ASSIGNMENT 5

Write a parallel *MPI* program computing the product of two **n**×**n** dense matrices on **p** processors so that

- **p** processors are involved in the computations.
- The 1-dimensional parallel algorithm of matrix multiplication is employed:
    - the matrices are identically and equally partitioned in one dimension into **p** horizontal slices
    - there is one-to-one mapping between the partitions and the processors
    - each processor is responsible for computation of the corresponding slice of the resulting matrix

You can use BLAS or ATLAS for local computations.

Experiment with the program and build:

1) The dependence of the execution time of the program on the matrix size **n**.
2) The speedup over a serial counterpart of the program.

Explain the results.