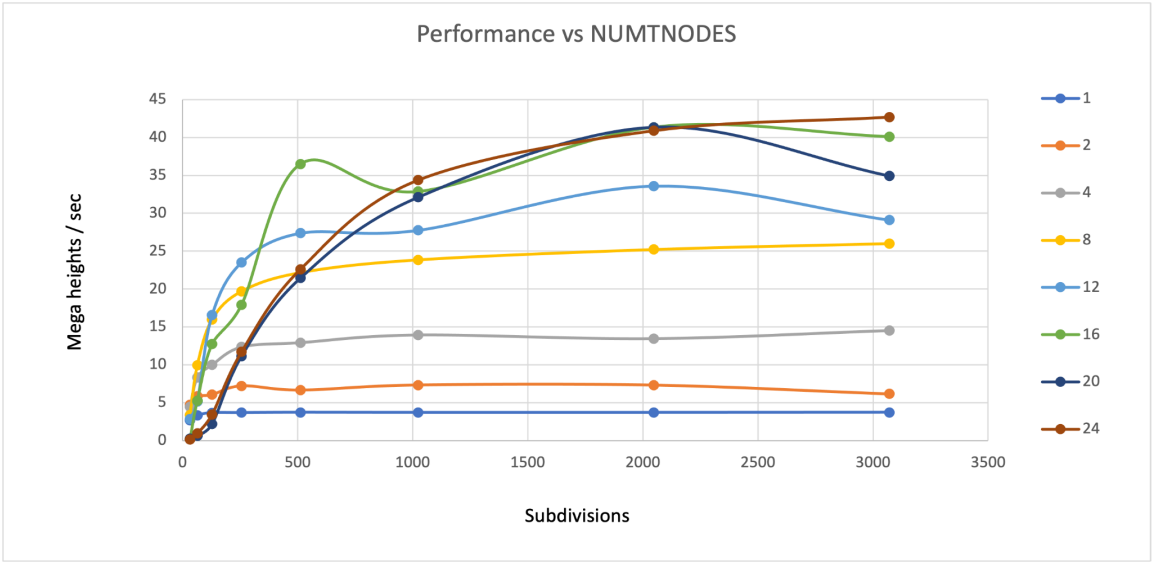
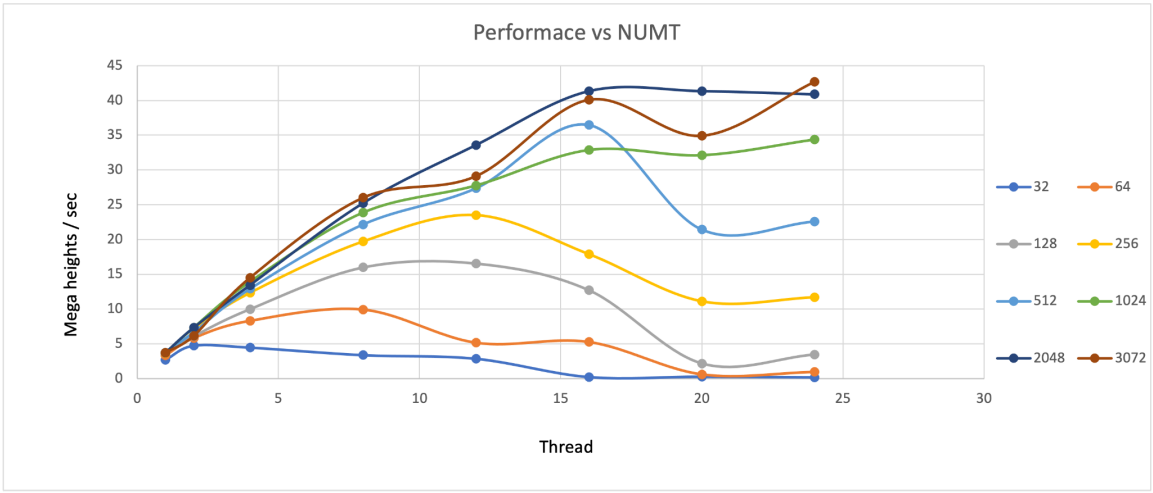
Project #2

Numeric Integration with OpenMP Reduction

PangFa Chou | choupa@oregonstate.edu

1. The experiment was run on a Linux server.
2. Based on the results, the volume is approximately 3.87.
3. The performance shown in table:





4. When using more threads to compute, the performance generally increases. Also in general, when using more than 12 threads, the more subdivisions the better performance. However, there are some exceptions that the more subdivisions and more threads don't bring better results.
5. In general, the more threads result in better performance since more tasks could be executed at the same time. However, for those exceptions, I believe that it fall in the false sharing or spatial and temporal coherence problem, so it ends up having a worse performance.
6. I choose 24 thread 2048 divisions to compare with 1 thread 2048 subdivisions, and by using the inverse Amdahl equation, Fp = 0.949.
7. (1 / (1 - 0.949)) = 19.607