

On-Line Algorithms – F04 – Lecture 11

Lecture, April 14

We finished chapter 8 and began on chapter 9, covering the definition of metrical task systems and three examples.

Lecture, April 21

We will finish through section 9.4 of chapter 9 and skip the remainder of the chapter. We will begin on chapter 10.

Lecture, April 28

We will continue with chapter 10.

Problems for Monday, April 26

1. Do Exercise 9.1.
2. Explain the results in chapter in 9 with respect to the paging problem: the traversal algorithm, the lower bound, and the work function algorithm.
3. What problems would you run into in defining the classical and dual bin packing problems as metrical task systems? What changes can you make to the problem definitions to come closer to making it work?
4. What is the complexity of the dynamic programming procedure used for computing the cost of an optimal offline algorithm for the k -server problem when the request sequence is of length n . For the special case of a uniform metric space a faster algorithm exists. What is its complexity?