

Standard Template Library continued !!

STL → Vectors.

Vector is one of the most used library in C++ - STL because it gives you the features of arrays with dynamic size & lots of built-in methods. (200 methods)

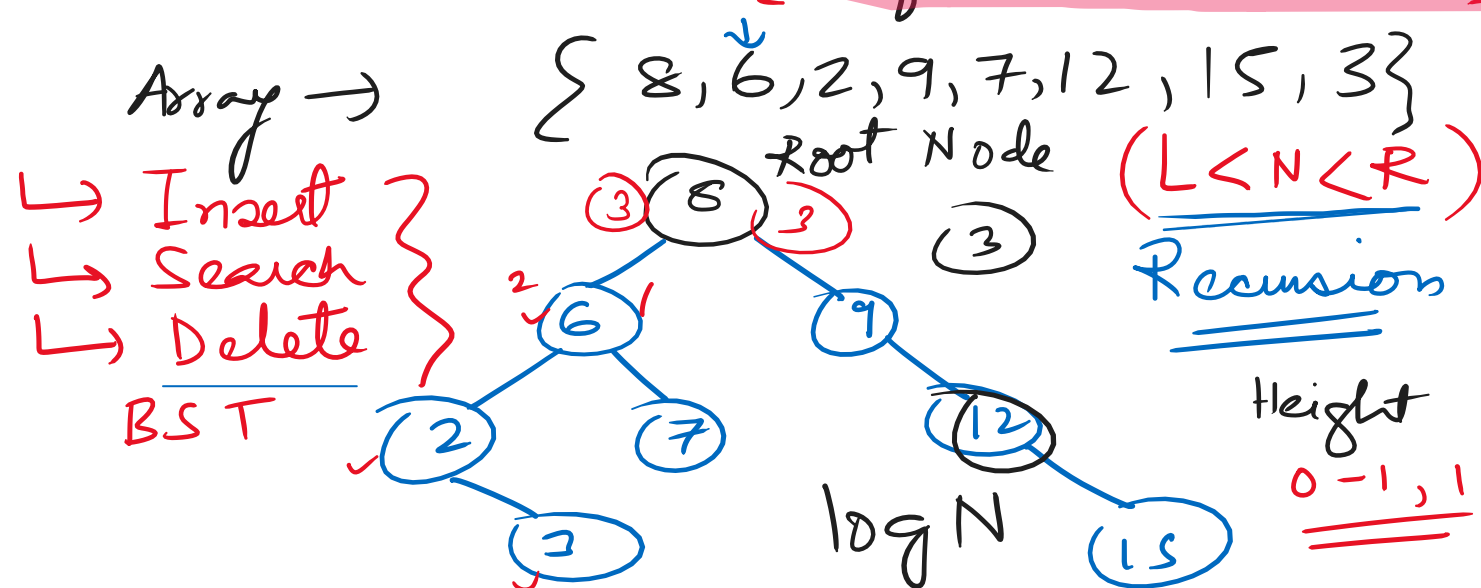
It is used in almost all coding platforms like:

- ① LeetCode ② HackerRank ③ HackerEarth
- ④ Coding Ninjas ⑤ Code Chef
- ⑥ Code forces.

