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Assignment 3 – COEN352

1. An array that is sorted in decreasing order is a max-heap. Each children node will be smaller than the parent node and will be stored at index 2k+1 and 2k+2 for the left and right respectively, where k is the index of the parent node. This leads to a continuous structure that reads from left to right on the tree, like an array sorted in decreasing order.

For example, array: 9 8 7 6 5 4 2 1 will be the tree:

9

8 7

6 5 4 2

1

1. Do on ipad
2. Do on ipad
3. Best case tree would be:

H

E R

A C S X

Ordering 1: HEACRSX

2: HEACRXS

3: HECARSX

4: HECARXS

5: HERASCX

1. a. E > Q? -> Move to right child node, Q == Q? True, Move Q to E.

b. Select item at rank 5, Select(5) = M?????

c. ????

1. 