CEN6501 Programming Project 2 – Implementing Distributed Mutual Exclusion Algorithms Using MPI and C/C++

Due date: November 24 (Monday), 2003 in class

In this project, you need to implement two algorithms as shown in the textbook (Distributed Systems, Concepts and Design, by Coulouris, Dollimore, Kindberg) by using MPI and C/C++. Please refer to Project 2-1 for the details of the computer platform.

Exercise 1:
Implement the ring-based algorithm as mentioned on pages 426-427.

Exercise 2:
Implement the Maekawa’s voting algorithm as mentioned on pages 429-431.

Note:
- Each student should work on this project individually.
- Your program should have the capability to handle up to 24 processors.
- You should design your simulation, input, and output to clearly demonstrate the run time behaviors of these algorithms. Your grade will be based on how good of your design and implementation.
- You need to turn in the hard copy and soft copy (on the floppy) of your programs and a report. In the report, you need to give the detail instructions of how to run your programs.
- You need to demo your project in person at the project demo session in the graduate student lab.