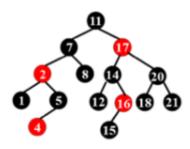
When insert three keys into a non-empty 2-3 tree, and if the tree gains height when the first key is in, then it is possible that the 2-3 tree will gain more height after the insertions of the next two keys.

F

The time bound of the FIND operation in a B+ tree containing N numbers is $O(\log N)$, no matter what the degree of the tree is.



The following binary search tree is a valid red-black tree.

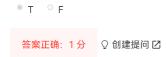


F

When inserting a node into a red-black tree, we shall first insert the node as into an ordinary binary search tree, and then color the node black.

F 先涂色

In a Red-Black tree, the path from the root to the farthest leaf is no more than twice as long as the path from the root to the nearest leaf.



In a B+ tree, leaves and nonleaf nodes have some key values in common.



The root of a B+ tree of order m has at most m subtrees.



答案正确: 1分 ♀ 创建提问 ☑

In a red-black tree with 3 nodes, there must be a red node.

F

In the worst case the DELETE operation in a RED-BLACK tree of n nodes requires $\Omega(\log n)$ rotations.

F

In a red-black tree with 2 nodes, there must be a red node.

答案正确: 1分 ♀ 创建提问 ☑