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GeeksQuiz

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Which sorting algorithm makes minimum number of memory writes?

Minimizing the number of writes is useful when making writes to some huge data set is very expensive, such as with EEPROMs or Flash memory, where each write reduces the lifespan of the memory.

Among the sorting algorithms that we generally study in our data structure and algorithm courses, Selection Sort makes least number of writes (it makes O(n) swaps). But, Cycle Sort almost always makes less number of writes compared to Selection Sort. In Cycle Sort, each value is either written zero times, if it's already in its correct position, or written one time to its correct position. This matches the minimal number of overwrites required for a completed in-place sort.

Sources:

http://en.wikipedia.org/wiki/Cycle_sort

http://en.wikipedia.org/wiki/Selection_sort

Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.
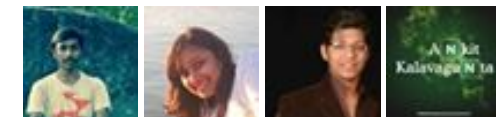
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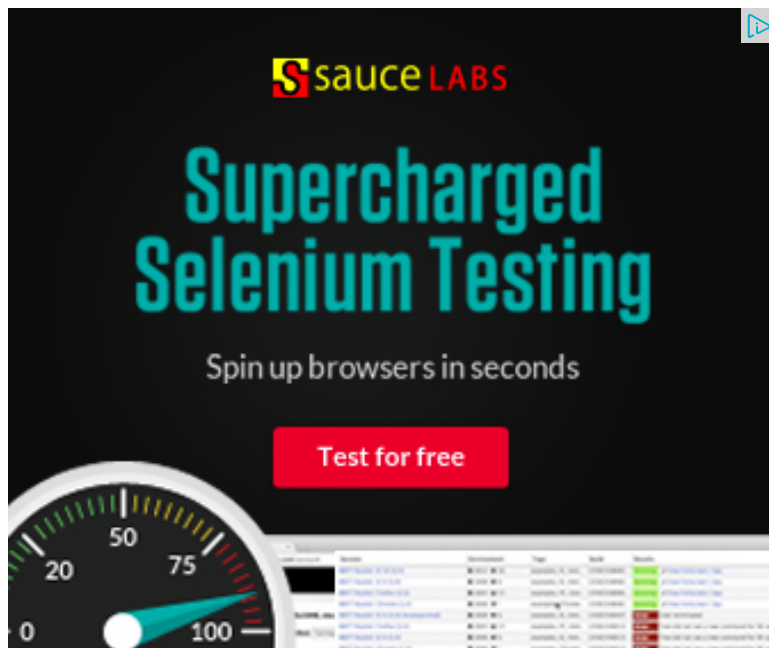
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- Remove minimum elements from either side such that 2*min becomes more than max
- Divide and Conquer | Set 6 (Search in a Row-wise and Column-wise Sorted 2D Array)
- Bucket Sort
- Kth smallest element in a row-wise and column-wise sorted 2D array | Set 1
- Find the number of zeroes
- Find if there is a subarray with 0 sum
- Divide and Conquer | Set 5 (Strassen's Matrix Multiplication)
- Count all possible groups of size 2 or 3 that have sum as multiple of 3

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groomnestle   ·   5 months ago

I had no idea about cycle sort b4.. thanks for the info.

2 ⌃ | ⌄ ·

akanksha · 5 months ago

what is the reason for o(n) being the tightest upper bound for the no. of swaps

∧ | ∨ ·

guest → akanksha · 5 months ago

coz u will be having max n swaps for n elements

2 ∧ | ∨ ·

ravikant · 3 years ago

Can somebody explain me the difference between cycle sort and selection so

3 ∧ | ∨ ·

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