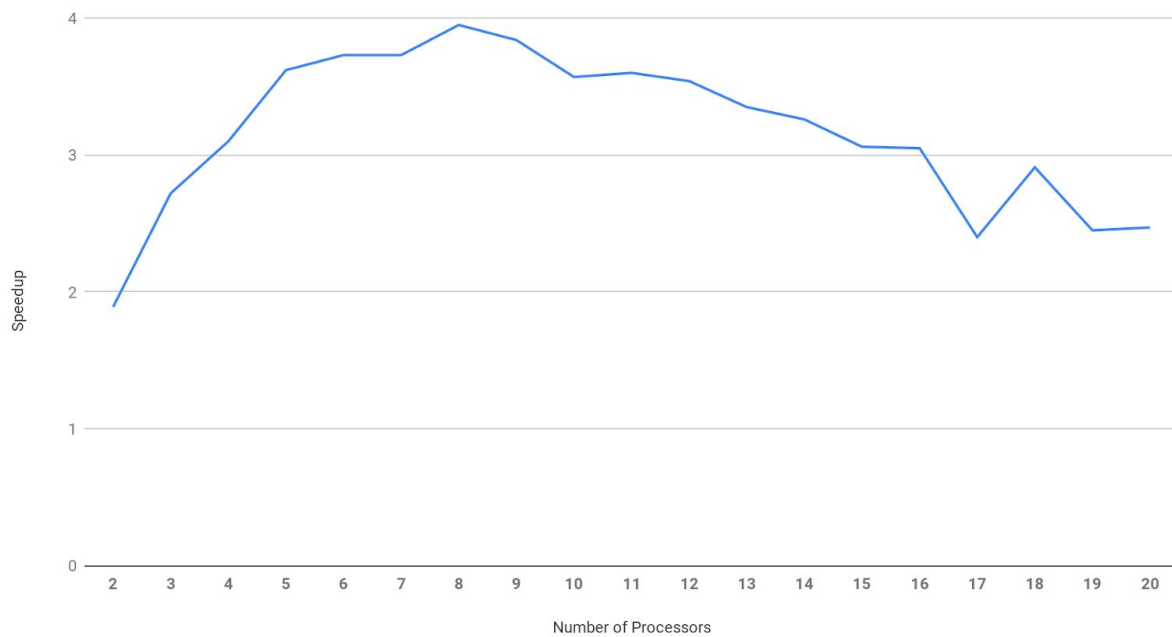
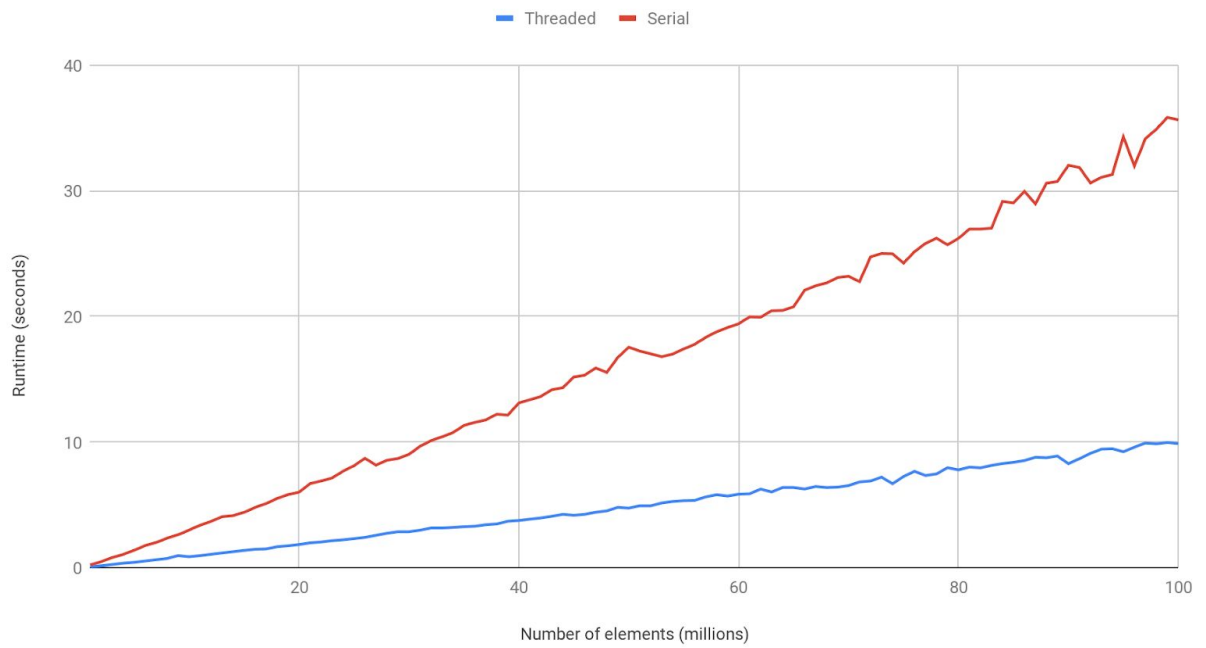


Speedup vs. Number of Processors



The speed of the program increases logarithmically as you increase the number of threads. The speed up reaches max potential at 8 threads with a speedup of 3.9, after it will gradually and logarithmically decrease. The problem size per thread can only decrease so much, even with infinite threads would the program come to a flat speed up.

Threaded and Serial



Looking at this graph alone, the threaded version of merge sort will always perform better than a serial execution. Breaking up the problem size will always decrease the total runtime and outperform having to solve the entire problem serially.