CS 152h: Data Structures Homework #3

SORTING

7.19 Sort 3, 1, 4, 1, 5, 9, 2, 6, 5, 3, 5 using quicksort with median-of-three partitioning.

7.32d Suppose you are given a sorted list of N elements followed by $f(N)$ randomly ordered elements. How large can $f(N)$ be for the entire list to be sortable in $O(N)$ time?

7.11 Show how heapsort processes the input

$$142, 543, 123, 65, 453, 879, 572, 434, 111, 242, 811, 102.$$

6.2a Show the result of inserting 10, 12, 1, 14, 6, 5, 8, 15, 3, 9, 7, 4, 11, 13, and 2, one at a time, into an initially empty binary heap.

6.3a Show the result of performing three `deleteMin` operations in the heap of the previous exercise.