

Project 1  
OpenMP: Monte Carlo Simulation

Name: Vishwas Somashekara Reddy

Email: [reddyv@oregonstate.edu](mailto:reddyv@oregonstate.edu)

- **Probability**

The likelihood varies from **28** percent to **32** percent after examining the probability between trials 10000 and 1000000.

Probability for 1 million trails on 32 threads is 29.10 percent.

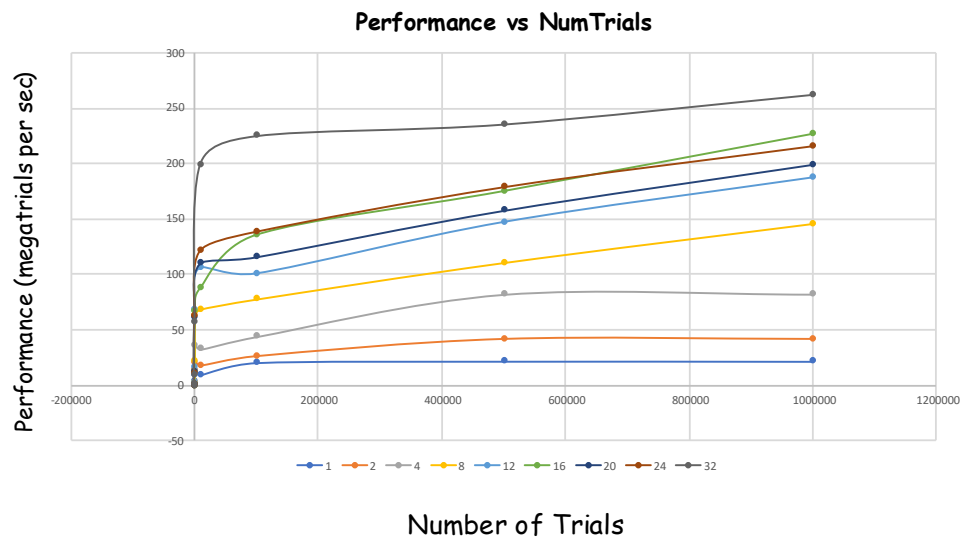
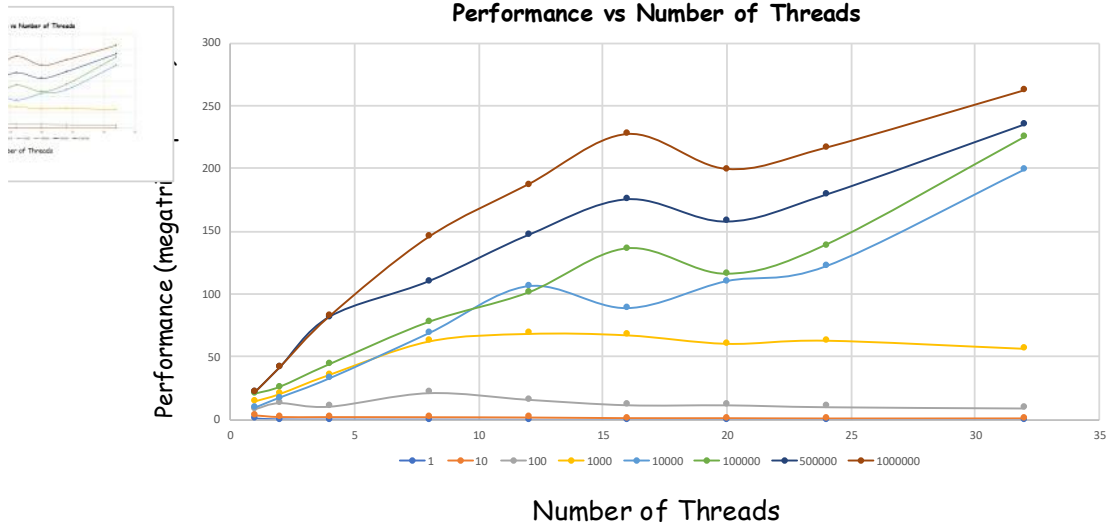
- **Table**

	1	2	4	8	12	16	20	24	32
1	0.52	0.27	0.22	0.2	0.16	0.11	0.11	0.09	0.08
10	3.58	2.19	2.13	2	1.8	1.26	1.22	0.99	1.04
100	8.69	13.45	10.7	21	16.2	11.8	11.7	10.2	9.22
1000	14.27	20.21	35.6	63	68.7	67.5	60.7	63.2	56.69
10000	9.21	17.26	32.6	69	106	88.7	110	122	199.31
100000	20.44	25.92	43.9	78	101	136	116	139	225
500000	21.79	41.61	81.9	110	147	176	158	179	235.49
1000000	21.69	41.59	82.1	145	187	227	200	216	262.31

*Row- Number of threads*

*Column- Number of Trails*

- Graphs**



- **Parallel Fraction, Fp:**

$$\text{float } F_p = (32/31) * (1 - (1/S))$$

$$S = (\text{Performance with 1 million threads}) / (\text{Performance with one thread})$$

$$= 262.31 / 21.69$$

$$= 12.0936$$

$$F_p = (32/31) * (1 - (1/12.0936)) = 0.9469$$