

CS1356 Introduction to Information Engineering

Quiz 11, 2010/12/27

Your name _____ Student ID _____

1. For the tree in the figure 1.

- (a) What are internal nodes?
- (b) What is the parent of node E?
- (c) What are the children of node C?
- (d) What are the descendants of node C?
- (e) What are the siblings of G?

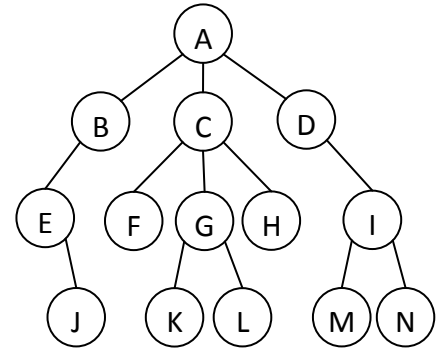


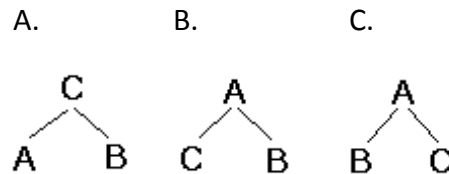
figure 1

Ans:

- (a) B,C,D,E,G,I
- (b) B
- (c) F,G,H
- (d) F,G,H,K,L
- (e) F,H

2. The nodes in which of the trees below will be printed in alphabetical order (which means A,B,C) by the following recursive procedure?

- (a) **procedure** printTree(root)
 - if(root is not NULL) then (
 - do print root
 - call printTree (root.right_child)
 - call printTree (root.left_child))
- (b) **procedure** printTree (root)
 - if(root is not NULL) then (
 - call printTree (root.left_child)
 - call printTree (root.right_child))
 - do print root



Ans:

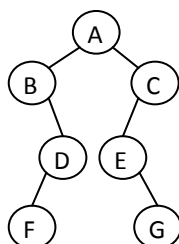
- (a) B (b) A

3. The in-order traversal of a binary tree is BFDAEGC and the post-order traversal is FDBGCEA.

- (a) Draw the tree.
- (b) What is the pre-order of the tree?
- (c) What is the breadth first order of the tree?

Ans:

- (a) (b) A,B,D,F,C,E,G



- (c) A,B,C,D,E,F,G