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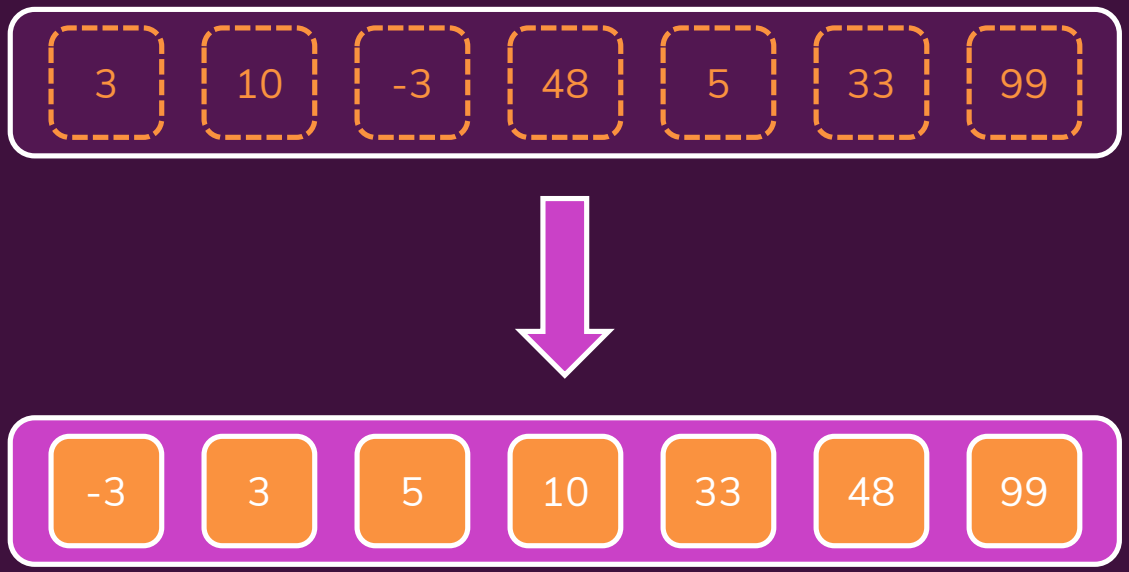
What is “Sorting”?



Goal: Sort items – for example to then apply search algorithms

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Bubble Sort – Time Complexity

Best Case	Average Case	Worst Case
Items are already sorted	Random order, we don't know where the item is	Items are sorted in wrong order
O(n)	Tends to be O(n^2)	O(n^2)

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Quicksort – Time Complexity

Best Case	Average Case	Worst Case
Items are sorted randomly (NOT in right or wrong order)	Items are sorted randomly (NOT in right or wrong order)	Items are already sorted (order does not matter)
O(n * log n)	O(n * log n)	O(n^2)

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Merge Sort – Time Complexity

Best Case	Average Case	Worst Case
Items are sorted randomly	Items are sorted randomly	Items are sorted randomly
O(n * log n)	O(n * log n)	O(n * log n)