Institut for Matematik og Datalogi
Syddansk Universitet

April 28, 2009
JFB

On-Line Algorithms – F09 – Lecture 4

Lecture, April 27

We finished chapter 1 and and sections 2.1 and 2.2 of chapter 2 in the textbook.

Lecture, May 1

Kim Skak Larsen will lecture on chapters 3 and 4 in the textbook.

Lecture, May 6

Kim Skak Larsen will finish chapter 4 and I will finish chapter 2 of the textbook.

Problems for May 8

(We will put off these three problems from May 4 until May 8.)

1. Do Exercise 2.4. Note that the lower bound will depend on p, rather than being $2 - \epsilon$.
2. How do you define BIT and COMB in the dynamic model?
3. Do Exercise 2.5 in the textbook.

These are new:

1. Do Exercise 3.2 in the textbook.
2. Do Exercise 3.3 in the textbook.

3. Do Exercise 3.6 in the textbook.
4. Do Exercise 3.7 in the textbook.
5. Do Exercise 3.8 in the textbook.
6. Do Exercise 3.9 in the textbook.
7. Do Exercise 3.10 in the textbook.
8. Prove that for any pair of lazy paging algorithms, A and B, any sequence length n, cache size k, and memory size N, for any number of faults f, the number of sequences of length n where A has n faults is equal to the number of sequences of length n where B has n faults. Do this by induction on the length of the sequence, n, by finding a bijection f which maps sequences where A has a particular number of faults to sequences where B has the same number of faults.