Kristin Schaefer
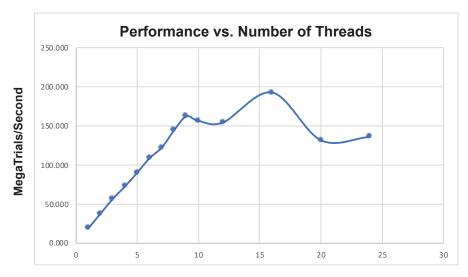
Project #1 : Monte Carlo Simulation

Performance vs. Number of Threads

NUMT	NUMTRIES	NUMTRIALS	PROBABILITY	PERFORMANCE
1	100	1000000	0.131	19.013
2	100	1000000	0.131	37.884
3	100	1000000	0.131	56.733
4	100	1000000	0.131	72.671
5	100	1000000	0.130	90.341
6	100	1000000	0.131	108.697
7	100	1000000	0.131	122.367
8	100	1000000	0.131	144.196
9	100	1000000	0.131	162.161
10	100	1000000	0.131	156.375
12	100	1000000	0.131	154.267
16	100	1000000	0.131	192.658
20	100	1000000	0.131	131.565
24	100	1000000	0.131	135.983

Performance vs. Number of Threads
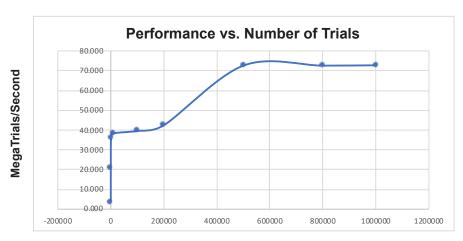
MegaTrials/Second

Number of Threads

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Project #1 : Monte Carlo Simulation

Performance vs. Number of Trials

NUMT	NUMTRIES	NUMTRIALS	PROBABILITY	PERFORMANCE
4	100	1000000	0.131	72.730
4	100	800000	0.131	72.559
4	100	500000	0.131	72.576
4	100	200000	0.130	42.427
4	100	100000	0.129	39.535
4	100	10000	0.129	38.308

Performance vs. Number of Trials

Estimated Probability : 0.131

Speedup = (192.658 / 19.013) = 10.133

Parallel Fraction : (16 / (16-1)) * (1 - (1 / 10.133)) = 0.96