* Introduction to Search Trees :->

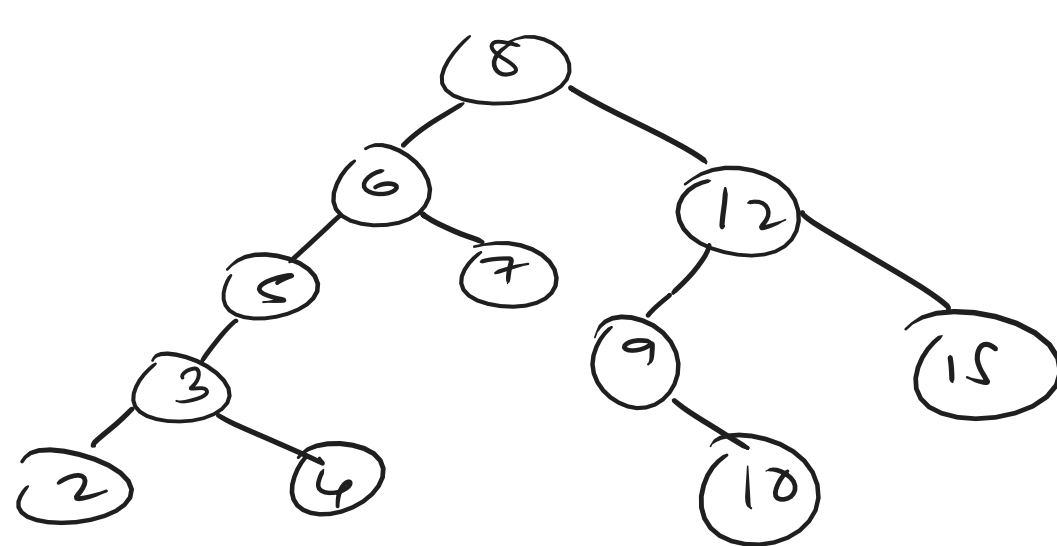
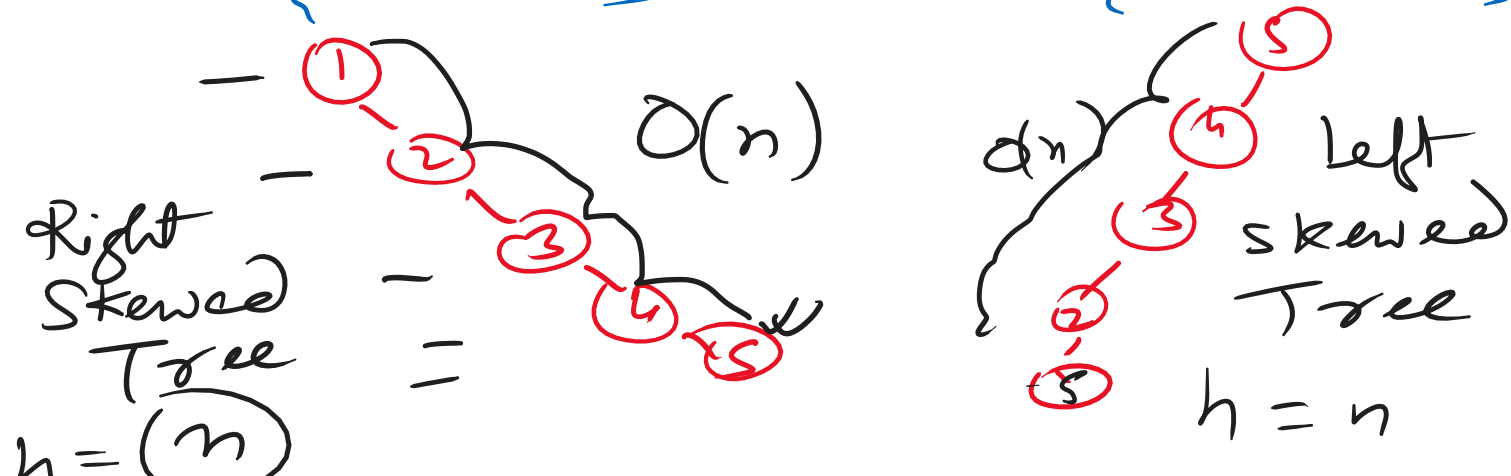
Binary Search Tree :-> AVL, Red Black, KD Trees

It is a type of binary tree which follows a very important property for each node of the tree :- $\{ \text{Left} < \text{Node} < \text{Right} \}$



A1 = {1, 2, 3, 4, 5}

A2 = {5, 4, 3, 2, 1}



In-Order :- Ascending

2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15

→ delete () ;

