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CSC-338 Parallel

Assignment 2 Monte Carlo

I get the number of tosses from a parameter.

Around a million tosses I get pretty close but I can decrease the tolerance if I increase the tosses to 100 million or 1 billion.

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| --- | --- | --- |
| # of Processes | Number of Tosses | PI Estimate |
| 2 | 1000 | 3.280000 |
| 2 | 1,000,000 | 3.145040 |
| 2 | 100,000,000 | 3.141576 |
| 4 | 1000 | 3.152000 |
| 4 | 1,000,000 | 3.146432 |
| 4 | 100,000,000 | 3.141930 |
| 8 | 1000 | 3.168000 |
| 8 | 1,000,000 | 3.137024 |
| 8 | 100,000,000 | 3.141078 |

The more processes I add the faster it will be however once I get higher then 4 processes on my 4 core machine sometimes the time will be inconsistent because it’s creating more processes than exist eating up time.

|  |  |  |  |
| --- | --- | --- | --- |
| # of Processes | Number of Tosses | PI Estimate | Time |
| 2 | 1,000,000,000 | 3.121686 | 30 seconds |
| 4 | 1,000,000,000 | 3.141792 | 20 seconds |
| 8 | 1,000,000,000 | 3.141532 | 18 seconds |
| 12 | 1,000,000,000 | 3.121724 | 22 seconds |