

**An Autonomous Institution**

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**DATASTRUCTURES**

II YEAR III SEM

**UNIT 2 –TREE DATASTRUCTUES**

**TOPIC 2 – TREE TRAVERSALS**

# TREE TRAVERSAL

visit all the nodes of a tree

and print the values it contains

**Traversal**

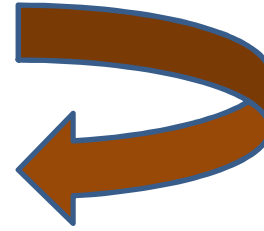
**Traversal**

**Traversal**



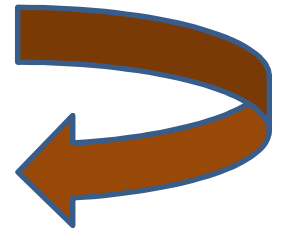
- Pre-order

<root><left><right>



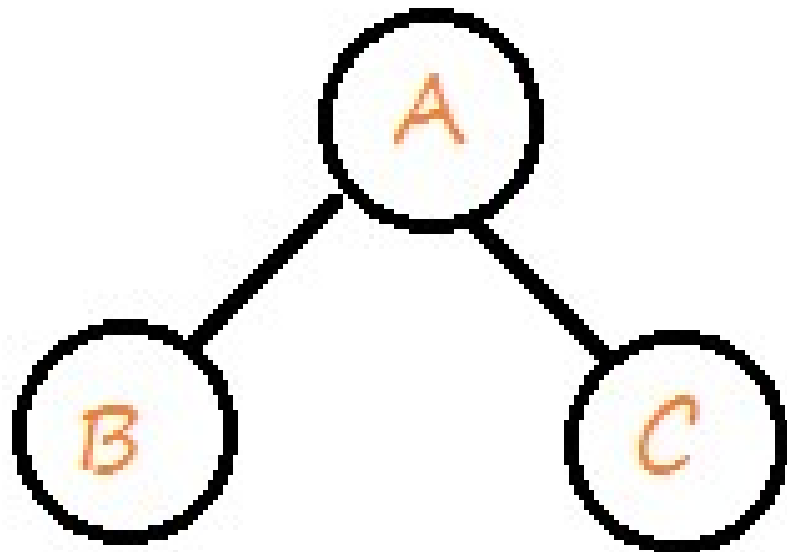
