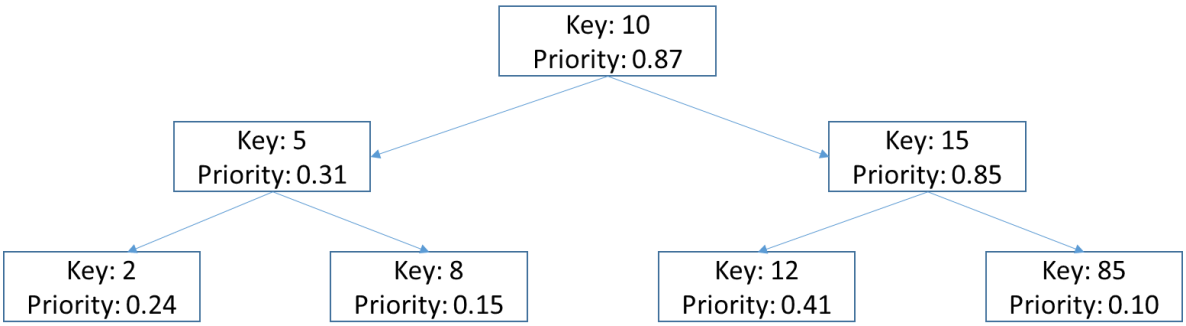
Group Problem Set #5

1. A d-ary heap is like a binary heap, but (with one possible exception) non-leaf nodes have d children instead of 2 children.

   a. How would you represent a d-ary heap in an array?
   b. What is the height of a d-ary heap of n elements in terms of n and d?

2. Given the following treap, insert a new node with key 13 and perform the necessary rotations to fix the treap. Use 0.94 as the randomly generated priority value.



3. Given the same treap, without the insert, delete the node with key 10 and perform the necessary rotations to fix the treap.