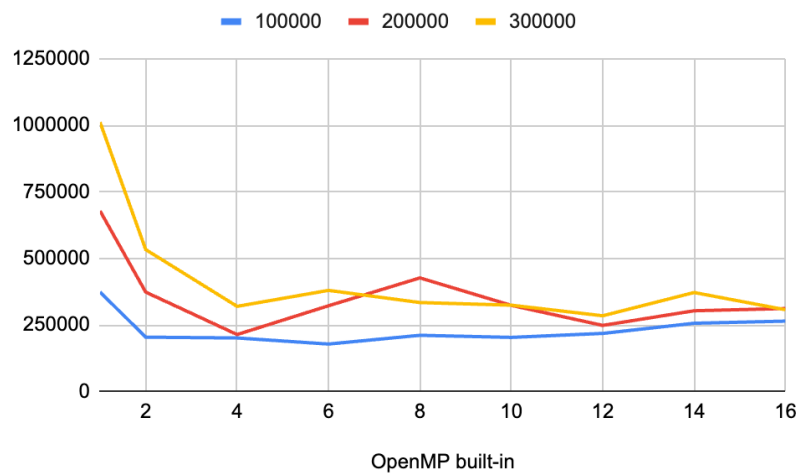
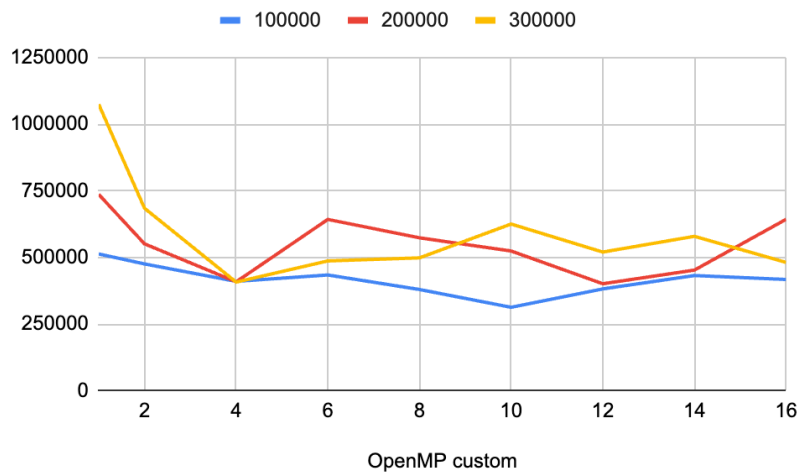
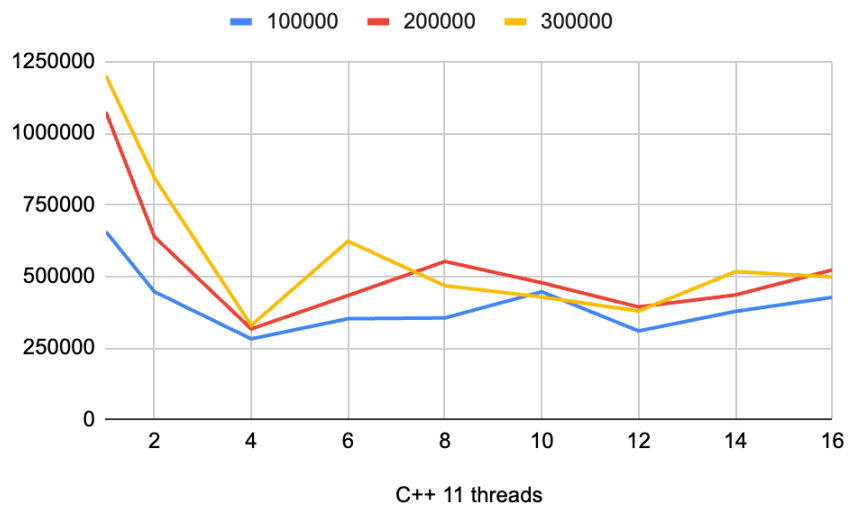


## Assignment 6: C++ and OpenMP Parallel Reductions Assignment

Tailang Cao 119010007

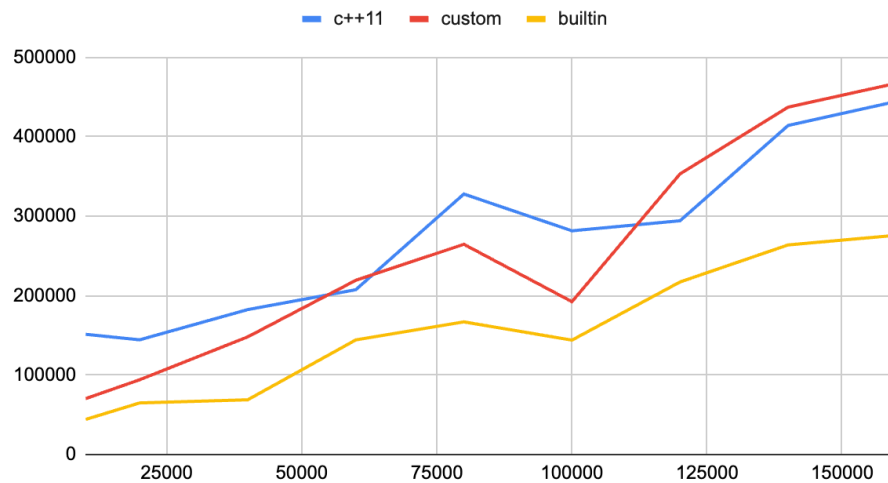
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### Strong Scalling Test:



All the three graphs match the ideal case, with runtime significantly decreasing as the number of threads increases for all three scenarios of array size. This is a sign of work being divided among different threads which shortens the execution time.

### Weak Scaling Test:



The weak scaling test is not matching the ideal case perfectly, but the overall growth of the graph is not significant and some occasional decrease on runtime is detected. I believe this is because the increase of number of threads is not as significant as the array size, resulting in an increase in the amount of work being processed by each thread.

### Comparison:

According to the graph, the OpenMP built-in function and the C++ 11 threads are working equally good, while the OpenMP custom is showing inferior performance. The c++ custom is doing good because it is specifically customized for the requirement, and the OpenMP built-in is doing good because the function is highly mature and has been put through many tests.