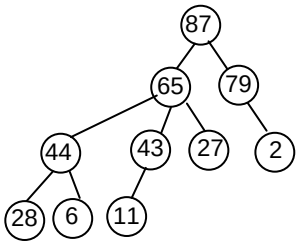
Homework Set #5

1. (10 points) Problem 6.1-5 (page 154)
2. (10 points) Problem 6.1-6 (page 154)
3. (10 points) Problem 6.2-4 (page 156)
4. (10 points) Problem 6.3-2 (page 159)
5. (10 points) Does the tree on the right represent a MAX HEAP? Why or why not?



4. (20 points) Given the array **A** = < 22, 98, 17, 6, 34 >

(a) Illustrate the operation of **HeapSort** using Figure 6.4 on p. 161 as a model**.** Sort the numbers into non-decreasing order.

(b) A swap is an exchange of two elements in the array: $A[i] \leftrightarrow A[j]$**.**

How many swaps are performed by **HeapSort** to sort the array **A**? Note: Include the swaps used to build the heap.