Binavir Whees

Galerin Vid Fun ...

Tree Traversal:

Thee traversal nefens to the process of using each node in a tree data structure exactly once.

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Touce

Tivraverisaile

Cechniques

Depth First Inaversal

- 1) Preorden Traversal
- 11) Inoxden Prayersal
- iii) Tostorden Traversal

Breadth First or

Level Orden Praversal

1) Preonden Travensal:

Algorithm:

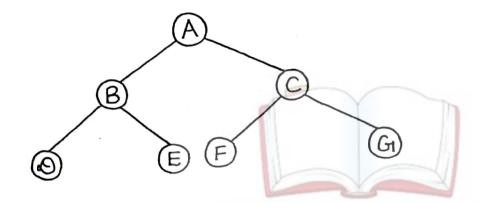
- 1) Visit the root
- 12) Traverse the left subtree Pe. call Preordey (left subtree)
- 111) Traverse the right subtree i.e. call Freorden (Right subtree)

Remember:

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Root - Left - Right

Example:

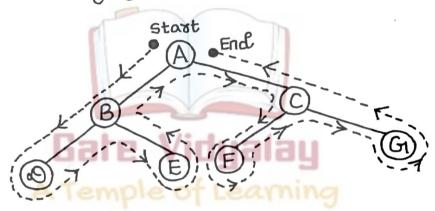


Binary Vree

Preorden Pravensal: A B D E C F G

Shortcut for Preorder Traversal:

Tust traverse the enlike trave starting from the root node keeping yourself to the left.



. Preorden Traversal = A B O E C F G

II) In onder Pravensal:

Algorithm:

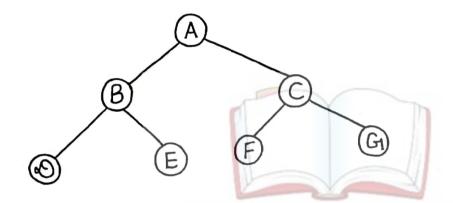
- 2) Traverse the left subtree i.e. call Inorder (left-subtree)
- ii) visit the root
- 111) Traverse the right subtree P.E. call Inorder (right-subtree)

Remember:

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Left - Root - Right

Example:

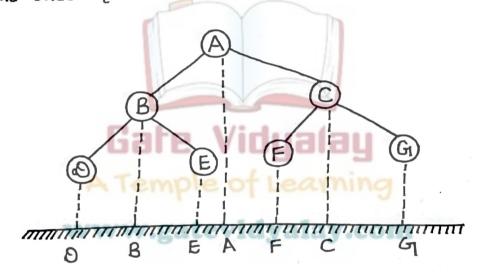


Binany Inee

Inorden Praversal: OBEAFC G

Shortcut for Inorder Praversal:

Tust keep a plane missor horizontally at the bottom of the tree and take the projection of all nodes.



.. Inordes Traversal = DBEAFCG

iii) Postonden Travensal:

Algorithm:

- 1) Traverse the left subtree i.e. call Postorden (Left subtree)
- 12) Traverse the right subtree 9e. call Postorden (Right subtree)
- 111) Wisit the root

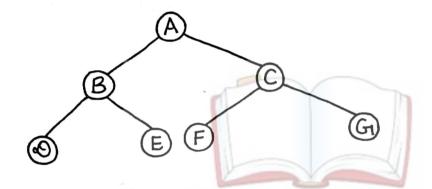
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Left - Right -> Root

Example:

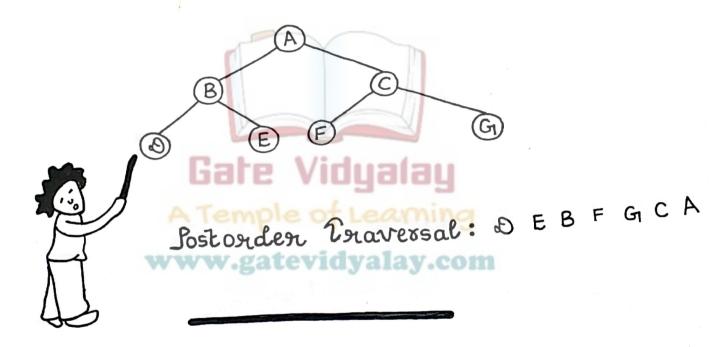


Binany Tree

Postorden Praversal: DEBFGCA

Shortcut for Postonden Traversal:

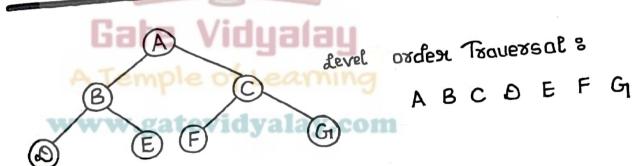
Just bluck the leftmost leaf nodes one by one.



iv) Level Order Traversal:

• Level Orden Traversal of a tree is the Breadth first traversal of a tree which prints all the nodes of a tree level by level.

· Example:



Impositant Points for exam:

- Prearden traversal is used to get frefix expression of an expression thee.
- Thorder traversal is used to get infir expression of an expression tree.
- Postorder traversal is used to get bostfix expression of an expression tree.
- Preorden traversal is used to create a copy of the tree.
- Postorden traversal is used to delete the thee.
- Level order traversal brints the data in the same order as it is stored in the array representation of complete binary tree.