- In-order

<left><root><right>



- Post-order

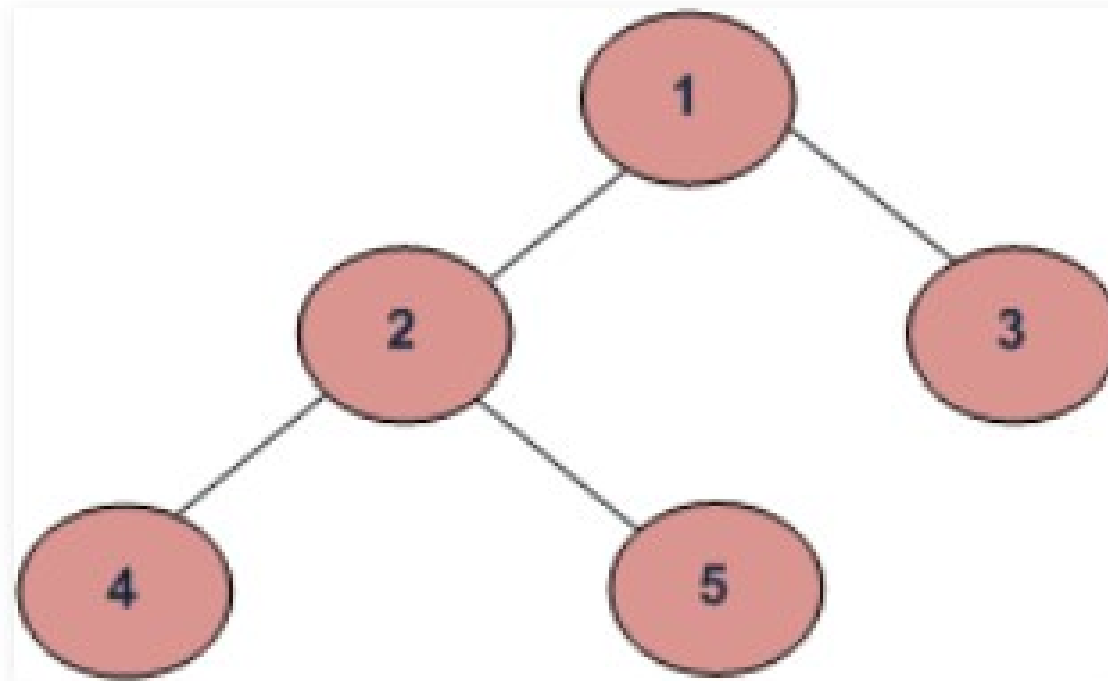
<left><right><root>



Inorder: B A C

Preorder: A B C

Postorder: B C A



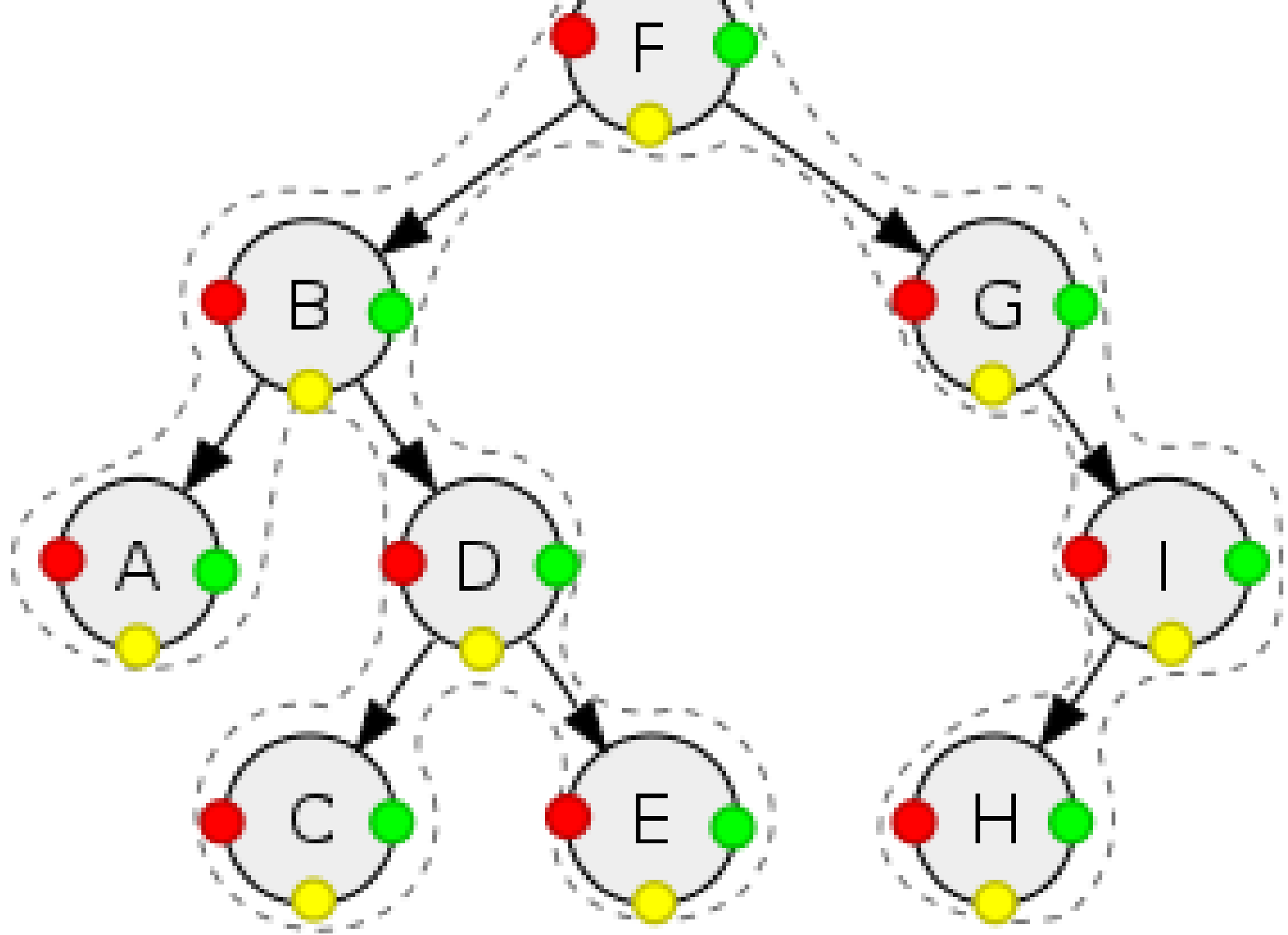
*Example Tree*

Depth First Traversals:

(a) Inorder (Left, Root, Right) : 4 2 5 1 3

(b) Preorder (Root, Left, Right) : 1 2 4 5 3

(c) Postorder (Left, Right, Root) : 4 5 2 3 1



Tree traversal:

(**red**): F, B, A, D, C, E, G, I, H;

