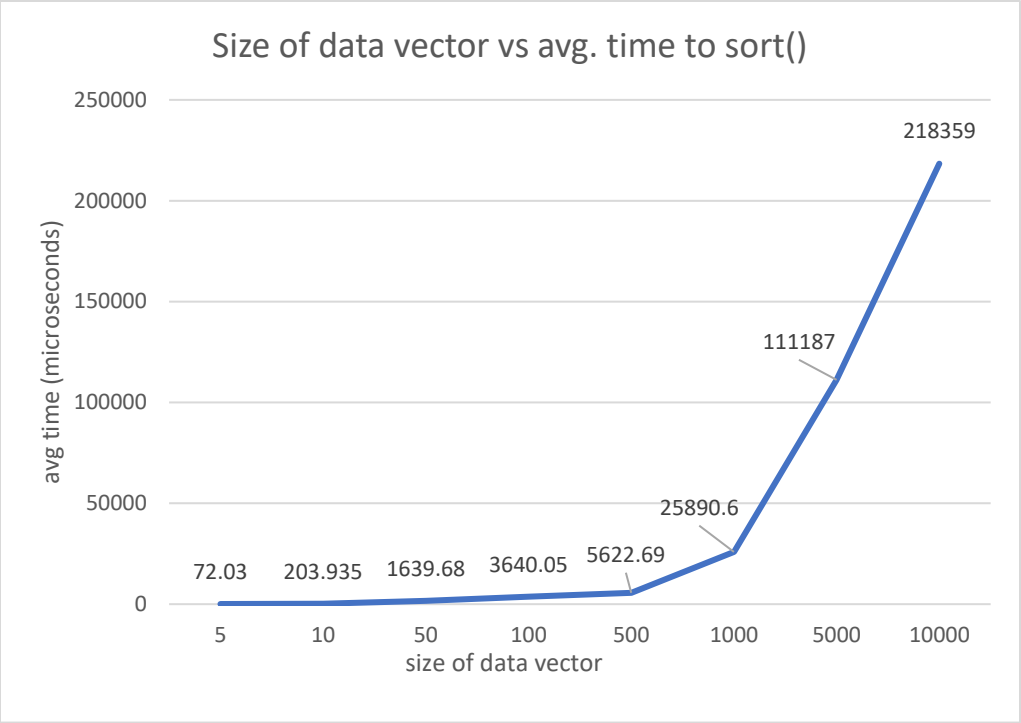
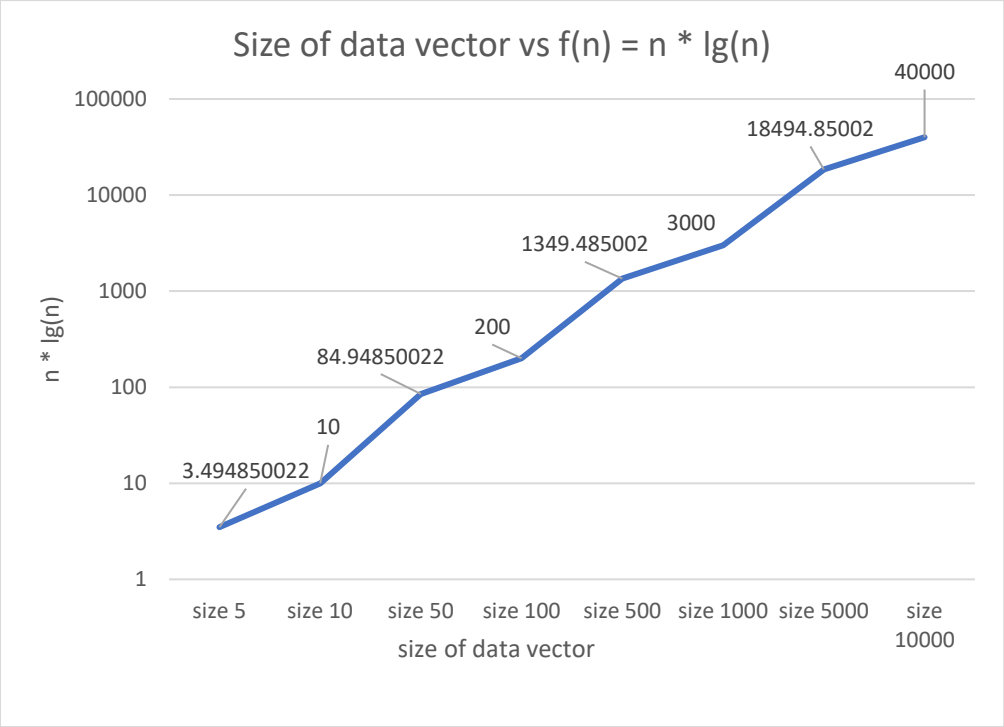
Average sort() times of 200 trials of each size.



f(n) = n * lg(n) of sort() for 200 trials of each size.



I was a little worried about the state of my log graph before finally remembering I needed to actually change the axis to logarithmic in Excel. With that done, the growth rate looks about

right for n lg n as shown in the Foundations textbook. The cppreference sort() page and the Introsort Wikipedia page linked therein state that sort() usually uses introsort, which is a hybrid algorithm. Introsort uses quicksort, then heapsort, and then insertion sort as needed. This keeps practical performance near that of quicksort and worst-case performance near heapsort. Presumably this is what keeps the complexity low enough for it to be a widely useful function for the standard library.