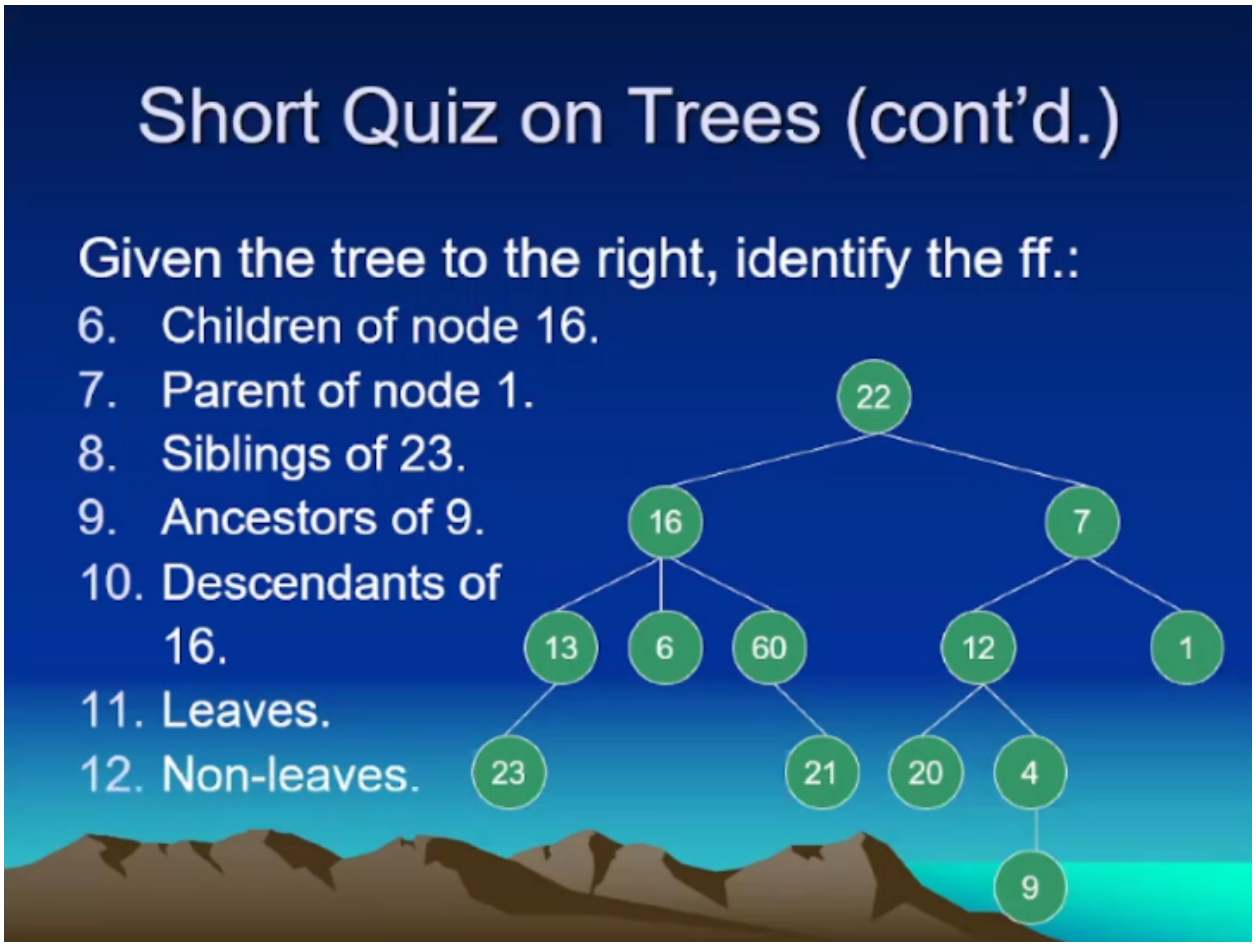