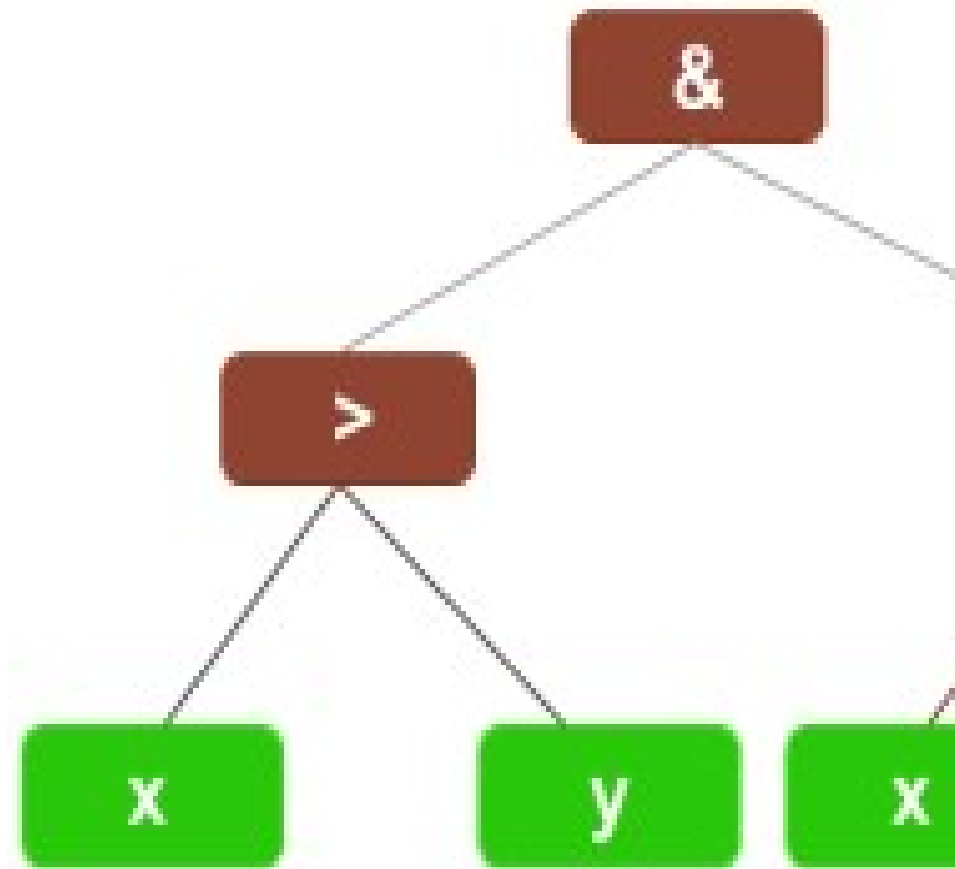
(**yellow**): A, B, C, D, E, F, G, H, I;

(**green**): A, C, E, D, B, H, I, G, F

Derive a prefix expression from Expression Trees

Expression Trees can easily be transformed into machine code

and Threads



er traversal of a binary tree the second step is \_\_\_\_\_

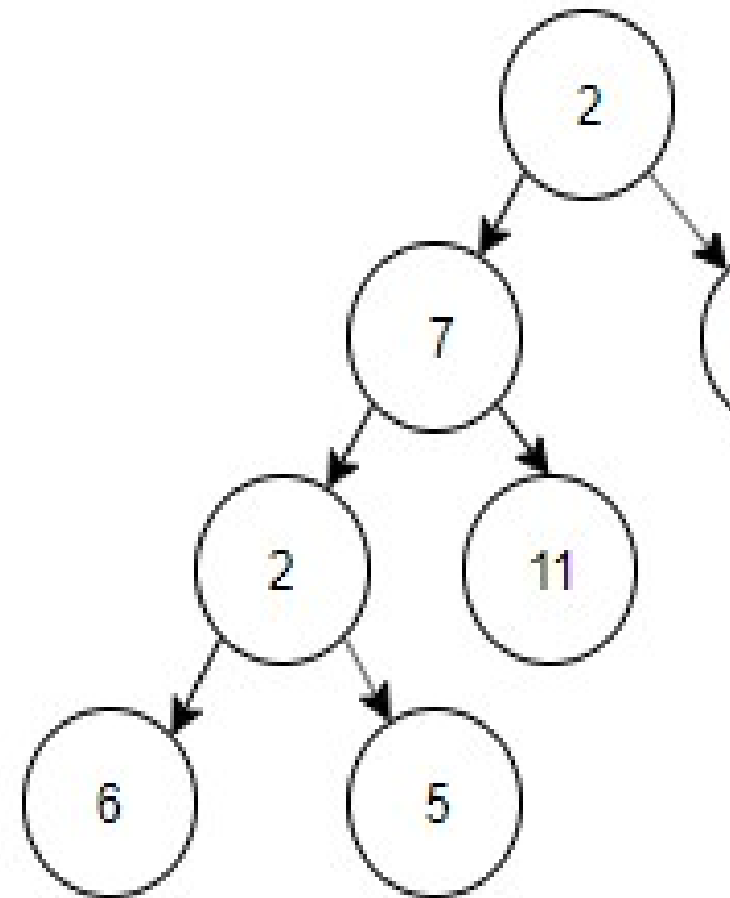
he right subtree

he left subtree

ight subtree and visit the root

oot

in-order traversal for the given tree.





[dsdatascience.com/4-types-of-tree-traversal-algorithms](https://www.dsdatascience.com/4-types-of-tree-traversal-algorithms)

[coursera.org/lecture/trees/lecture-trees-pdf](https://www.coursera.org/lecture/trees/lecture-trees-pdf)

[cs.vt.edu/ODSA/Books/Every/html/BinaryTree](https://www.cs.vt.edu/ODSA/Books/Every/html/BinaryTree)

*Thank*