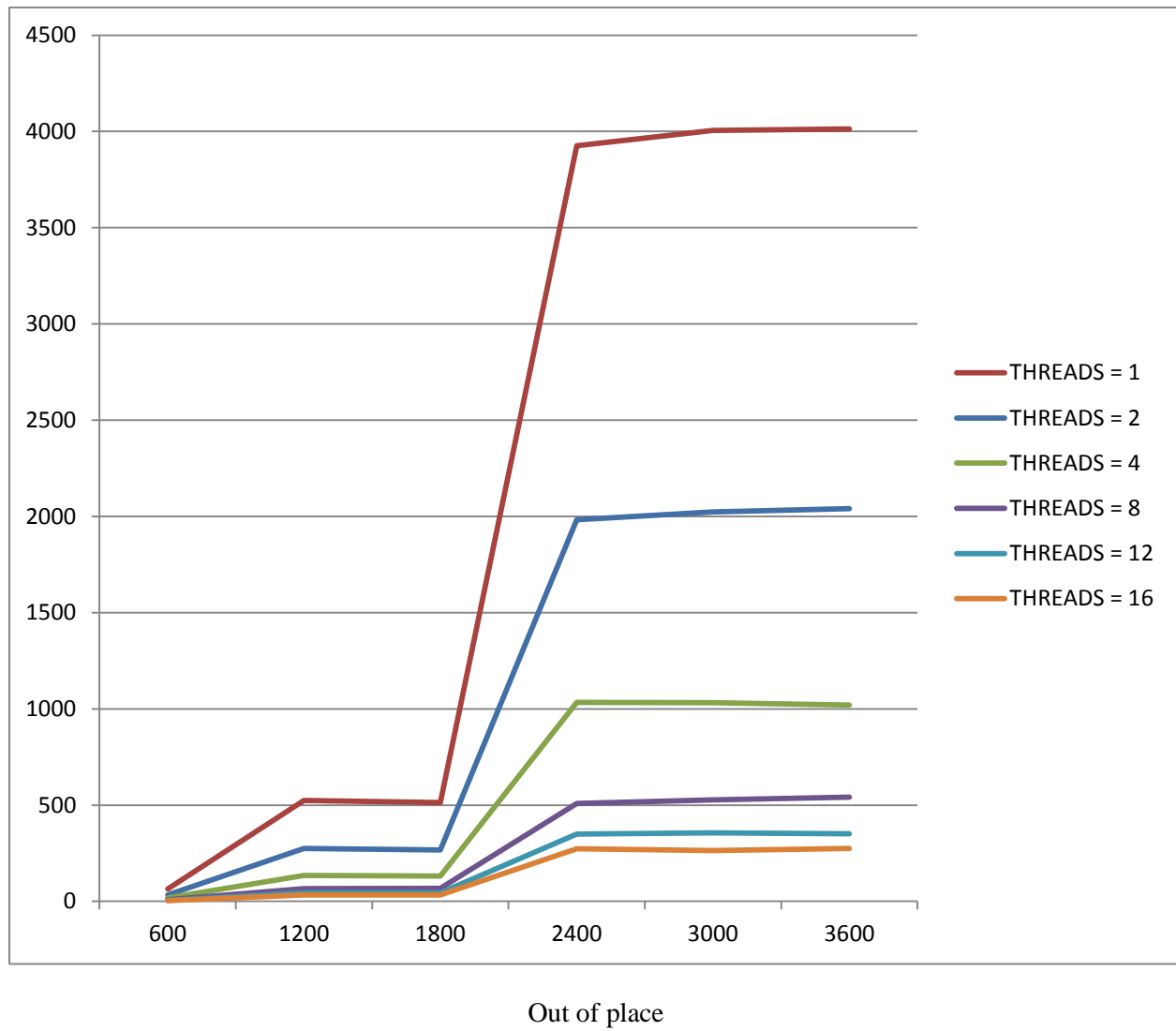
