

## 1. What machine you ran this on

I ran this program on the Rabbit server.

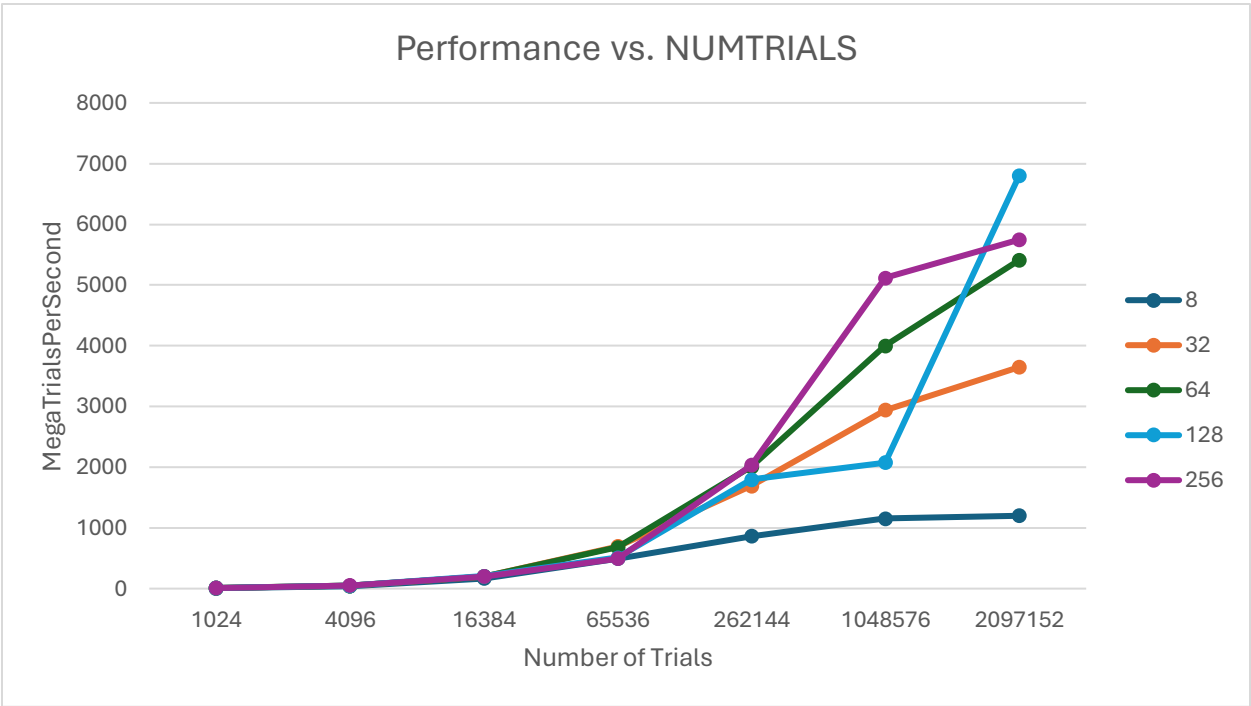
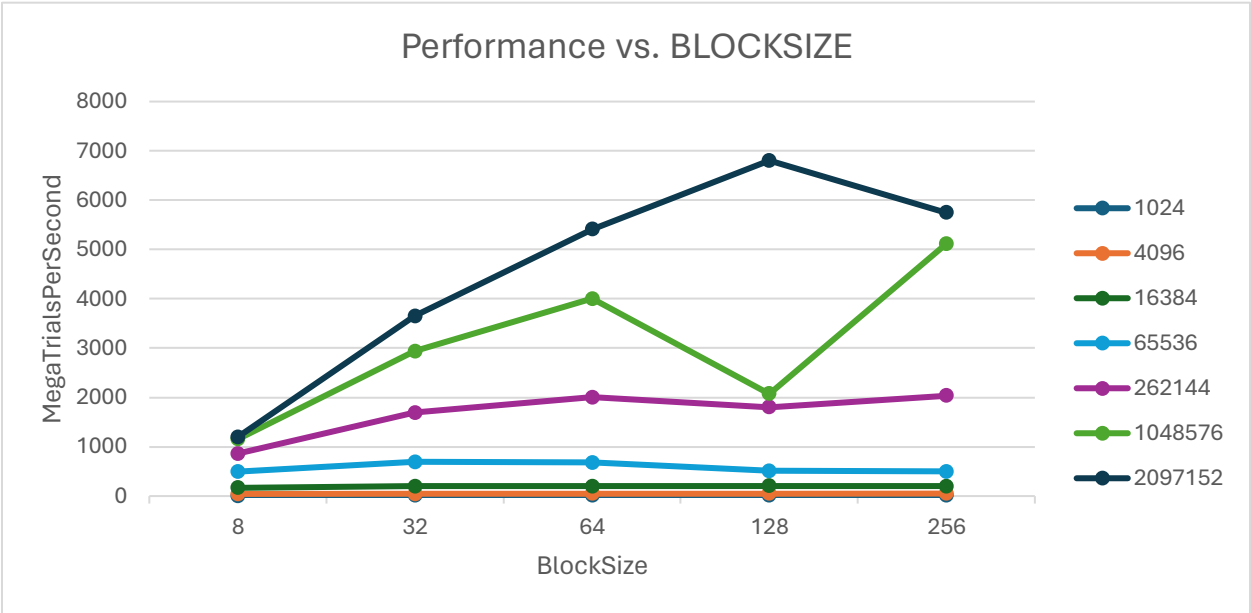
## 2. What do you think this new probability is?

