University of Washington   March 27, 2001
Department of Computer Science and Engineering
CSE 521, Spring 2001

Homework 1, **Due Wednesday, April 4, 2000**

Background reading Chapters 1-13, (pages 1-253). I will be assuming that you have seen most of the stuff in the first 13 chapters. If this is not true, let me know.

Reading The first topics in the course will be divide and conquer and dynamic programming. Divide and conquer is not covered in one place in the text - sections from Chapters 4, 10, 31, and 35 will be covered. Read chapter 16 for dynamic programming. You should review quicksort (Sections 8.1-8.3, don't bother about the analysis), although it will not be covered in lecture.

Problem 1:
Show that the Traveling Tourist Problem is NP-complete.

Problem 2:
Show that the three glass ball problem can be solved with $O(n^{1/3})$ ball drops.

Problem 3:
CLR, Page 72, Problem 4-1 a, c, e, h.

Problem 4:
CLR, Page 72, Problem 4-4 a, c, f.

Problem 5:
CLR, Page 163, Exercise 8.3-3.

Problem 6:
CLR, Page 163, Exercise 8.3-4.