

Homework 2, Due Wednesday, April 11, 2000

Reading Read chapter 16 on dynamic programming.

Problem 1:

Give an $O(m \log n)$ algorithm for finding the minimum duration trip between a pair of cities. The input to the problem is a schedule (as for the traveling tourist problem), a start city, a destination city, and a starting time. The duration of the trip is the difference between the arrival time at the destination and the start time.

Problem 2:

CLR, Page 38, Problem 2.3 a. You do not need to justify your ordering. Leave $\lg(\lg^* n)$, $\lg^*(\lg n)$, and $\lg^* n$ off your list if you want. One way to deal with the exponentials is to take logs.

Problem 3:

CLR, Page 192, Exercise 10.3-8. (Note: Exercise 10.3-2 was initially mistakenly assigned).

Problem 4:

CLR, Page 744, Exercise 31.2-4.

Problem 5:

CLR, Page 906, Exercises 35.3-3.

Problem 6:

CLR, Page 912, Exercise 35.4-3.