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CSC-338 Assignment 1 Report

Number of cores on the test machine(Windows): 4

1. Results for risk\_serial.py:

|  |  |
| --- | --- |
| Simulations | Time(s) |
| 25 | 1.89 |
| 50 | 3.85 |
| 75 | 5.76 |
| 100 | 7.42 |

1. Results for risk\_thr.py:

|  |  |
| --- | --- |
| Simulations | Time(s) |
| 25 | 1.82 |
| 50 | 3.75 |
| 75 | 5.67 |
| 100 | 7.44 |

1. Results for risk\_mp.py:

|  |  |
| --- | --- |
| Simulations | Time(s) |
| 25 | 0.60 |
| 50 | 1.06 |
| 75 | 1.57 |
| 100 | 2.20 |

Because of python’s global interpreter lock, threads cannot run concurrently. Since there is not much overhead in I/O operations in the serial program, risk\_thr.py runs as fast as risk\_serial.py. However, risk\_mp.py uses multiple processes that run in parallel and hence outperforms risk\_serial.py and risk\_thr.py.