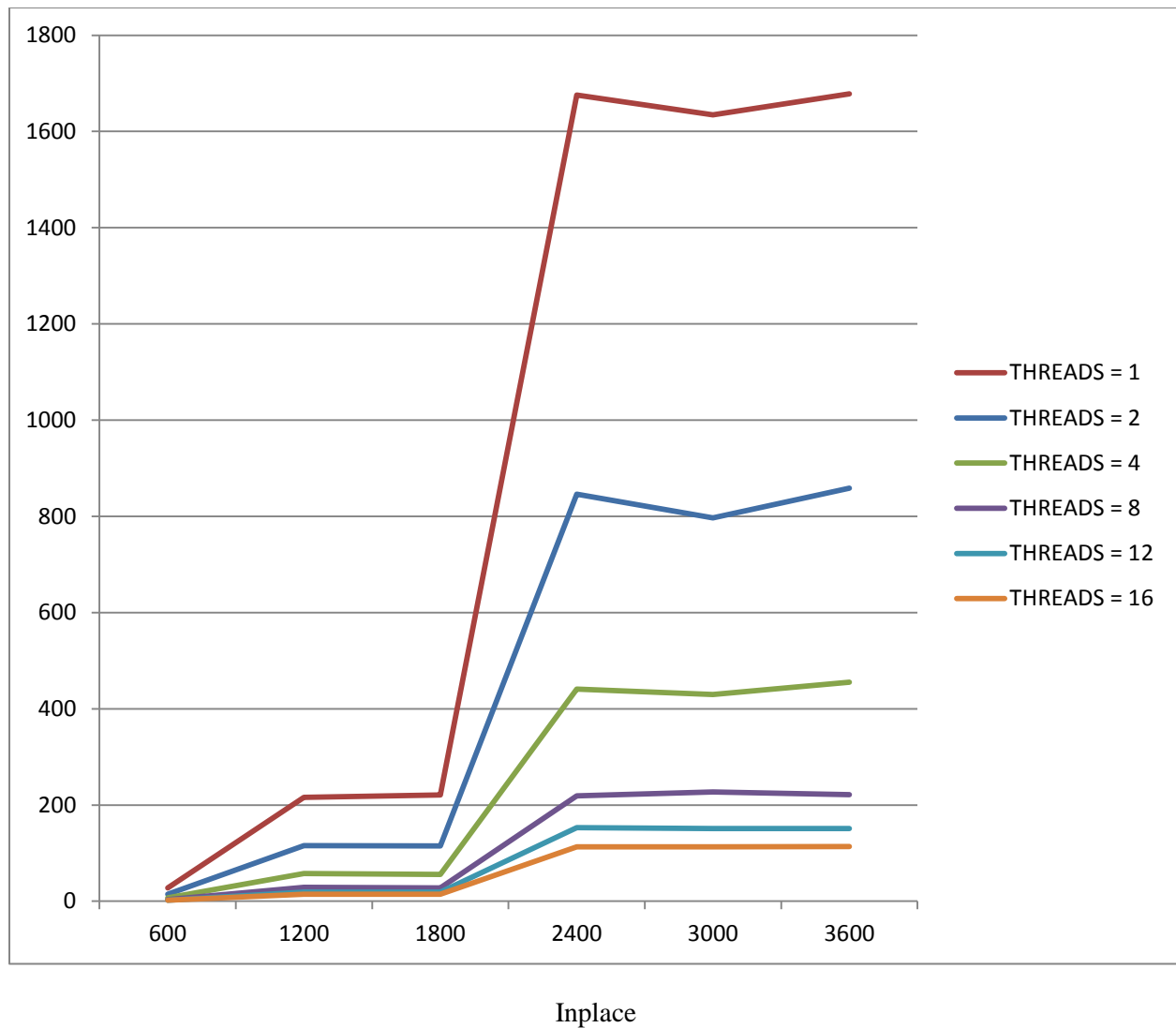


