

HW 5: Due April 1 BEFORE 9 AM, Problem 4
algorithmic solution due by 26th March, program
due April 1 BEFORE 9 AM 11:59 p.m.

March 21, 2002

Problem 1: 20 pts 7.26, Weiss

Problem 2: 20 pts 7.27

Problem 3: 20 pts We plan to sort n real numbers, $a_1, \dots, a_n$. The values of these inputs are such that the even numbered inputs are always greater than the odd numbered inputs. Lower bound the worst case complexity using this information.

Problem 4: 30 + 20 Suggest a general purpose mechanism to make any sorting algorithm stable. Your approach should at worst use the same order of space and time. Program your approach with quick sort.

Problem 5: 40 Consider the following union. Let two sets A and B be united. Then the larger is made subtree of the smaller as long as the larger is less than double the size of the smaller. If the larger is more than double the size of the smaller, then the smaller is the subtree of the larger. Consider the following union. Let two sets A and B be united. Then the larger is made subtree of the smaller as long as the larger is less than double the size of the smaller. If the larger is more than double the size of the smaller, then the smaller is the subtree of the larger. Analyze the complexity of the find operation.