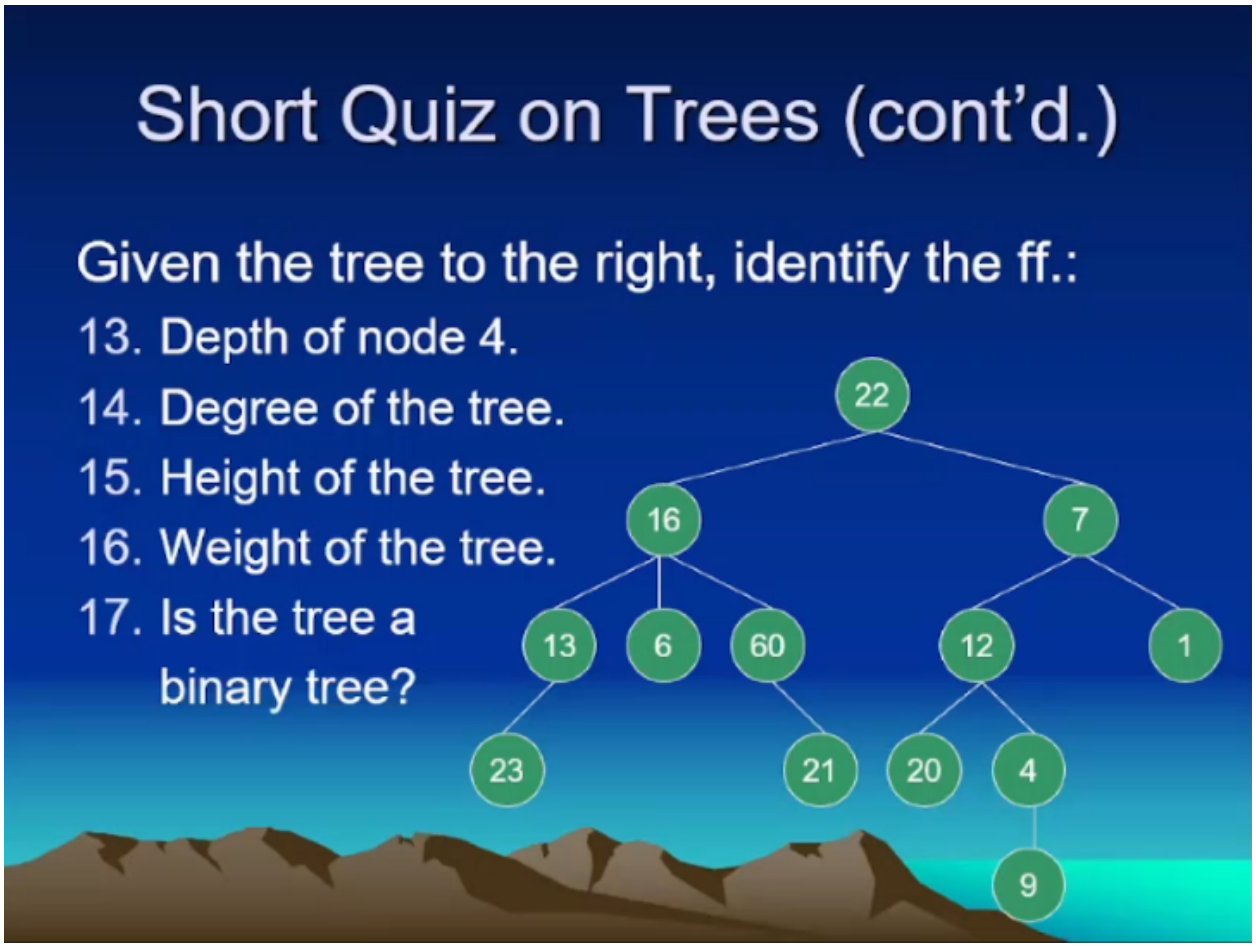
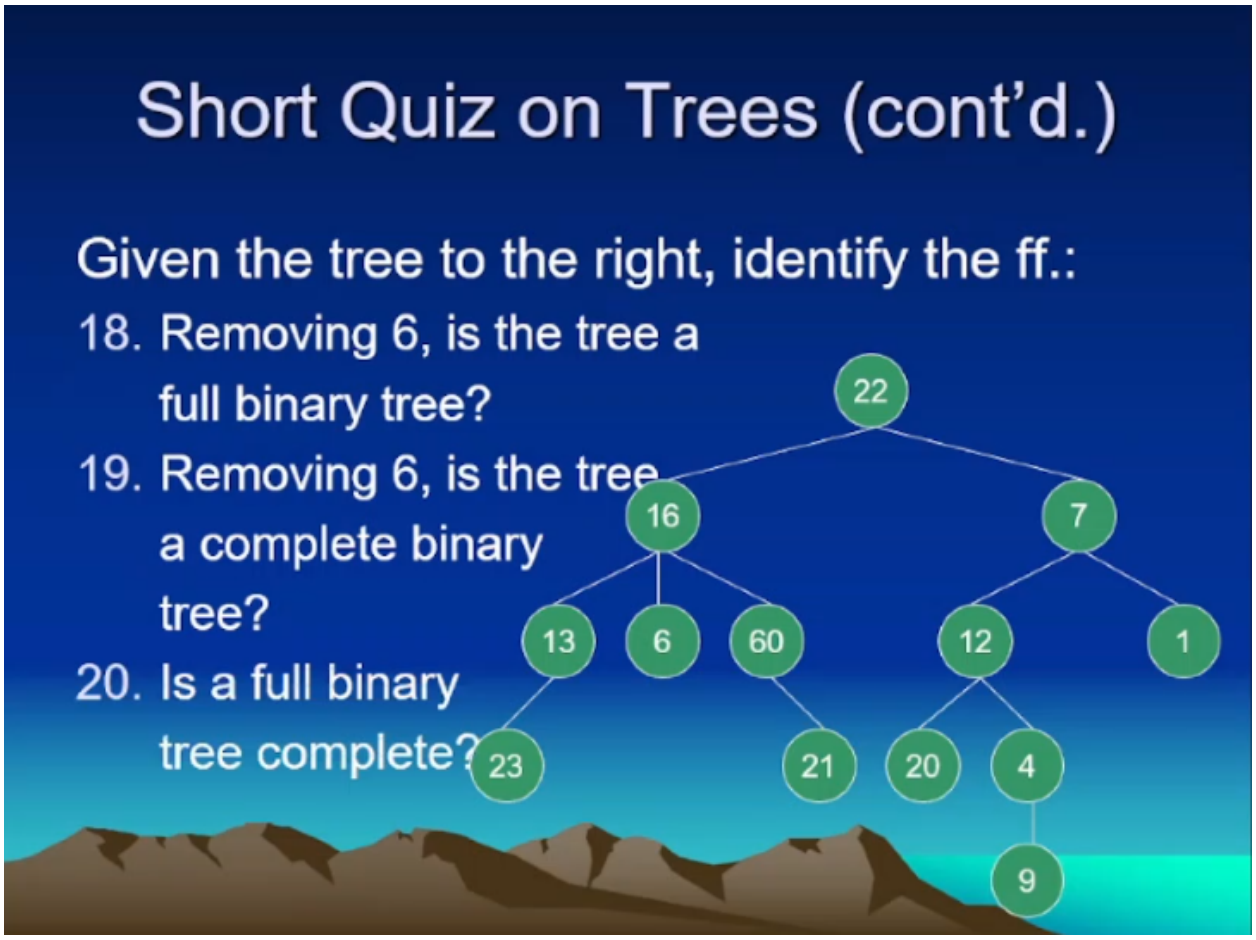
Jan Rovick M. Causaren
BSCPE 2-2



