

On-Line Algorithms – F06 – Lecture 3

Lecture, February 7

Only one student showed up and some of the others were doing work helping IMADA at that time, so I will repeat this lecture on February 15.

Lecture, February 14

We will continue with chapter 1 in the textbook, covering up through section 1.6.

Lecture, February 21

We will finish chapter 1 and begin on chapter 2 in the textbook.

Problems for February 15

We only finished the first two problems on the first weekly note. We will do the others. We could also talk about amortized analysis and adversary arguments at the end if there is a need for this.

Problems for February 22

1. Exercise 1.11 in the textbook. To make the factoring lemma hold in the full cost model, change the definition of $ALG(x, j)$ to add one for the positive comparison. Try adding something to the original definition, even in the case where r_j is in front of x . Then, when comparing MTF to OPT, try looking at two different times where MTF pays the maximum, while OPT pays the minimum.
2. Exercise 1.12 in the textbook.

3. Give a request sequence for `TIMESTAMP`, where `TIMESTAMP`'s performance ratio is exactly 2 in the partial cost model. You may assume any starting configuration.