CIS 525 Software Development of Parallel and Distributed Systems Fall 2008
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Lecture 1 – September 2, 2008

1. Course syllabus – distributed and discussed.
2. Course performance evaluation – distributed and discussed.
3. Main issues discussed in the course – handout distributed and discussed.
4. Petri net modeling of "seasons of the year" – handout distributed and discussed.
5. Petri net modeling of the "gas station pump" – handout distributed and discussed.
6. Petri net representations:
    a) graphical – places are cycles and transitions are boxes, arc are arrows
    b) algebraic – as relations between places and transitions and vice versa
    c) matrix – handout distributed and discussed.

7. Petri nets – several principles – handout distributed and discussed.
8. Petri net concepts – concurrency of events, conflict of events.
9. To *enable* vs. to *execute* an action in a Petri net.

Lecture 2 – September 4, 2008

1. Confusion = conflict + concurrency – explanation of the concept of confusion.
2. Conflict increasing and conflict-decreasing confusion, conflict set. Symmetric vs. asymmetric confusions.
3. Algorithmic detection of confusion in Petri net modeled systems – handout distributed and discussed.
4. Three independent properties of Petri nets – boundedness, liveness, and reversibility – handout with illustrating examples distributed and discussed.
5. Subnet, dual net, and contact-free nets.
6. Reachability graph of a Petri net.
7. Homework #1: distributed and discussed:
    a) PN modeling of a circular railway control system
    b) PN modeling of concurrent vending machine for beverages.