Lab Session 9

Submission deadline: April 29, 11:59pm

Description:

In this lab, you are going to implement the basic parallel matrix multiplication algorithm shown in Slides 15-18 (see cse179_April11_DenseMatrix).

- Implement the algorithm with MPI;
- Your implementation should take matrix size *n* as input and then generate two random *nxn* matrices;
- Your implementation should take block size *q* as input. You can assume that *n* is always divisible by *q*. Note that once *q* and *n* are determined, the number of processor is determined.
- Compare the output matrix of your implementation with the output matrix of the serial version (see Slide 14) to verify the execution correctness of your code.
- Run your implementation with four pairs of *n* and *q*, and report the performance.

Hand in

1. Your solution source code and Makefile;
2. Performance data with different input combinations;
3. A report (up to 1 page);