Assignment 2

Write programs to implement

1) matrix multiplication of matrices with dimensions 1024*1024
    a) sequential C/C++ version
    b) using pthread
    c) using openmp

2) prefix sum of 4096 elements
    a) sequential C/C++ version
    b) using pthread
    c) using openmp

Report the speedups obtained with parallelization as compared to the sequential code and the number of threads required in the same code as a comment.

You need to submit the properly indented codes in a single zip file with your enrollment number as the filename. Deadline: Sunday, 13th February, 2022

Note:

1) DO NOT PLAGIARISE! This is meant to be an exercise for you to get familiar with the parallel programming models.
   Plagiarism of any kind will straightaway attract 0 marks in the assignments and further -5 penalty from C1/C2/C3 evaluations.
2) Resubmissions post deadline will not be considered at any cost. Resubmission, if any, has to be submitted by mail with proper justification.
3) The assignment will be evaluated for logic, implementation, indentation, comments, timely submission and originality (plagiarism).
4) Novelty, if any, will be suitably rewarded and has to be intimated separately by mail. Novelty involves a new algorithm/technique devised which does not exist in literature.