6. Children of node 16.
   13,6,60
7. Parent of node 1.
   7
8. Siblings of 23
   none
9. Ancestors of 9.
   4,12,7,22
10. Descendants of 16.
    13,6,60,23,21
11. Leaves.
    23,6,21,20,9,1
12. Non-leaves.
    22,16,7,13,60,12,1,4



13. Depth of node 4.
    3
14. Degree of the tree.
    3
15. Height of the tree.
    4
16. Weight of the tree.
    6
17. Is the tree a binary tree?
    NO



18. Removing 6, is the tree a full binary tree?

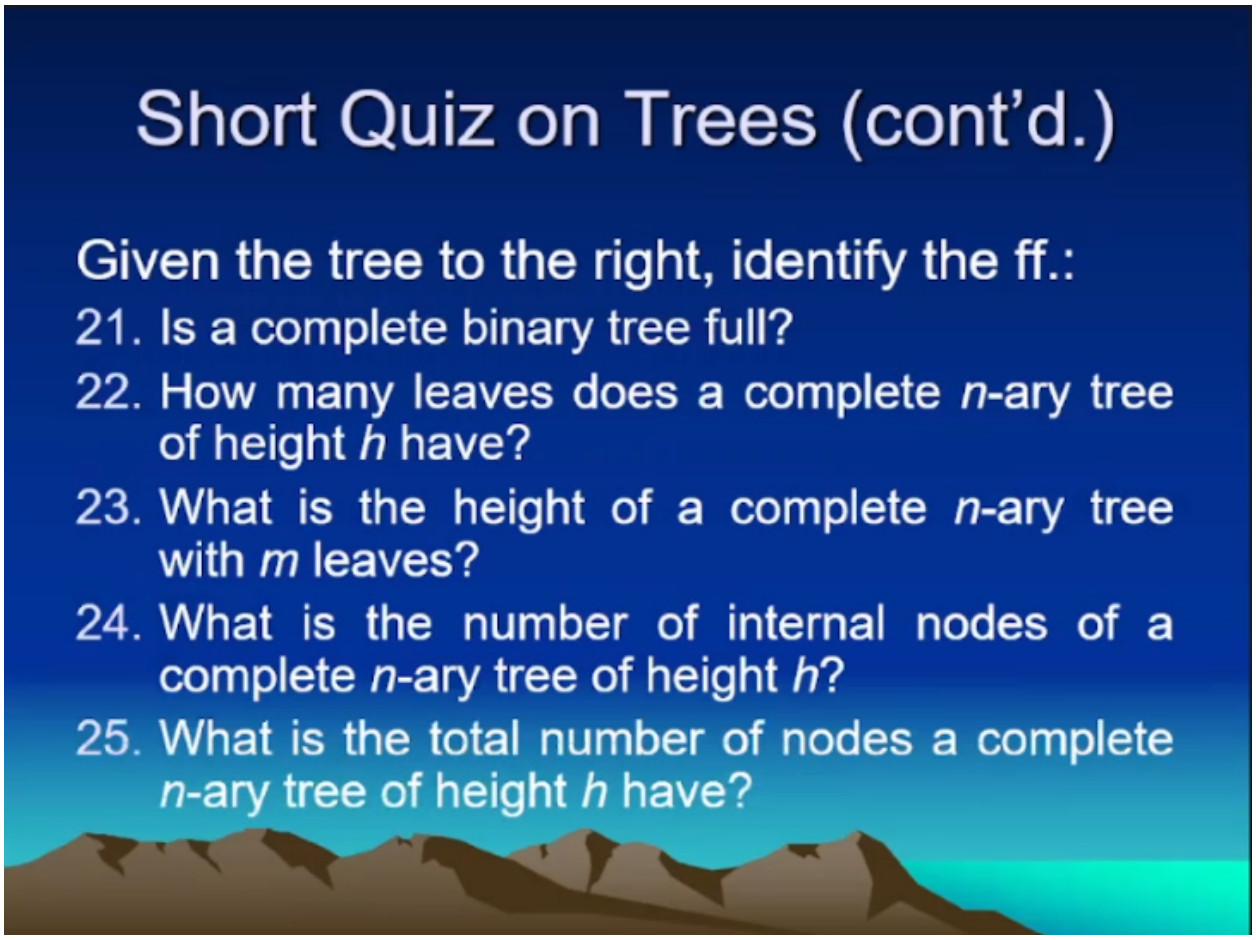
NO

19. Removing 6, is the tree a complete binary tree?

NO

20. Is a full binary tree complete?

NO, since the left portion of the tree is not entirely filled and the nodes occasionally only have 0 or 2 offstrings (making it binary).



21. Is a complete binary tree full?

    A complete binary can either be full or it can't.

22. How many leaves does a complete binary n-ary tree of height *h* have?

    n^h

23. What is the height of a complete n-ary tree with *m* leaves?

    $\log_n m$

24. What is the total number of nodes a complete n-ary tree of height *h* have?

    2^h-1

25. What is the number of internal nodes a complete n-ary tree of height *h* have?

    $T = n^h + \frac{n^h-1}{n-1}$; where T = total number of nodes in a complete n-ary trees.