BU CLA CS 530: Analysis of Algorithms
Spring 1995

Problem Set 9 (due Thursday 95.03.30)

---

1. Exercise 30.1-3, page 700, in [CLR].
2. Exercise 30.1-5, page 700, in [CLR].
3. (a) Let $A[1 \,..\, n]$ be an array of integers. Design an EREW algorithm with n processors that copies the value of $A[1]$ to all other locations in the array in time at most $\mathcal{O}(\log n)$.
   (b) Is your algorithm for part (a) work-efficient? Justify briefly.
4. Design a common-CRCW algorithm that merges two sorted arrays A and B into one sorted array in time $\mathcal{O}(1)$ (constant time). You can use an unlimited number of processors and unlimited space. If you wish, you may simplify the problem by assuming all entries in A and B are distinct, but in such a case the algorithm should be CREW.
5. Classify the randomized algorithm of Section 30.4 in [CLR] as Monte Carlo or Las Vegas.

Created: 95.03.22
Modified: 95.03.28