OpenMPI Assignments

Marks: 40

Last date of submission: 13th November, 2020 up to 5:00 PM.

1. Parallel implementation of Matrix multiplication using Tilling or Tiled transformation in OpenMPI. Utilize the cache memory of your system efficiently.
    a. Plot the graphs of serial and parallel implementation for Matrix multiplication with different size i.e. 1024x1024, 2048x2048, 4096x4096, etc. (Take 10 readings)
    b. Plot the graph of speedup for the above experimentation
2. Big Integer implementation using OpenMPI for the operations of two big integers for multiplication. Note: Use FFT for the computation of Big integer multiplication.
    a. Plot the graphs of serial and parallel implementation of multiplication for different bits or digits size i.e. 256-bit, 512-bits, 1024-bits, 2048-bits, etc. (Take 10 readings)
    b. Plot the graph of speedup for the above experimentation