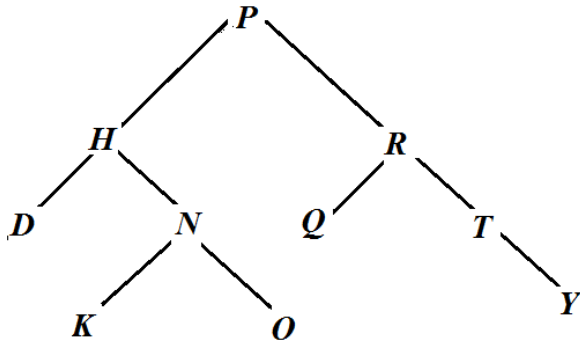


1. [5 points] (a) Show the results of different types of traversals for the following tree:



Inorder: DHKNOPQRTY

Postorder: DKONHQYTRP

Preorder: PHDNKORQTY

- (b) What is a successor of a node 'P'?

Answer:

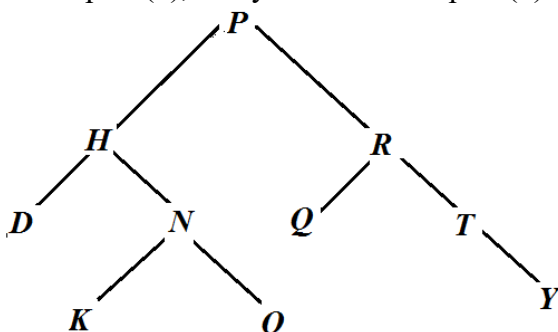
A node with a key value 'Q'

- (c) Assume that a node in a binary search tree has a non-empty right subtree. Where will you find its successor?

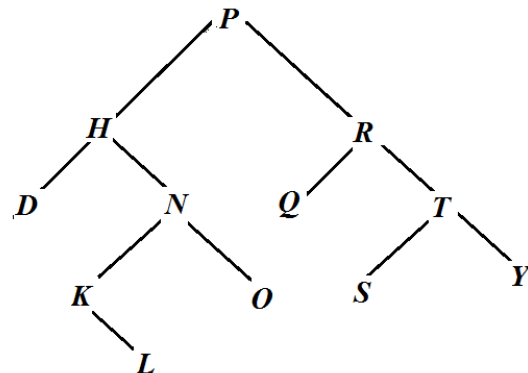
Answer:

If a right subtree of a node is non empty, then its successor is the node with the minimum value in its right subtree.

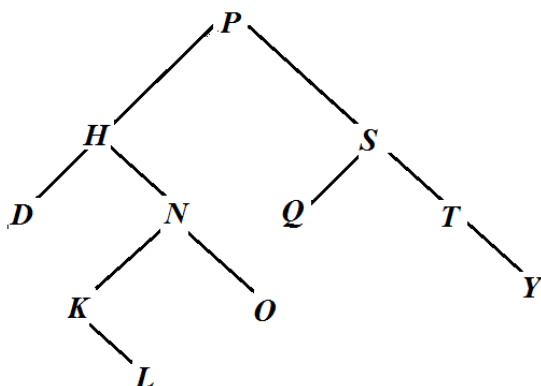
2. [3 points] In a given binary search tree: (a) insert items with key values 'L' and 'S'; (b) delete an item with a key value 'R', (c) delete an item with a key value 'H'. Use your answer in part (a) as an initial tree for part (b), and your answer in part (b) as an initial tree for part (c).



Result of (a):



Result of (a) and (b):



Result of (a), (b), and (c):

