For this assignment I did 3 batches of tests. I did one test with a chunk size of 100 and compared it with thread number of 1,4 and 16. The second and third with a chunk size of 200 and 500 with the same amount of threads. Comparing all these tables I can see that there are minor speed ups from the 200 and 500. Although some of the highest values were not quite the same, there was still some speed ups .

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| --- | --- | --- |
| Thread count: 1 | Chunk size: 100 |  |
| Argument | High | Time |
| 2000 | 1276936 | 2.70E-03 |
| 20000 | 27114424 | 3.28E-02 |
| 200000 | 17202377752 | 3.01E-01 |
| 2000000 | 1.56914E+11 | 3.05E-03 |
|  |  |  |
|  |  |  |
| Thread count: 4 |  |  |
| Argument | High | Time |
| 2000 | 1276936 | 4.04E-03 |
| 20000 | 27114424 | 4.41E-02 |
| 200000 | 17202377752 | 4.44E-01 |
| 2000000 | 1.56914E+11 | 4.42E+00 |
|  |  |  |
|  |  |  |
| Thread count: 16 |  |  |
| Argument | High | Time |
| 2000 | 354292 | 9.79E-03 |
| 20000 | 27114424 | 5.62E-02 |
| 200000 | 17202377752 | 5.32E-01 |
| 2000000 | 1.56914E+11 | 6.59E+00 |

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| --- | --- | --- |
| Thread count: 1 | Chunk size: 200 |  |
| Argument | High | Time |
| 2000 | 1276936 | 2.58E-03 |
| 20000 | 27114424 | 3.81E-02 |
| 200000 | 17202377752 | 3.45E-01 |
| 2000000 | 1.56914E+11 | 3.54E+00 |
|  |  |  |
|  |  |  |
| Thread count: 4 |  |  |
| Argument | High | Time |
| 2000 | 1276936 | 2.90E-03 |
| 20000 | 27114424 | 3.99E-02 |
| 200000 | 17202377752 | 3.24E-01 |
| 2000000 | 1.56914E+11 | 2.97E+00 |
|  |  |  |
|  |  |  |
| Thread count: 16 |  |  |
| Argument | High | Time |
| 2000 | 1276936 | 5.87E-03 |
| 20000 | 27114424 | 4.72E-02 |
| 200000 | 17202377752 | 2.46E-01 |
| 2000000 | 1.56914E+11 | 6.17E+00 |

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| --- | --- | --- |
| Thread count: 1 | Chunk size: 500 |  |
| Argument | High | Time |
| 2000 | 1276936 | 2.71E-03 |
| 20000 | 27114424 | 3.61E-02 |
| 200000 | 17202377752 | 3.25E-01 |
| 2000000 | 1.56914E+11 | 3.33E+00 |
|  |  |  |
|  |  |  |
| Thread count: 4 |  |  |
| Argument | High | Time |
| 2000 | 1276936 | 1.60E-03 |
| 20000 | 27114424 | 3.39E-02 |
| 200000 | 17202377752 | 2.90E-01 |
| 2000000 | 90239155648 | 3.59E+00 |
|  |  |  |
|  |  |  |
| Thread count: 16 |  |  |
| Argument | High | Time |
| 2000 | 1276936 | 3.71E-03 |
| 20000 | 9635920 | 4.18E-02 |
| 200000 | 17202377752 | 3.75E-01 |
| 2000000 | 1.56914E+11 | 5.92E+00 |