Introduction to Non-Linear Data Structures :→

Trees :→ (Folders in PC)

It is a non-linear data structure containing nodes with pointer to its children nodes.

* Normal Tree → root node, empty, root = null, no of children

* Binary Trees :→ root, left child, right child, leaf node, Recursion

```
class TreeNode {
    int data;
    TreeNode left, right;
}
```

Tree Traversals :→ DFS

Tree Order → (DLR)

O/p → 1, 2, 4, 5, 9, 3, 6, 7, 15

In Order → (LDR) → BST

O/p → 4, 2, 9, 5, 1, 6, 5, 15, 7

Post Order → (LRD)

O/p → 4, 9, 5, 2, 6, 15, 7, 3, 1

T→B ←R

Level 0, Level 1, Level 2, Level 3

Breadth First Search Traversal :→

FIFO → queue

L0, L1, L2

O/p → 1, 2, 3, 4, 5, 6, 7

↳ Level Order Traversal

Top to Bottom, Level By Level, Left to Right

Infosys, Capgemini, Accenture

Java → Oracle (Memory Leak)

Create a Binary Tree that can accept any data type as the value of the Node & write methods for the DFS traversals.

Java * Generics

C++ templates

Youtube Channel? Codes Arcade

Free Code Camp

VTU Karnataka

DSA →

C++ Love Babbar → Hindi

tuf (Striver) → English

take you forward

Java → Kunal Kushwaha

Abdul Bari

② Question on Binary Trees

↳ DSA in Java :→

* Collections Framework

package → java.util

Myth → ArrayList, LinkedList, List

↑ → Queue, PriorityQueue, Deque

Heap ←

↓ → Map, HashMap, LinkedHM

Myth → Set, TreeSet, HashSet

Greedy Algos + Graphs