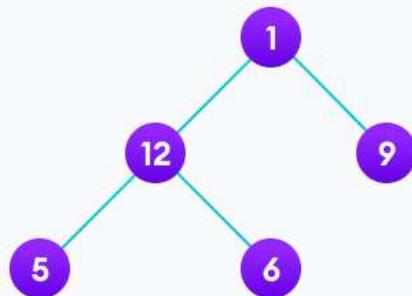


Tree traversal

Traversing a tree means visiting every node in the tree.

Linear data structures like arrays, stacks, queues, and linked list have only one way to read the data. But a hierarchical data structure like a tree can be traversed in different ways. The multiple ways to traverse a tree that are listed as follows –

- Preorder traversal
- Inorder traversal
- Postorder traversal



Inorder traversal

1. First, visit all the nodes in the left subtree
2. Then the root node
3. Visit all the nodes in the right subtree

```
inorder(root->left)
display(root->data)
inorder(root->right)
```

Inorder traversal: 5,12,6,1,9

Preorder traversal

1. Visit the root node
2. Visit all the nodes in the left subtree
3. Visit all the nodes in the right subtree

```
display(root->data)
postorder(root->left)
postorder(root->right)
```

Preorder traversal: 1,12,5,6,9

Postorder traversal

1. First, visit all the nodes in the left subtree
2. Visit all the nodes in the right subtree
3. Then the root node

```
inorder(root->left)
inorder(root->right)
display(root->data)
```

Postorder traversal: 5,6,12,9,1