

1. The speed up for large problem in Part B weren't very good, but mostly because I only used the parallelized the calculations the main calculations loop as I did in A. Probably would've gotten more speed if I parallelized the inner loops too. The speed up on small problem weren't very good either, probably because it's a small data set rather than a large one.
2. Part A was simply to implement, while part B and C were a bit difficult. Part B was a bit difficult to debug since I didn't know how to properly use the iA array and jA array and I couldn't get it to run on 1 thread, while it worked fine for 4 up to 16 threads. For Part C, it very difficult to understand how to write the code for parallelization. Using the video and some help, I managed to figure it out. I definitely find using OMP easier than MPI C in this case.

Small problem

Part A				
Threads	Time	Speed up	Min	Max
1	5.67E-03	1.00E+00	0.000277	0.000973
4	4.97E-03	1.14E+00	0.000277	0.000973
8	3.51E-02	1.61E-01	0.000277	0.000973
16	2.56E-02	2.22E-01	0.000277	0.000973
Part B				
Threads	Time	Speed up	Min	Max
1	4.79E-03	1.00E+00	0.000277	0.000973
4	4.79E-03	1.00E+00	0.000277	0.000973
8	4.42E-03	1.08E+00	0.000277	0.000973
16	2.17E-01	2.21E-02	0.000277	0.000973
Part C				
Processors	Time	Speed up	Min	Max
1	2.92E-03	1.00E+00	0.000277	0.000973
2	2.74E-03	1.07E+00	0.000277	0.000973
4	2.95E-03	9.87E-01	0.000277	0.000973
8	3.65E-03	7.99E-01	0.000277	0.000973
16	6.68E+00	4.36E-04	0.000277	0.000973

Large problem

Part A				
Threads	Time	Speed up	Min	Max
1	5.67E-03	1.00E+00	0.000277	0.000973
4	4.97E-03	1.14E+00	0.000277	0.000973
8	3.51E-02	1.61E-01	0.000277	0.000973
16	2.56E-02	2.22E-01	0.000277	0.000973
Part B				
Threads	Time	Speed up	Min	Max
1	4.79E-03	1.00E+00	0.000277	0.000973
4	4.79E-03	1.00E+00	0.000277	0.000973
8	4.42E-03	1.08E+00	0.000277	0.000973
16	2.17E-01	2.21E-02	0.000277	0.000973
Part C				
Processors	Time	Speed up	Min	Max
1	2.92E-03	1.00E+00	0.000277	0.000973
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