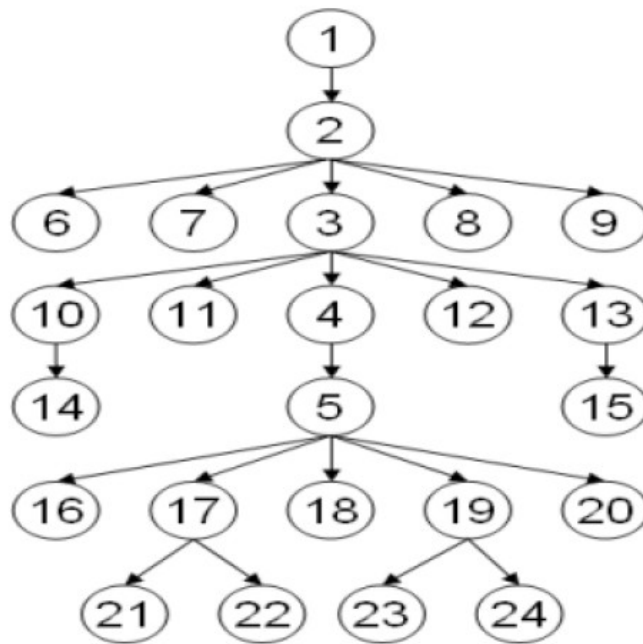


Given the following tree T :



1. Determine for the tree T, its root, size, height, depth, interior nodes (internal), and leaves.
2. For node 4, determine its parent, siblings, height, depth, ancestors and proper descendants.
3. Determine which nodes are to the left of node 4, and which are to its right.

**Solution :**

1. The root of the tree T is 1, its size is 24, its height is 7, its depth is 7, its interior nodes are : 1, 2, 3, 10, 4, 13, 5, 17, 19, and its leaves are : 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 20, 21, 22, 23, 24.
2. For the node 4, its parent is 3, its siblings are 10, 11, 12, 13, its height is 4, its depth is 3, its ancestors are : 4, 3, 2, 1 and its proper descendants are : 5, 16, 17, 18, 19, 20, 21, 22, 23, 24.
3. The nodes that are to the left of node 4 are: 10, 11, 14 and those that are to its right are : 12, 13, 15.