TAMILNADU ADVANCED TECHNICAL TRAINING INSTITUTE

PYTHON

Tree

A Tree is a Data structure in which data items are connected using references in a hierarchical manner. Each Tree consists of a root node from which we can access each element of the tree. Starting from the root node, each node contains zero or more nodes connected to it as children.

Terms of Tree

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Binary Tree

Binary Tree is defined as a tree data structure where each node has at most 2 children. Since each element in a binary tree can have only 2 children, we typically name them the left and right child.

Basic Operations

- Inserting an element.
- Removing an element.
- Searching for an element.
- Traversing the tree.

Auxiliary Operations

- Finding the height of the tree
- Find the level of a node of the tree
- Finding the size of the entire tree.

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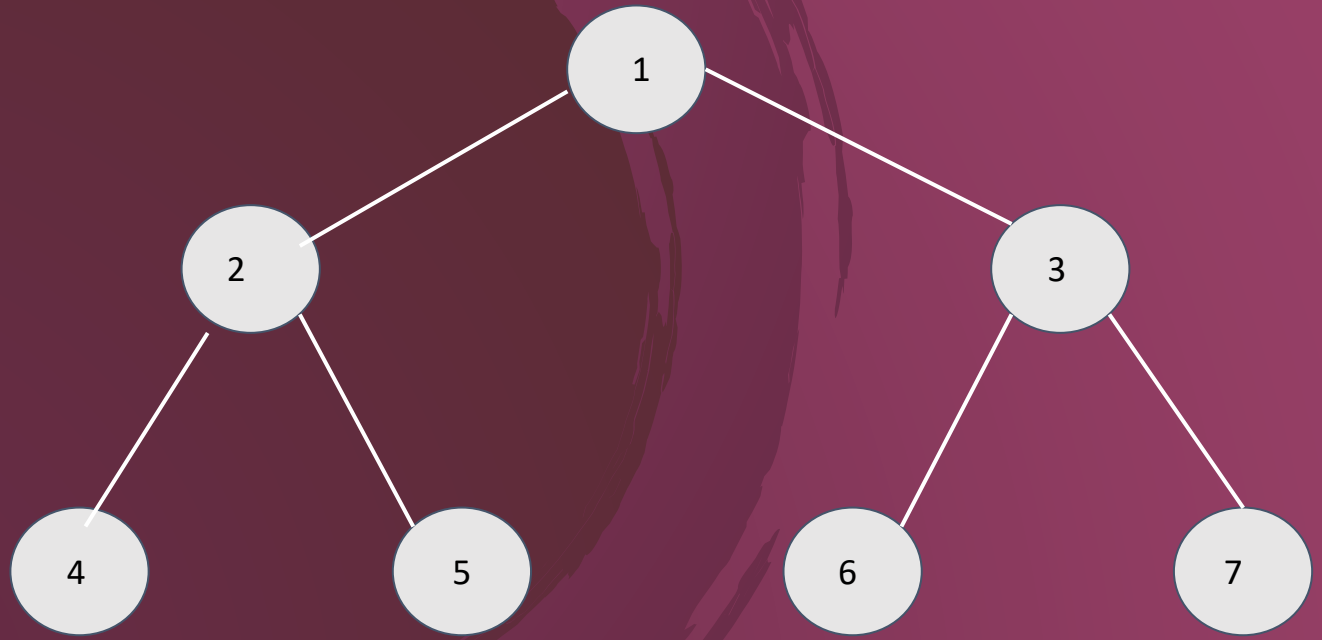
Binary Tree Traversals

- Depth-First Search (DFS) Algorithms
  - Preorder Traversal
  - Inorder Traversal
  - Postorder Traversal

- Breadth-First Search (BFS) Algorithms
  - Level order Traversal

Binary Tree Traversals



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