

## R-6.10

It is not possible for the post and preorder traversals to visit the nodes of a proper binary tree in the same order for the same reason in the previous question.

It is not possible for the post and preorder traversals to visit the nodes of a proper binary tree in the reverse order. Let  $a$  be the root of a proper binary tree and let  $T_1$  and  $T_2$  be the left and right subtrees. A postorder traversal would visit the postorder traversal of  $T_1$ , the postorder traversal of  $T_2$  and then node  $a$  while the preorder traversal would visit node  $a$ , the preorder traversal of  $T_1$  and then the preorder traversal of  $T_2$ . Clearly the postorder and preorder traversals cannot be the reverse of each other since in both cases, all the nodes of  $T_1$  are visited before all the nodes of  $T_2$ .