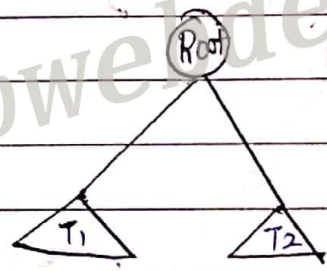


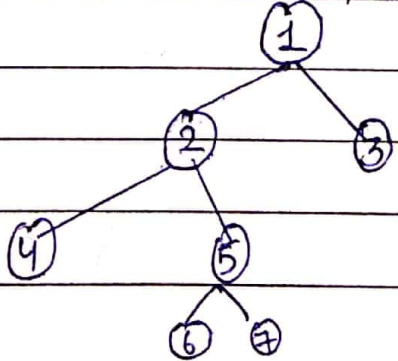
* Binary Tree :-

- o The Binary tree means that the node can have maximum two children.
- o Here, binary name itself suggests that 'two', therefore each node can have either 0, 1 and 2 children.
- o It consists of a node called the root together with two binary trees called left-subtree and the right subtree of the root.



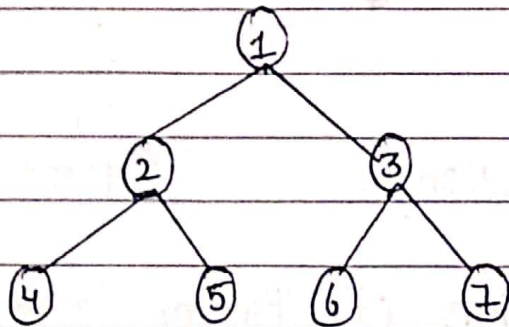
o Types of Binary Tree :-

1. Full Binary Tree :- A Full Binary tree is a special type of binary tree in which every parent node has either two or no children.

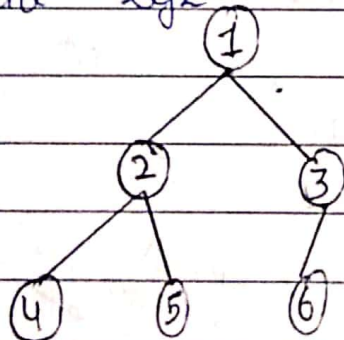


② Perfect Binary Tree:-

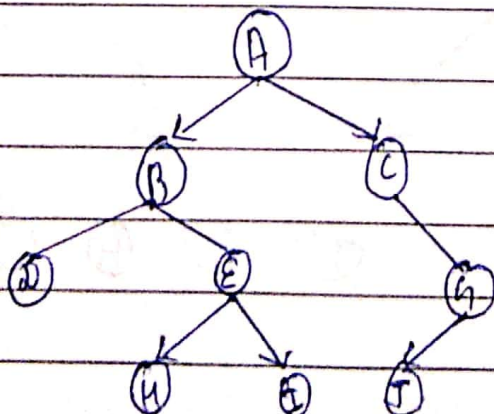
A tree is a Perfect Binary tree if all the internal nodes have 2 children, and all the leaf nodes are at the same level.



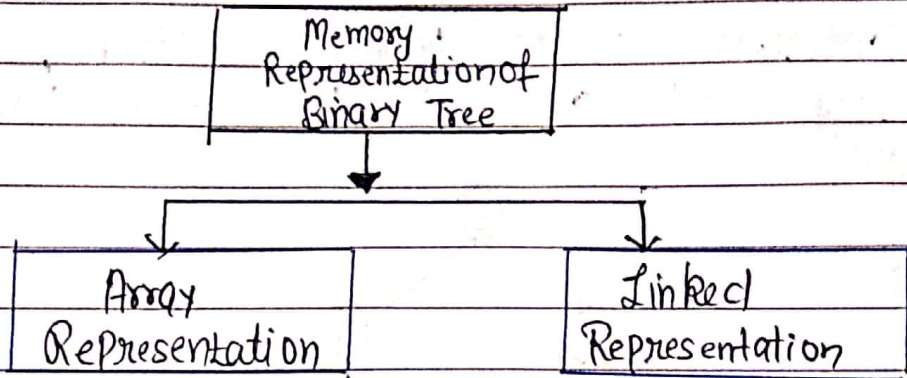
③ Complete Binary Tree:- In which all the levels are completely filled except possibly the lowest one, which is filled from the left.



