Week 8 - Assignment: OpenMP Task

Reduce

Inference:

As the number of threads increase with increase in datapoints it results in speedup. But there is an inflection point, the graph increases steeply until the inflection point and then stays constant irrespective of the number of threads.

What speedup do you achieve with 16 threads?

Speedup achieved for 16 threads is a little over 3 when the datapoints are 10^8. The speedup is between 0-2 for other datapoints.

Merge Sort

Inference:

The speedup increases with increase in number of threads and datapoints. There is a apt number which lets us know when to create a task and when not to. As creating more tasks will add over head resulting in less speedup.

What speedup do you achieve with 16 threads?

For 16 threads speed up is between 2-6. As datapoints increase from 10000 to 10^9. The highest speedup 6 is achieved for 10^9 datapoints.

Longest Common Subsequence

Inference:

Speedup achieved for LCS is low for all threads with different datapoints. It lies between 0-2.

What speedup do you achieve with 16 threads?

Speedup achieved for 16 threads is between 0 and 2. With a maximum speedup of around 1.5 for m=10^5, n=10^5