# Parallel Odd-Even Transposition Sort

## 1    Description

In this homework, you are required to write a parallel odd-even transposition sort by using MPI. A a parallel odd-even transposition sort is performed as follows:

/* Initially, m numbers are distributed to m processes, respectively.*/

- For each process with odd rank P, send its number to the process with rank P-1.

- For each process with rank P-1, compare its number with the number sent by the process with rank P and send the larger one back to the process with rank P.

- For each process with even rank Q, send its number to the process with rank Q-1.

- For each process with rank Q-1, compare its number with the number sent by the process with rank Q and send the larger one back to the process with rank Q.

- Repeat 1-4 until the numbers are sorted.

You need to use MPI to design the program. The number of processors used to execute the program is n that is much less than m.

## 2    Where and What to Turn in Your Homework

- This report should include the adopted methods, results, source code and performance analysis on them. And you are expected to use the provided LATEX template to make the report.

- Submit a hard copy of your report in class on the due day.

- You should also submit zip file of your code and report to Blackboard, and the zip file should be named as your student ID. Note that the TA will ask about your answer if your answer is not well understood or too similar to others.

- No late homework assignment submission!!!