

Trinode Restructuring after Insertion: Left Rotation

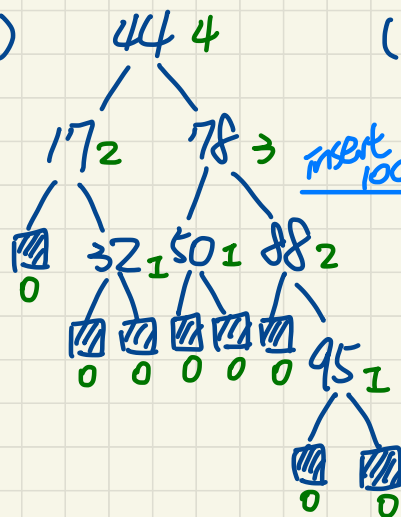
- Insert the following sequence of **keys** into an empty BST:

<44, 17, 78, 32, 50, 88, 95>

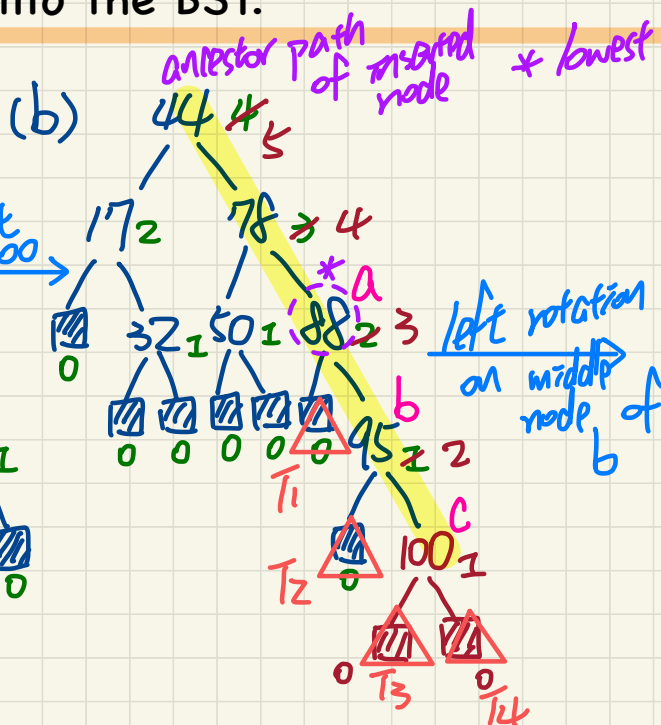
- Insert 100 into the BST.



(a)



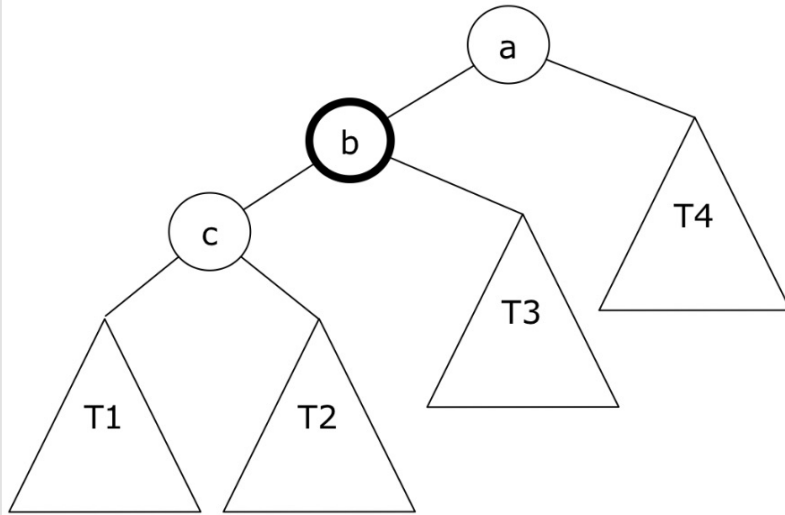
(b)



ancestor path of inserted node

* lowest node that's unbalanced.

Trinode Restructuring: Single, **Right** Rotation



Trinode Restructuring after Insertion: Right Rotation



- Insert the following sequence of **keys** into an empty BST:
 $\langle 44, 17, 78, 32, 50, 88, 48 \rangle$
- Insert 46 into the BST.

Trinode Restructuring after Insertion: R-L Rotations



- Insert the following sequence of **keys** into an empty BST:
 $\langle 44, 17, 78, 32, 50, 88, 82, 95 \rangle$
- Insert 85 into the BST.

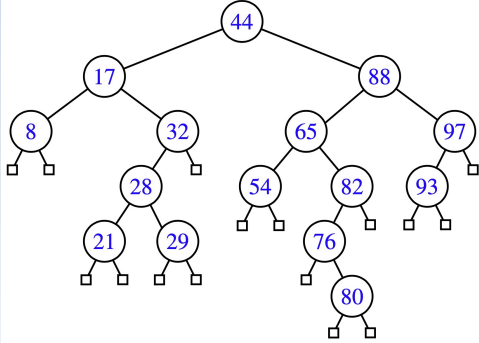
Trinode Restructuring after Insertion: L-R Rotations



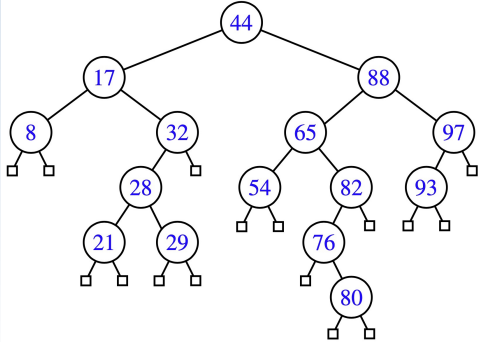
- Insert the following sequence of **keys** into an empty BST:
 $\langle 44, 17, 78, 32, 50, 88, 48, 62 \rangle$
- Insert 54 into the BST.

Visualizing BST Operation: Deletion

Case 1: Delete Entry with Key 31



Case 2: Delete Entry with Key 80



Case 3: Delete Entry with Key 32

