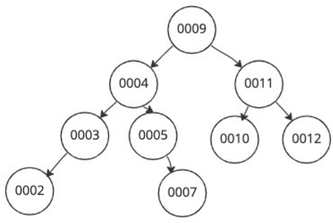
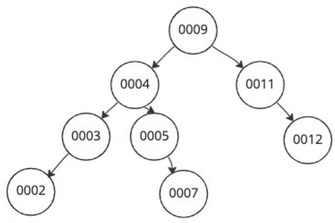
Initial AVL Tree



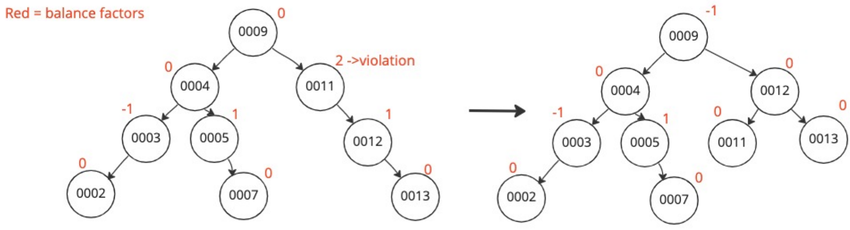
Remove 10

because 10 is a leaf node (no children), then you can simply remove the node



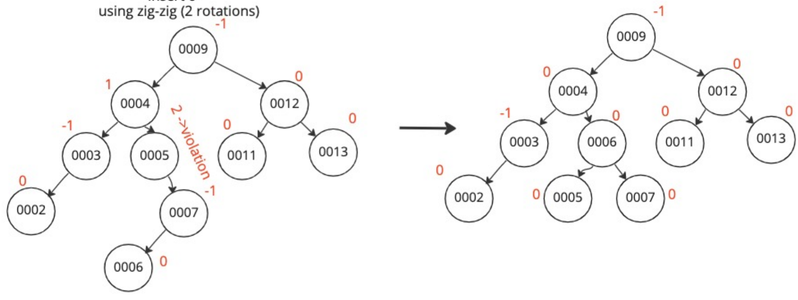
Insert 13

Red = balance factors



Insert 6

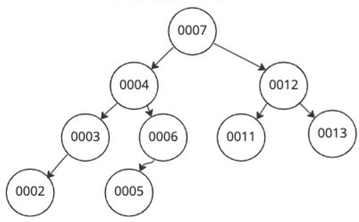
using zig-zig (2 rotations)



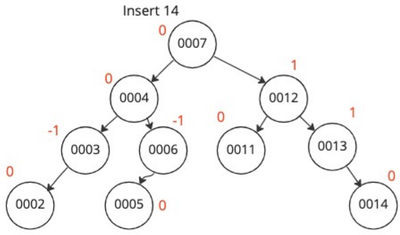
Remove 9

9 is the root node and it has 2 children.->swap with either the successor or the predecessor

7 is the predecesor

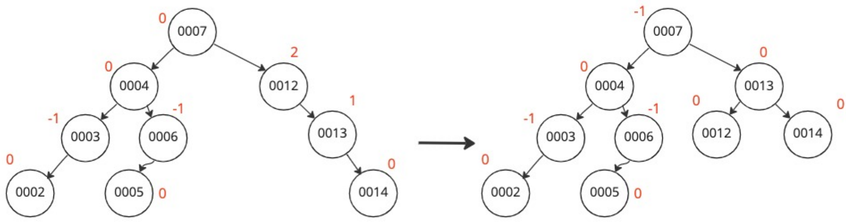


Insert 14



Remove 11

11 is a leaf node, so it can be deleted. However, the tree becomes unbalanced, so we need to use zig-zig rotation



Final AVL Tree