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CMPS 297M
Assignment 5

Runs:

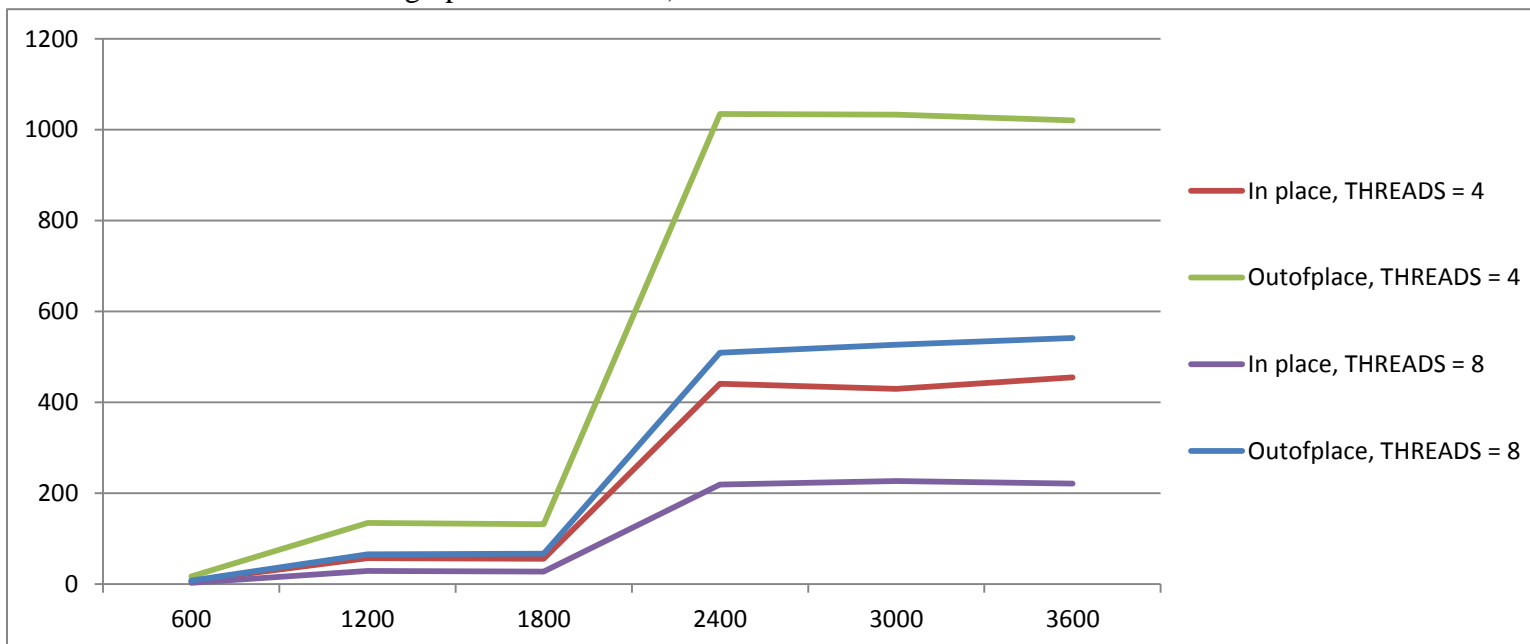
The graphs bellow represents runs for both out of place (8 parallel calls then add), and In place (4 parallel calls, sync, 4 parallel calls, sync).





Comparison:

The following graph is a comparison between In place and out of place, for threads 4, and 8. (limited number of threads to make the graph more readable).



Results and Conclusion:

1- Clearly, in place is faster than Outofplace.

2- In place is faster because even though it reduces parallelism (4 parallel calls at once instead of 8), but it has less I/O, There is no add calls after the parallel calls (no add in the bottoming up phase of the recursion).

3- Both solutions behave in the same way to increases in the Input size and Threads, (same complexity in a sense). However, Inplace scales a bit better because it is inherently faster due to IO.