1)

a.

Solution: preorder: MGDAHKLTRVUW
inorder: ADHGKLMRUVTW
postorder: AHDLKGUVRWTM

b.

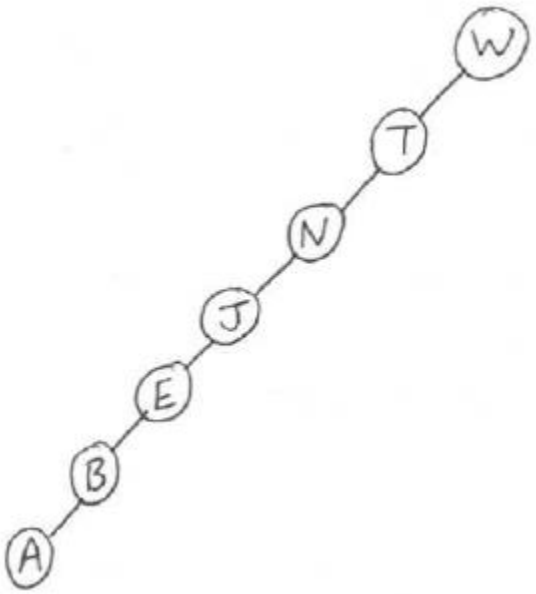
Solution: preorder: ABDFGEC
inorder: GFDBEAC
postorder: GFDEBCA

c.

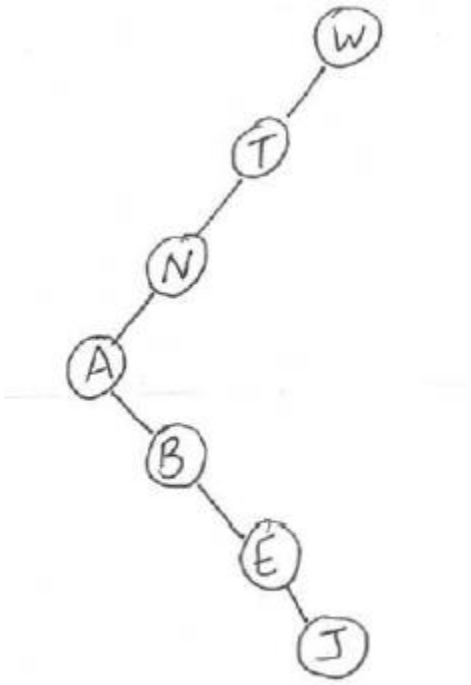
Solution: preorder: ABCDEFG
inorder: ACEGFDB
postorder: GFEDCBA

2)

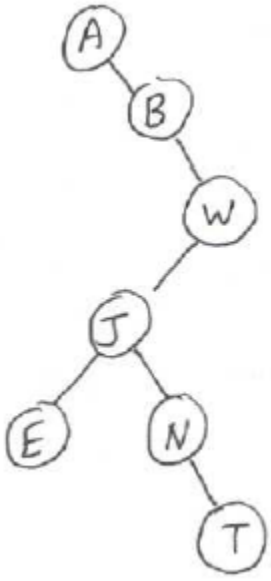
a.



b.

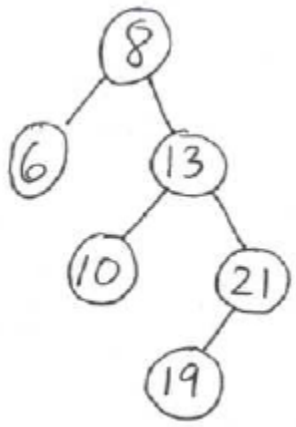


c.



3)

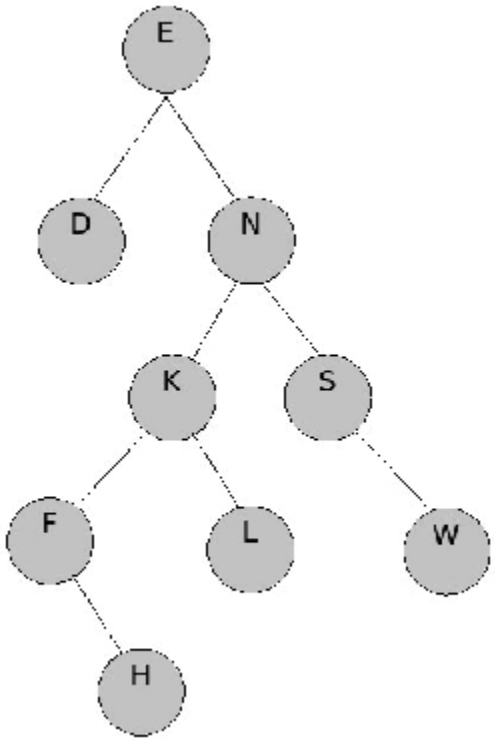
a.



