Week 8: Assignment: OpenMP Task

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1. Reduce:

Q. What speedup do you achieve with 16 threads?

Ans: The speedup for 16 threads is between 0 and slightly above 2. The speedup is low when the value of N is between 10000 and 1000000, but the speedup increases more when the value of N increases after N= 1000000 and reaches to slight above 2 at N = 100000000.

1. Merge Sort:

Q. What speedup do you achieve with 16 threads?

Ans: The speedup for 16 threads is between 2 and 6. The speedup is 2 when the value of N is 10000 and increases upto 6 when the value of N becomes 1000000, after N = 1000000 the speedup increases slowly and reaches 6 when N becomes 1000000000.

1. Longest Common Subsequence:

Q. What speedup do you achieve with 16 threads?

Ans: The speedup achieved for the 16 threads is slightly above 0 and close to 0.5, I tried to achieve speedup but was short of time as the submission is due. I have thought of an approach where I solve the problem diagonally i.e. assigning each thread and solving the diagonal elements parallelly. However, I will try to implement the same and get back with the results.