ECE 284 - Assignment 4

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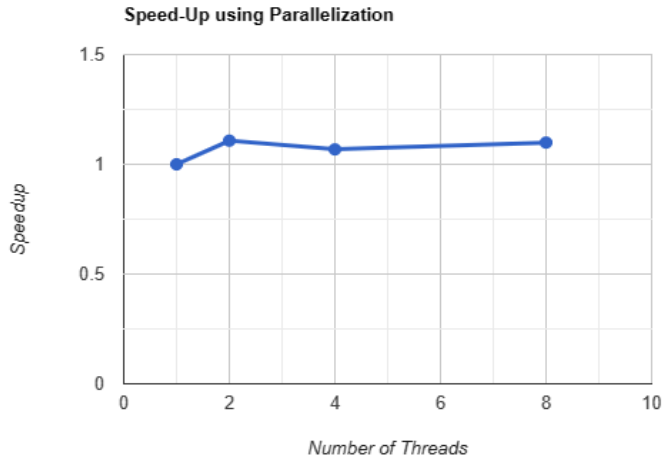
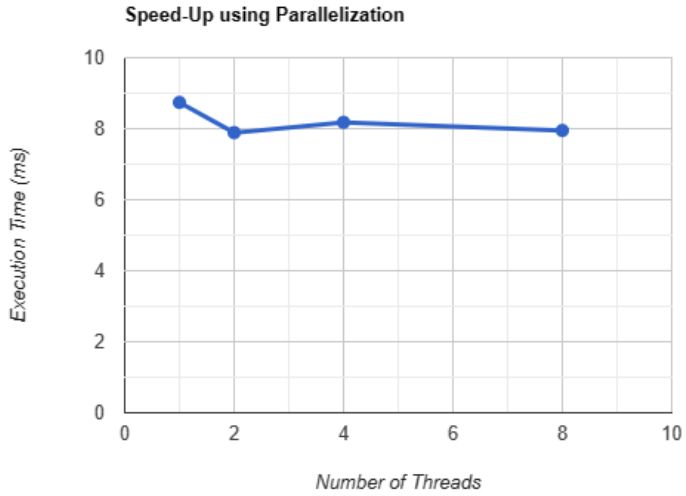
Q3.a.

Number of Threads	Total Execution Time (s)	Speedup
1	8.74	1
2	7.89	1.1077
4	8.18	1.068
8	7.95	1.099

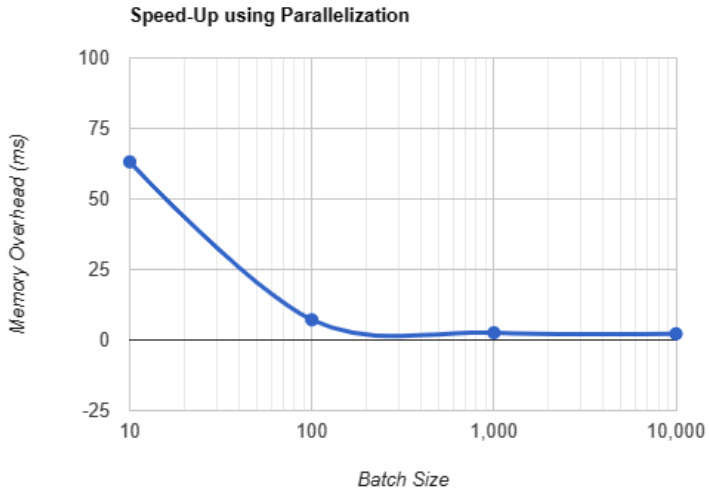




b.

Batch Size	Memory Overhead (ms)
10	63.1466
100	7.1615
1000	2.5857
10000	2.2228

When the batch size increases, the kernel calls reduce by the same factor as evident from the overhead from the first two cases of batch sizes being 10 and 100. As the number of kernel calls reduce, the memory calls within the system also reduce, thus decreasing the overhead.



Q3. c. NumBlocks = 1024
Batch Size = 1024
Threads per Block = 256
Number of Reads = 150000 (given)