Assignment-Factorial

Created By:
Nitin Purohit (800956312)
Akarsh Gupta (800969888)

The purpose of this assignment is for you to learn more about

• the parallel loop construct of OpenMP,

• how loop scheduling works in OpenMP,

• how easy (or not so easy) is writing parallel codes with OpenMP loop construct.

Implement a parallel function using OpenMP parallel loop constructs to find the factorial of a number. Output the time it took on stderr.

1) Plot a speedup chart for different numbers of thread (1, 2, 4, 8, 16), for 1000,10000,100000,1000000 and 1000000000, using the bench script. Does the plot make sense? Do we get any speed up? Why?

Expected Solution:

The solution basically consists of dividing the computations into different threads. Each thread computes a part of array. We then calculate the offset from each thread and multiply this offset with the computations from each part of array. This is like prefix sum.

Limitations – The problem with this can be handling very large values, because the computations for very large number can be huge for continuous miltiplications.