CS5114 Spring 2010 Homework Assignment 6
Due Thursday, March 4 at 11:00pm
50 points

1. Manber 6.34 (Note that older printings of the textbook might have different wording. So here is the "official" version of the problem.)

The input is a heap of size n (in which the largest element is on top), given as an array, and a real number x. Design an algorithm to determine whether the kth largest element in the heap is less than or equal to x. The worst-case running time of your algorithm should be $O(k)$, independent of the size of the heap. You can use $O(k)$ space. (Notice that you do not have to find the kth largest element; you need only determine its relationship to x.)

2. Manber 6.55

3. Manber 6.57