Data Structures [CST 225-2]

Activity 08

Pre-Order and Post-Order Traversal in Binary Tree

We use traversal for search or find the particular element of the tree and display them in a way, so we use the following ways to do it.

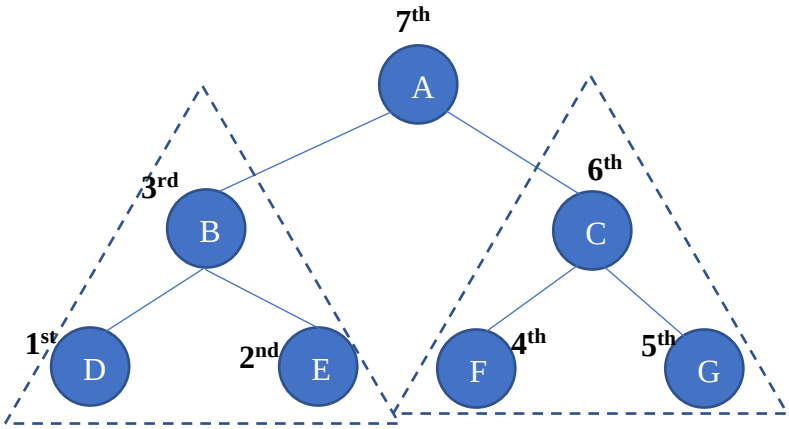
1. In-Order traversal
2. Post-Order traversal
3. Pre-Order traversal

Here we are going to consider about Pre-Order traversal and Post-Order traversal.

Post-Order Traversal

In the Post-Order traversal to find the particular element of the tree. We visit from the bottom part of the tree to go through the tree reaches the root element and the process happens until the all nodes reached. So, we go through left subtree then go through the right subtree and at last visits the root of the tree.

For example:



To traversal we following the Post-Order method for that First, we start from **D** (a leaf of the tree) then go to the left subtree and visits the order of **E** and **B.** After the completion of left subtree, we have to go through the right subtree and visits the order of **F, G** and **C** at last we go to the root of the tree **A**.

The output of the above diagram will be as follow…

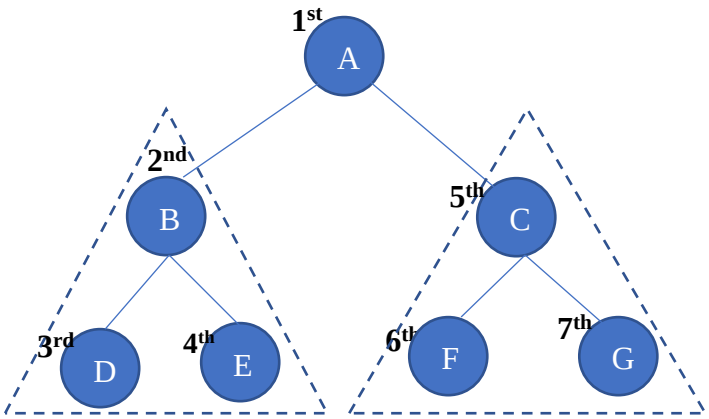
An Algorithm for Post-Order Traversal

[Until all nodes are traversed]
Step 1 − Recursively traverse left subtree (D, E and B).
Step 2 − Recursively traverse right subtree (F, G and C).
Step 3 − Visit root node A.

Pre-Order Traversal

In the preorder traversal to find the particular element of the tree first we visit to the root then go through the left side of the tree and finally we have to go through the right side of the tree.

For example:



To traversal we follow the preorder method for that First, we start from **A** (root of the tree) then go to the left subtree and visits the order of **B, D** and **E.** After the completion of left subtree, we have to go through the right subtree and visits the order of **C, F** and **G.**

The output of the above diagram will be as follow…

An Algorithm for Pre-Order Traversal

[Until all nodes are traversed]
Step 1 − Visit root node A.
Step 2 − Recursively traverse left subtree (B, D and E).
Step 3 − Recursively traverse right subtree (C, F and G).