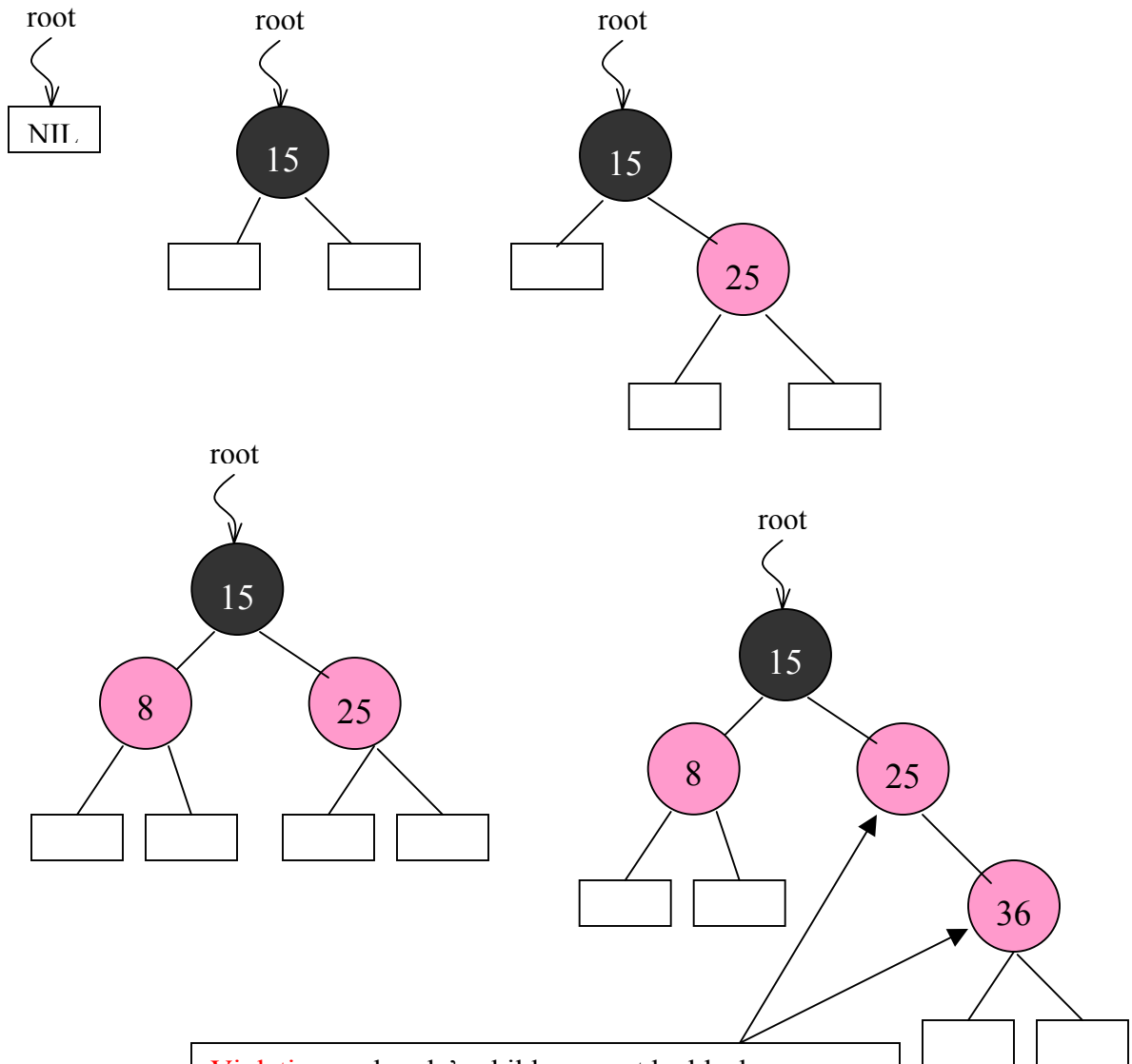


### Example of Building up Red-Black Tree:

- First, do the Binary Search Tree's Insertion.
- Second, default-inserting node is red in order to keep the same number of black nodes as before.
- If its parent and uncle are red then change parent's, uncle's, and grandparent's color, otherwise, do rotation with color changed.

*Insert 15, 25, 8, 36, 20, 22, 18, 21, 40, and 44.*

Start with an *empty tree*:



**Violation:** red node's children must be black.  
The uncle node is same color of parent.  
So, change both parent's and uncle's colors to keep the same number of black in every path.

