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PA04 Report

The run time complexity of the re-rooting algorithm is calculated by considering the number of recursive calls. The algorithm traverses through each node and re-roots both left and right children of a node as long as it is not a leaf node. SO, the number of trees made will be 2n – 3,where n is the number of leaf nodes. The time complexity will be O(n). No combination of trees are made with the leaf node as an immediate edge to the root.

The space complexity will remain O(logn) as the maximum number of calls on the stack will be the height of the tree at a time.