Numbers *can* be anywhere from 1 to 1750. For the tables below, all numbers were set to 1750 (I am still randomly generating them, taking a mod, then adding the lower bound, see line 25). Note: This was done on my local machine, not the Knuth server.

The program is NOT scalable.

Table 3.5: Times (seconds)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Thread Count | **Order of Matrix** | | | | | | | |
| 32000 | 64000 | 128000 | 256000 | 512000 | 1024000 | 2048000 | 4096000 |
| 1 | 0.15716 | 0.31205 | 0.62433 | 1.26275 | 2.51554 | 5.03653 | 10.07018 | 20.10276 |
| 2 | 0.08138 | 0.16283 | 0.33530 | 0.65918 | 1.30717 | 2.63601 | 5.22730 | 10.44528 |
| 4 | 0.04515 | 0.08983 | 0.17139 | 0.33831 | 0.66643 | 1.31343 | 2.63010 | 5.24141 |
| 8 | 0.02442 | 0.04725 | 0.08841 | 0.16955 | 0.34659 | 0.68361 | 1.35740 | 2.76381 |

Table 3.6: Speedup

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Thread Count | **Order of Matrix** | | | | | | | |
| 32000 | 64000 | 128000 | 256000 | 512,000 | 1,024,000 | 2048000 | 4096000 |
| 1 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 |
| 2 | 1.931189 | 1.916380 | 1.862006 | 1.915651 | 1.924417 | 1.910666 | 1.926459 | 1.924579 |
| 4 | 3.480930 | 3.473701 | 3.642642 | 3.732571 | 3.774630 | 3.834633 | 3.828823 | 3.835374 |
| 8 | 6.437190 | 6.604847 | 7.062043 | 7.447749 | 7.257976 | 7.367553 | 7.418734 | 7.273561 |

Table 3.7: Efficiency

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Thread Count | **Order of Matrix** | | | | | | | |
| 32000 | 64000 | 128000 | 256000 | 512,000 | 1,024,000 | 2048000 | 4096000 |
| 1 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 | 1.000000 |
| 2 | 0.965594 | 0.958190 | 0.931003 | 0.957825 | 0.962208 | 0.955333 | 0.963230 | 0.962290 |
| 4 | 0.870233 | 0.868425 | 0.910661 | 0.933143 | 0.943658 | 0.958658 | 0.957206 | 0.958843 |
| 8 | 0.804649 | 0.825606 | 0.882755 | 0.930969 | 0.907247 | 0.920944 | 0.927342 | 0.909195 |