④ Neither full nor complete:-



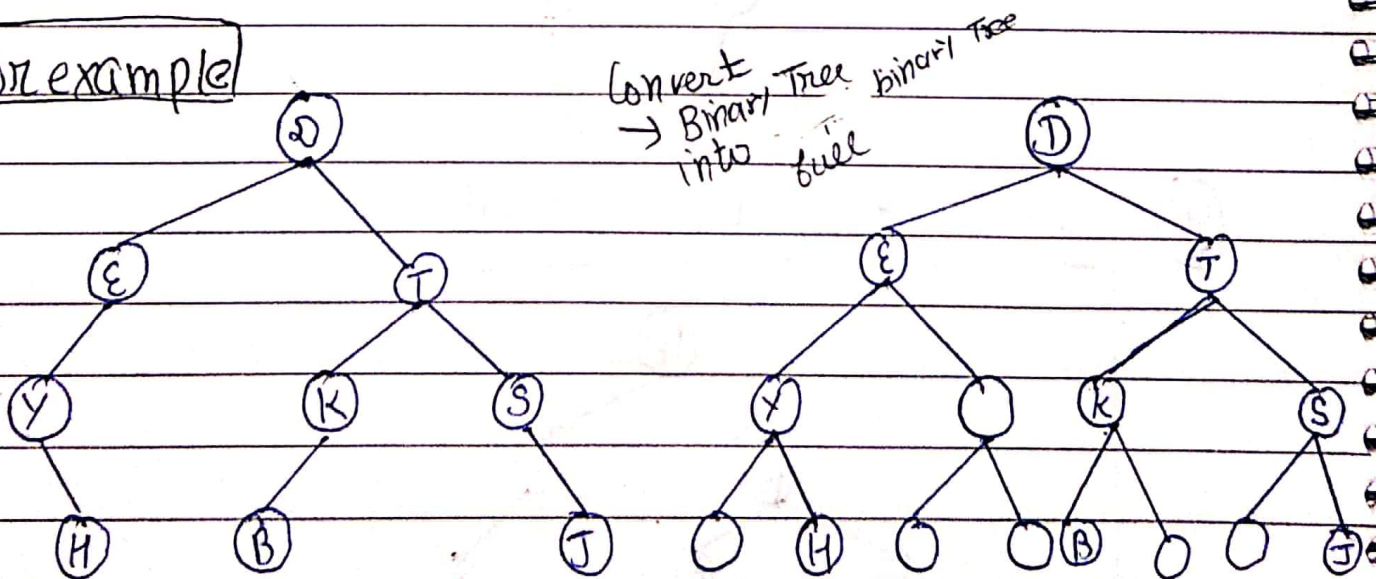
* Representation of Binary Tree in Memory :-



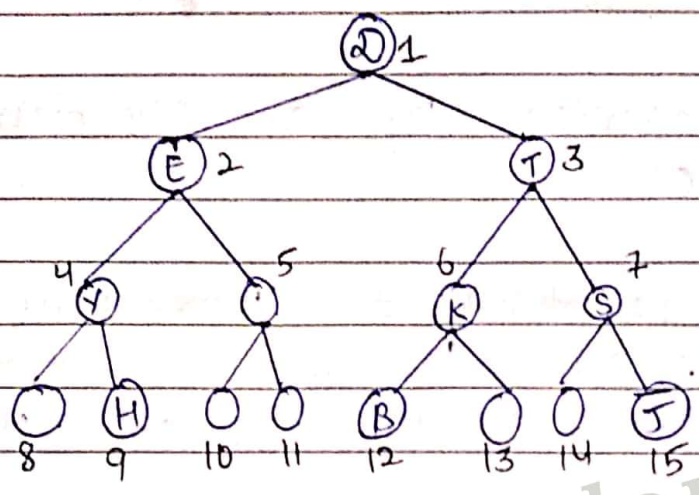
1. Array Representation of Binary Tree :-

→ To represent a binary tree using array first we need to convert a binary tree into a full binary tree. and then we give the number to each node and store it into their respective location.

For example



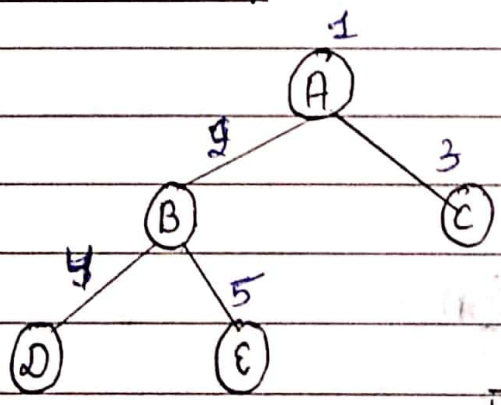
→ So, now the tree becomes a full Binary Tree, we need to give the numbers to each and every node but level by level.



tree

	D	E	T	Y		K	S		H			B		J		
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Example 2



1	A
2	B
3	C
4	D
5	E

Array tree

