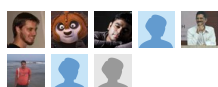


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**Jian Sun**

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**Costya Perepelitsa**

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Who's saying it's better? I don't know anyone who says it's meaningfully better.

The best reason I think you could give to justify this would go something like this (but still be largely unconvincing):

By first scanning the entire list before locating the exact pair of numbers to swap, only two writes to memory are performed by Selection Sort for each $O(n)$ scan, whereas Bubble Sort does writes on each and every comparison. So Selection Sort does $O(n)$ writes to memory whereas Bubble Sort does $O(n^2)$ writes.

But this wouldn't likely amount to an appreciable difference in practice, particularly because you really shouldn't use either algorithm in production. I guess this makes Selection Sort trivially better for the lifetime of your RAM?

Perhaps you are confusing Selection Sort with Insertion Sort.

Insertion Sort actually does see a good amount of use in production in spite of running in $O(n^2)$ time, because its performance trends toward $O(n)$ time for lists which are already mostly-sorted, which happens quite often in real-world cases (and being $O(1)$ in space sure doesn't hurt).

For instance, Python's default list sorting algorithm is called [Timsort](#), and it's a combination of Insertion Sort and Merge Sort, choosing between them according to their strengths.

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**Sameer Gupta**, Numerical optimization

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If you have to sort 100 fridges in order of their height, you'll prefer less number of moves even if it means more comparisons.

But if you have to sort a group of 1000 people by their racing speed, it will be annoying for everyone, if your strategy is to make every possible couple of those people, race every couple, mark the winner and merge to the aggregate list in order of winning. (If you actually implement like this some of these people may punch your face), you'd better ask them to race together and record the people who reach the finish line, in that order.

from [Sameer Gupta's answer to Which is the best sorting algorithm for large data?](#)

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Robin Thomas, CS Enthusiast, Programmer

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Selection Sort is used normally in cases where *memory writes* are quite expensive than memory reads. It only does $O(n)$ memory writes, but Bubble Sort need atleast twice that many memory writes. Experiments by Astrachan sorting strings in Java show bubble sort to be roughly 40% slower than Selection Sort

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PadmaRaju Gadiraju Venkata, Professor, Computer Science & Engineering

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In bubble sort we compare two consecutive elements and swap the elements if they are out of order.

Total no. of swaps in the worst case is $N(N-1)/2$ because swapping is in the inner loop.

In selection sort swapping is done in the outer loop. So no of swaps is $(N-1)$.

Both methods will make $N(N-1)/2$ comparisons.

So the only difference is in no. of swaps. If copy is costly (like in the case of structures) we may see a better performance from selection sort.

Updated 14 Apr, 2014. 1,325 views.

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Himanshu Sharma

bubble sort is complicative to trace & understand working

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