Tree terminologies:

Root: top node without parent

Edge: link between parent and child

Leaf: a node which does not have children

Sibling: children of same parent

Ancestor: parent, grand parent, etc etc until root.

Depth of a node: length from the root to that node

Height of a node: length from that node to the deepest node

Depth of a tree: depth of root node

Height of a tree: height of root node.

Most of the trees are Binary trees.

BST, AVL tree, etcetc.

Traversal of Binary tree.

1. Depth first search
   1. Pre order traversal -> root, left, right
   2. In order traversal -> left, root, right
   3. Post order traversal -> left, right, root
2. Breadth first search
   1. Level order traversal

Pre order traversal: -> Root, left , right

Reference - <https://www.youtube.com/watch?v=RlUu72JrOCQ>

Leetcode - <https://leetcode.com/problems/binary-tree-preorder-traversal/description/>

In order traversal -> left, root, right

Reference - <https://www.youtube.com/watch?v=Z_NEgBgbRVI>

Leetcode - <https://leetcode.com/problems/binary-tree-inorder-traversal/description/>

Post order traversal -> left, right, root

Reference - <https://www.youtube.com/watch?v=COQOU6klsBg>

Leetcode - <https://leetcode.com/problems/binary-tree-postorder-traversal/description/>

Level order traversal -> print level wise elements

reference - <https://www.youtube.com/watch?v=EoAsWbO7sqg&t>, <https://www.youtube.com/watch?v=86g8jAQug04&t=1s>

Leetcode - <https://leetcode.com/problems/binary-tree-level-order-traversal/description/>

Inserting in a Binary tree:

* Should be done in a level order wise.

Deleting a value from a Binary tree:

* Find the value node
* Find the deepest node
* Place the deepest node value to the value node
* Delete the deepest node
* That’s it.

Pre order traversal - iterative:

Reference - <https://www.youtube.com/watch?v=Bfqd8BsPVuw>

In order traversal – iterative:

Reference - [https://www.youtube.com/watch?v=lxTGsVXjwvM](https://www.youtube.com/watch?v=lxTGsVXjwvMt)

Post order traversal – iterative:

Reference - <https://www.youtube.com/watch?v=NzIGLLwZBS8>