

For a skew heap with  $N$  nodes, the worst-case running time of all operations (insert/delete min/merge) is  $O(N)$ .

☒ T ☐ F

答案正确: 1 分

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The number of light nodes along the right path of a skew heap is  $O(\log N)$ .

☒ T ☐ F

答案正确: 2 分

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In typical applications of data structures, it is not a single operation that is performed, but rather a sequence of operations, and the relevant complexity measure is not the time taken by one operation but the total time of a sequence. Hence instead of imposing any explicit structural constraint, we allow the data structure to be in an arbitrary state, and we design the access and update algorithms to adjust the structure in a simple, uniform way, so that the efficiency of future operations is improved. We call such a data structure **self-adjusting**. For example skew heaps and splay trees are such kind of structures.

Which one of the following statements is FALSE about self-adjusting data structures?

- ☐ A. They need less space, since no balance information is kept.
- ☒ B. Their access and update algorithms are easy to understand and to implement.
- ☐ C. In an amortized sense, ignoring constant factors, they can be at least as efficient as balanced structures.
- ☐ D. Less local adjustments take place than in the corresponding balanced structures, especially during accesses.

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