CIS 525 Software Development of Parallel and Distributed Systems   Fall 2008

Lecture 9: Tuesday, September 30, 2008

1. Chinese Philosophers – C/E and Colored Petri net model:
   a) Two sub-models of asynchronous and synchronous acquisition of forks
   b) Defining markings and incidence matrix for CPN of Chinese Philosophers
2. Proving liveness property of the Readers-Writers problem.
3. Analysis of a Sender-receiver system – Colored Petri net model
4. Analysis of a Producer-consumer system – Colored Petri net model.
5. Process nets for Concurrent Vending Machine.
6. Event-based vs. state-based modeling of systems – illustrating example.

Lecture 10: Thursday, October 2, 2008

1. Resource management problem – modeling processes with printers and disks; relationship between initial marking and Petri net.
2. Resource management problem - modeling the banker's problem with C/E nets, P/T nets, and Colored Petri nets:
   a) problem formulation,
   b) several net models with 2 and 3 customers.
   c) analysis of the state space: classification of system's states
3. Project #1 distributed and explained.

Textbook relevant sections:

1. Material discussed in lectures 1-8 covers, roughly speaking, pages 1-77 of the textbook with some extensions in terms of examples and focus.
2. The banker's problem is described in chapter 8 on pages 92-97.
3. Examples of system's modeling presented in lecture 9 are taken from other sources, not from the textbook.