

Iterative Preorder:

Pop out the element from the stack, print it and push its right child first then left.

Deletion of node in BST:

Let a node is to be deleted. Then there are two cases:

1. Its only one child exist
2. Its both child exist.

Inorder of BST is always sorted and vice-versa.

Inorder successor is sorted in BST

Definition of binary trees: A node can have 0, 1 or 2 children.

Leaf, subtree, ancestors

Full binary tree: 0 or 2 children

Complete BT: All levels except last is completely possible. The last level has all nodes shifted to left as possible

Perfect binary tree: It has all leaf nodes at same level.

Balanced BT:

Degenerate BT:

Binary tree representation C++

Inorder iterative,

Keep pushing a node \rightarrow left until node \rightarrow left \neq NULL.

Then pop out element from stack, print it, push its right child.

Post order iterative:

TopView of tree: Using BF

M1: BFS and map

M2: DFS and map

M3: only BFS

There can be two definitions of diameter of binary tree: 1. Maximum distance b/w to nodes 2. No. of nodes in the largest line.