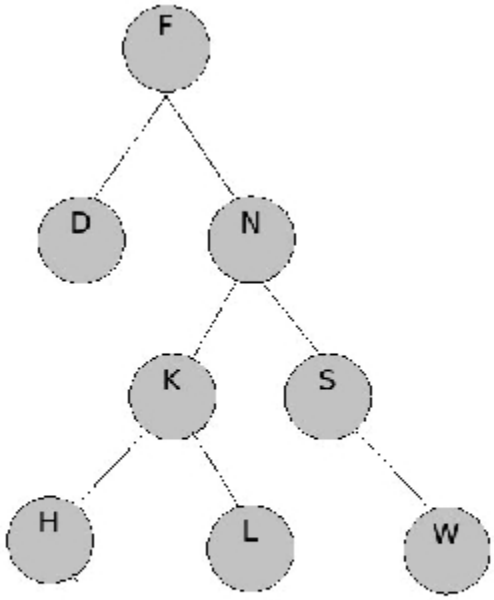
b.

Solution: 8 is the root: $12 > 8$: go right
node 13: $12 < 13$: go left
node 10: $12 > 10$: go right
cannot go right: 10 has no right child node: search fails

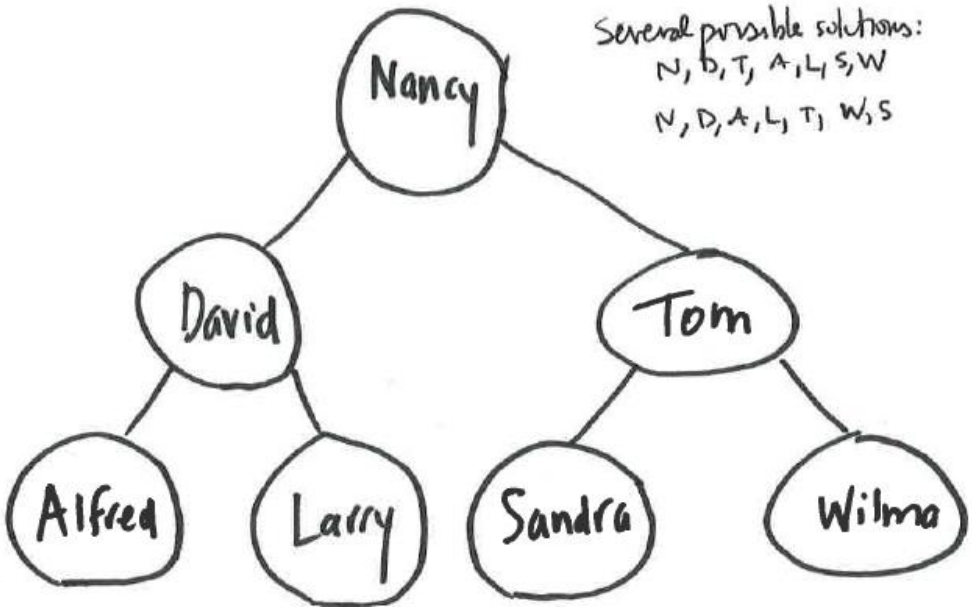
4. Draw a picture of the binary search tree in diagram after the operation below:
remove('E');



Solution:



5. Given the names of seven people: Sandra, Alfred, Larry, Wilma, David, Nancy, and Tom. Construct an arrangement of these names to be inserted into a binary search tree that will produce a tree where searching for a name will be as efficient as possible. List the ordering you create, and draw a diagram of the resulting tree.



6. Construct an arrangement of the names in problem 1 to be inserted into a binary search tree that will produce a tree where searching for a name will be as INEFFICIENT as possible. List the ordering you create, and draw a diagram of the resulting tree.