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EECS 245 – Parallel Computing

Lab 02

1.1

Schedule Type	Size of Array	Number of Threads	Execution Time(sec)
Static	16000	4	0.101
Dynamic	16000	4	0.607

**There were debug print statements in the Dynamic program that might have increased the run time. We do know that Dynamic has more overhead than Static so it should take longer to run anyways.

1.2

Size of Array	Number of Threads	Execution Time(sec)	
16000	4	0.101	
16000	2	0.09	
16000	6	0.11	
100000	4	0.59	
100000	2	0.59	
100000	6	0.607	

2. Initial running time: 73 seconds for ‘quake.in’ and 0.6 seconds for ‘quake.in.short’.

After adding ‘#pragma omp parallel’ to a section of main and another to matrix vector product, along with a few more ‘#pragma omp parallel for’ around the code, **the running time for ‘quake.in’ became 15 seconds**. The **performance for ‘quake.in.short’ also decreased to .46 seconds**. I did expect the performance to be faster for ‘quake.in’, since adding parallelism to such a large dataset will help increase performance. I did not expect the time to decrease so drastically. This performance increase was not as noticeable in ‘quake.in.short’ probably because the parallelism has an overhead that is more noticeable on the smaller dataset, resulting in a lesser increase to performance relative to the larger dataset.