The new probability will be same or similar to the previous probability and be around 80%.

## 3. Show the rectangular table and the two graphs

Number of trials	BlockSize	MegaTrialsPerSecond	Probability
1024	8	7.1701	85.06
1024	32	11.5649	84.77
1024	64	9.774	82.52
1024	128	10.9627	83.5
1024	256	8.8766	85.16
4096	8	43.2286	84.25
4096	32	44.3213	83.89
4096	64	48.3201	84.03
4096	128	47.958	83.59
4096	256	50.8946	83.28
16384	8	166.2878	83.78
16384	32	199.2218	84.32
16384	64	200.8631	83.76
16384	128	202.933	83.76
16384	256	199.9219	84.15
65536	8	495.5238	83.66
65536	32	695.1799	83.95
65536	64	677.9212	83.71
65536	128	512	83.96
65536	256	495.6438	83.81
262144	8	862.4065	83.83
262144	32	1692.562	83.79
262144	64	2006.3678	83.86
262144	128	1799.2532	83.83
262144	256	2033.2588	83.85
1048576	8	1153.6809	83.84
1048576	32	2938.0435	83.76

1048576	64	4000.9766	83.81
1048576	128	2074.1865	83.77
1048576	256	5115.2046	83.85
2097152	8	1199.4583	83.79
2097152	32	3648.5916	83.79
2097152	64	5411.726	83.8
2097152	128	6803.9869	83.8
2097152	256	5747.7637	83.77



4. What patterns are you seeing in the performance curves?

From the curves, we can see that the performance of the system increases as we increase the block size. As we can expect from the performance, as the block size increases the MegaTrialsPerSecond also increases.

5. Why do you think the patterns look this way?

As the number of blocks increase, the number of calculations that can be done by each block also increases, this in turn improves the efficiency.

6. Why is a BLOCKSIZE of 8 so much worse than the others?

With the blocksize as just 8, the number of calculations that can be done are limited to those 8 blocks and this reduces the efficiency.

7. How do these performance results compare with what you got in Project #1? Why?

The results are similar to the ones in project 1, but for the blocksize 256, the performance peaks and decreases for the last set of trials, as the issue of computational overhead makes it less efficient.

8. What does this mean for what you can do with GPU parallel computing?

This shows that even though GPU computing can achieve somewhat similar result as CPU computing, but as the number of trials increase and the need for blocks increases, the resources required and the computational overhead block GPU computing from being equal to CPU computing.