

Sorting: Concluding Remarks

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Programming, Data Structures and Algorithms using Python
Week 3

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- Sorting on column *B* should not disturb sorting on column *A*

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- Merge sort is stable if we merge carefully
 - Do not allow elements from the right to overtake elements on the left
 - While merging, prefer the left list while breaking ties

Other criteria

- Minimizing data movement
 - Imagine each element is a heavy carton
 - Reduce the effort of moving values around

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- Other $O(n \log n)$ algorithms exist — heapsort
- Sometimes hybrid strategies are used
 - Use divide and conquer for large n
 - Switch to insertion sort when n becomes small (e.g., $n < 16$)