

Binary Search Tree

At the time of insertion of each node in Binary Search Tree, we have checked that the node \rightarrow data for every insertion. If node \rightarrow data is greater than root node \rightarrow data then we insert newly created node as right child of root node & if node \rightarrow data is smaller than root node data then we insert newly created node as left child of root data.

For height balanced BST tree we have calculated balance factor for each node in BST & if balance factor is not in the range of $\{-1, 0, 1\}$, then we have performed rotation accordingly:

if (balancefactor(root) == 2 & & bf(root \rightarrow lchild) == -1)
then perform LR rotation

if (bf(root) == 2 & & bf(root \rightarrow lchild) == 1)
perform LL rotation

if (bf(root) == -2 & & bf(root \rightarrow rchild) == -1)
perform RR rotation

if (bf(root) == -2 & & bf(root \rightarrow rchild) == 1)
perform RL rotation