Institut for Matematik & Datalogi
Syddansk Universitet

April 4, 2003
JBJ

DM69 — Weekly note 9

Handed out material Friday, April 4, 2003

Chapter 30 in the old version of Cormen, Leiserson and Rivest.

Material covered in the lectures on April 3 and 4

Scheduling, Chapter 35, pages 1-13 and 16-19. Cormen et al Chapter 30.1. After that I spend 30 minutes illustrating how to use list ranking and other parallel techniques to obtain an efficient NC parallel algorithm for finding a hamiltonian cycle in certain digraphs.

Exercises on April 10, 2003

- Read Sections 30.2 to 30.4 in Cormen and be prepared to discuss the content.
- Read Section 47.4 and be prepared to discuss the content.

Lecture on April 11, 2003

Parallel algorithms, Chapter 47.5 and Cormen section 30.5.

Exam questions

For the stuff we have covered until now, the following are the possible questions (main questions).

1. Shortest paths in digraphs.
2. The maximum (s,t)-flow problem and the minimum (s,t)-flow problem.
3. Polynomial algorithms for maximum flows.
4. Minimum cost flows.
5. The assignment problem and the transportation problem.
6. Matchings: characterizations and algorithms.
7. Matroids and the greedy algorithm.
8. Matroid intersection and matroid partition: algorithms and applications.
9. Scheduling: basic concepts and examples of proofs.
10. PRAM algorithms.