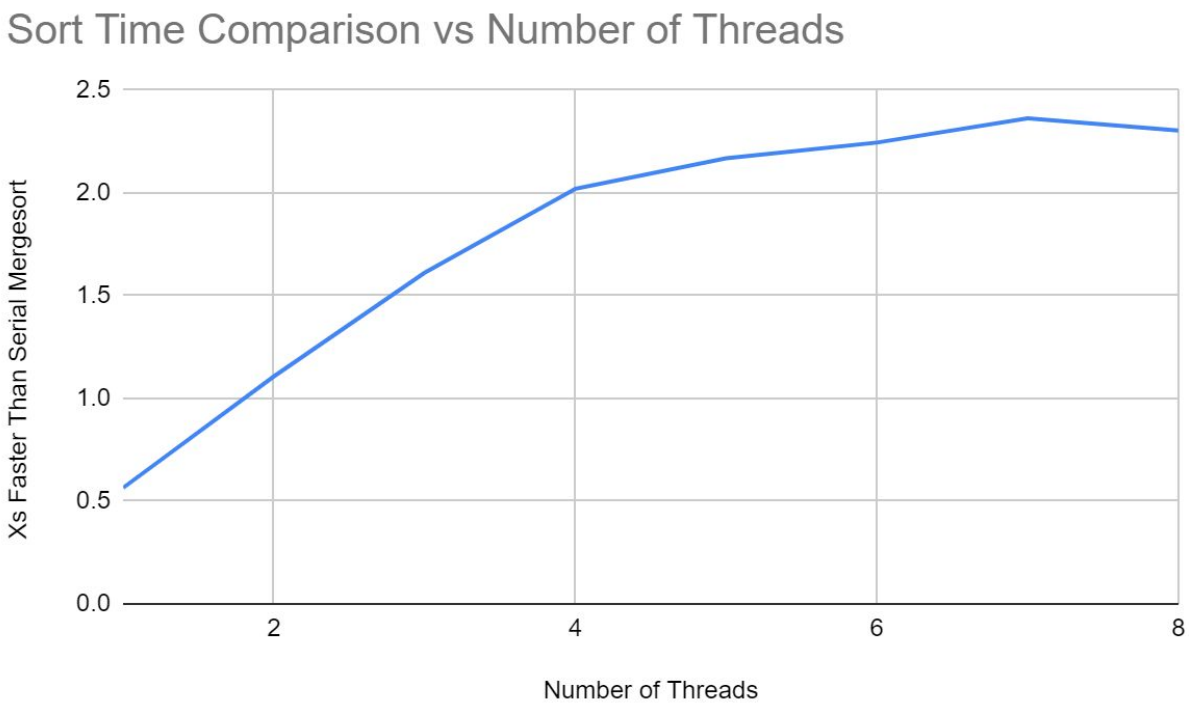
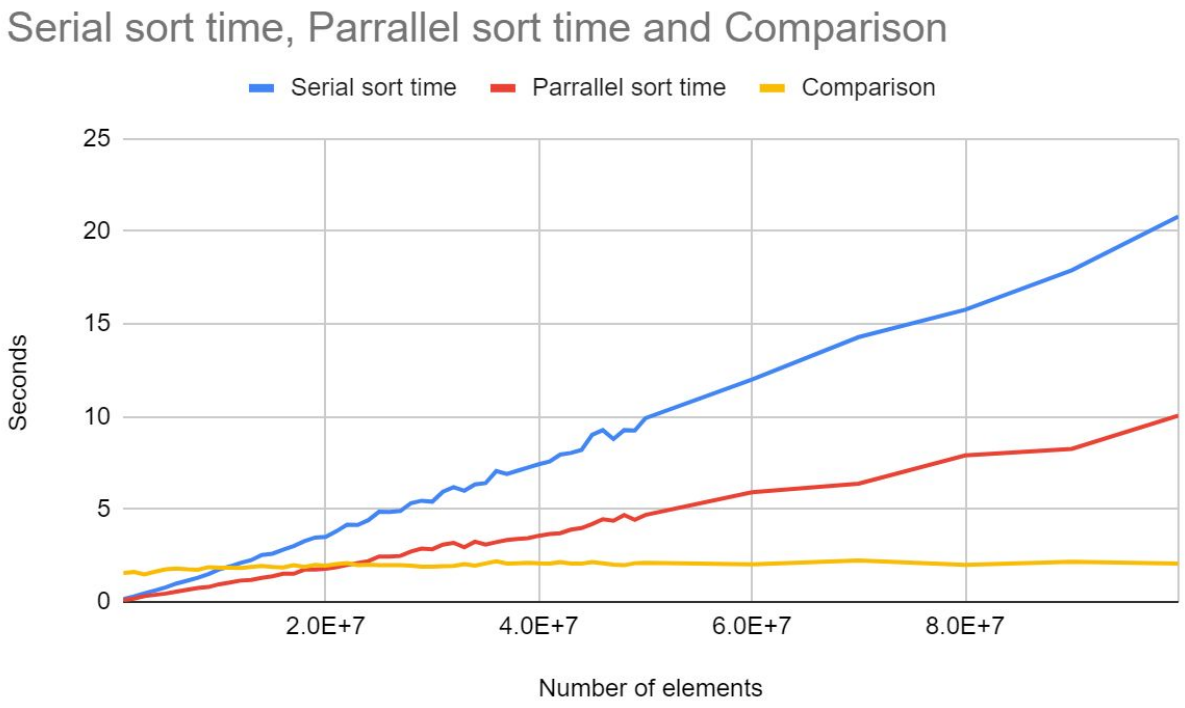
EFFICIENCY ANALYSIS



It does not increase linearly. It seems to increase at a logarithmic rate showing high diminishing returns as we add more cores. The system I was testing had 8 cores, but there was virtually no difference in efficiency after 6 cores due to the diminishing returns.

EFFECTIVENESS ANALYSIS



It seems that the number of elements is mostly irrelevant when it comes to the effectiveness of the multithreaded approach. The comparison between the two sorting algorithms remains a linear constant, showing that the number of elements doesn't change the effectiveness of the parallel method when compared to the linear sorting method. If you're using 5 cores, the parallel approach will always perform better (I wasn't able to check the efficiency of <1000 because both methods finish that sort in 0.00 seconds, but I hypothesize that the results will be similar to the graph above given 100+ elements).