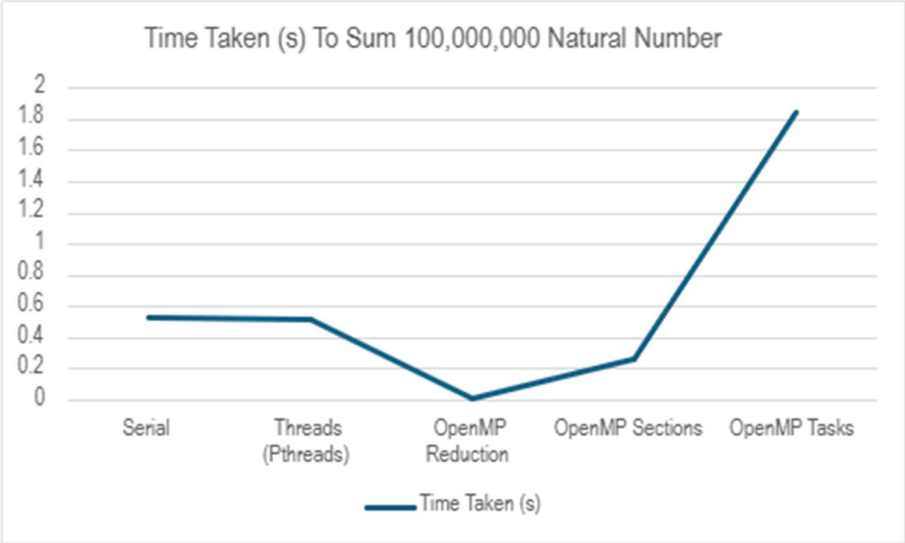
Q1) Sum of 100,000,000 Natural Number implemented on Cluster and Analysed by Subham Gaurav



Yes, it is possible to use OpenMP **sections** or **tasks** to calculate the sum of the first 100 million natural numbers, but these methods are **not the best or fastest** for this type of problem.

- **OpenMP Sections** let us split the work into a few fixed parts. For example, I have divided the range into two halves and sum each half separately. This works fine, but it doesn't use all threads efficiently and doesn't scale well if we want to use more threads. It's better for small, simple programs with just a few tasks.
- **OpenMP Tasks** give more control and allow flexible work scheduling. They are great when the work is uneven or created during the program. But in our case, where the work (summing numbers) is simple and regular, using tasks adds extra overhead and makes the program slower.
- The best method for this problem is **#pragma omp for reduction(+:sum)**. It automatically splits the work between threads, balances the load, and adds up the result efficiently. In our tests, this method was the fastest, taking only **0.018 seconds**.