



What about the insertion sort algorithm (the process, not the code) makes it take fewer steps than selection sort? Why is the line for insertion sort straight (but not flat) instead of curved like the line for selection sort?

When the data is already sorted, insertion sort only needs to compare one value to verify that it is correct before moving to the next. It performs exactly $n-1$ total comparisons between values, so its performance is $O(n)$. Selection sort as always, performs the same $O(n^2)$ because it still has to scan all the remaining unsorted values for each position.

The line for insertion sort is straight instead of curved because it shows the linear relationship between a longer list of values and number of steps required, which is the same every time since it is already sorted. Selection sort requires more steps the more values it has to sort through hence a curved line.