

CSCI-2300

Lab 6

March 14, 2007

This lab is about maximum binary heaps. Get help from the TAs if you are stuck. After you have completed each of the three programs, ask a TA for input sequences to test the correctness of your program. Present your completed work to a TA to get your full credit for the lab.

1. Write a C++ program to take N elements and insert them into the maximum heap one by one.
2. Write a C++ program to take N elements and build a maximum heap in linear time.
3. Write a C++ program to find all nodes greater than some value, X , in a given maximum heap. Your algorithm should run in time $O(K)$, where K is the number of nodes greater than X .