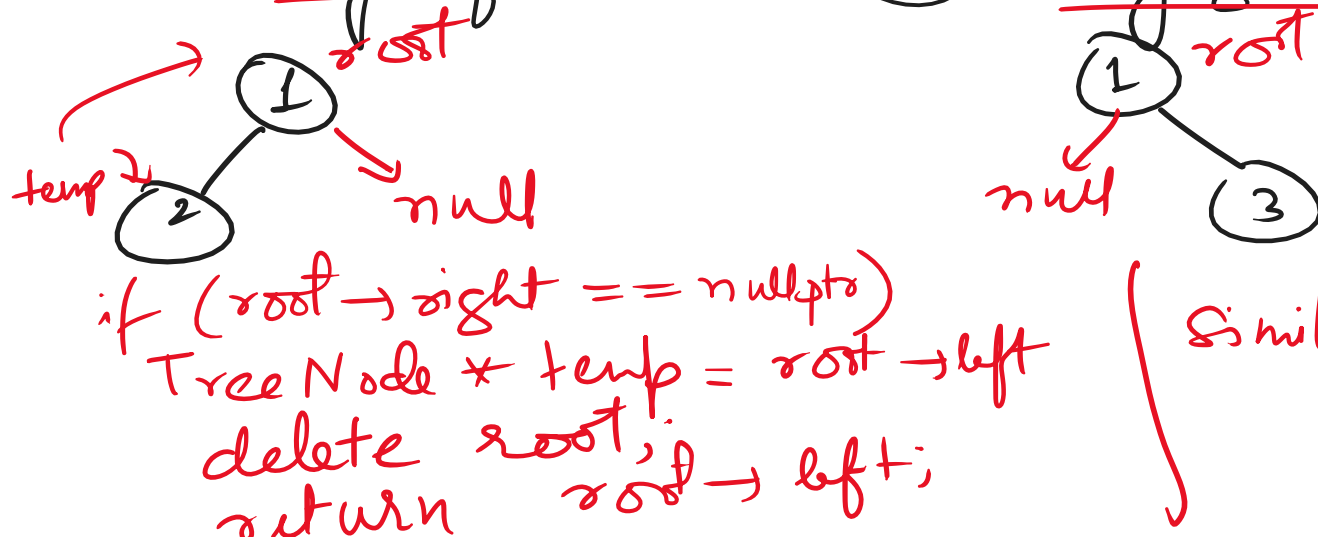
BST Delete Node Function :->

Three Important Checks :->

① Root/Node with only 1 child

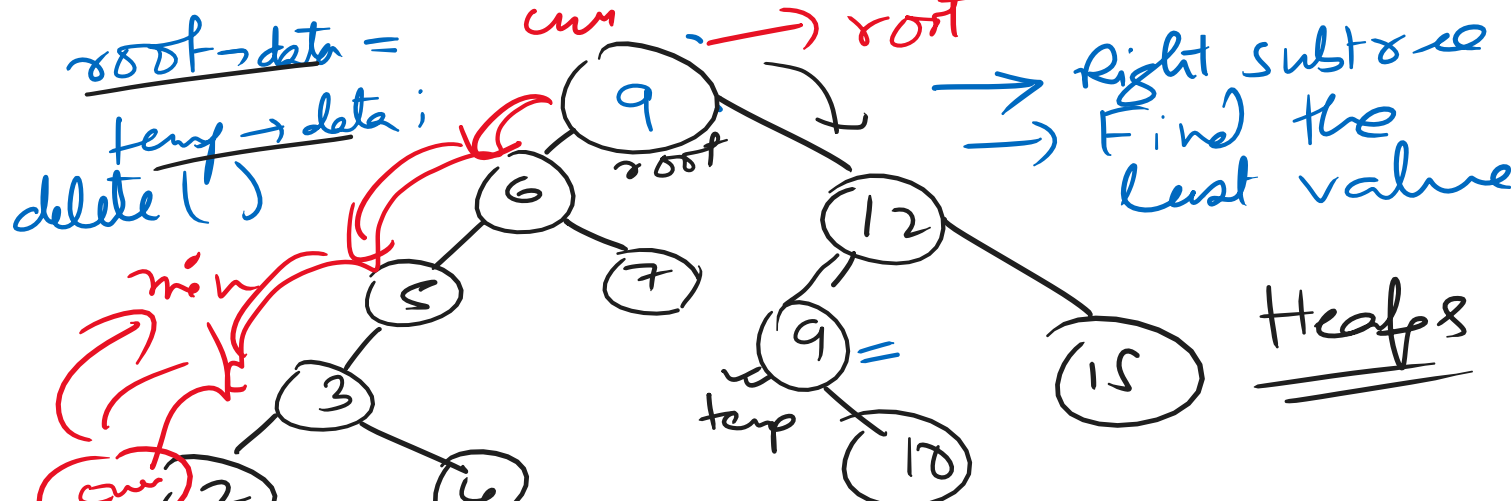
(a) Only left child

(b) Only right child



*** vv Imp :->

③ Node with + two children :->



In Order :- 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15

In Order Successor

* Given a sorted array of integers, convert it into a balanced BST.

TCS

→ 4.5 LPA

Accenture

→ 3.5 LPA

IBM

→ 6 LPA

Wipro

→ 5-6 LPA

Capgemini

→ 5 LPA

DXC

→ 8 LPA

Front End

Dev

mid = $\frac{0+8}{2}$

= 4

a[4] = 5

