Sorting algorithms and efficiency

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what's good?

- what is a good algorithm?

what's good?

- criteria

    - speed / efficiency

    - resource usage (memory, disk, bandwidth, etc.)

    - ease of use

    - consequences of bugs

    - good structure / ease of extension

- cost

    - human time - development, testing, maintaining, extending and bug fixing

algorithm analysis

- algorithm analysis provides tools to contrast the efficiency of different algorithms

  - algorithm vs. program

  - focus: gross differences in algorithm efficiency, not specific implementations / coding tricks

  - efficiency means both execution time, and space (memory/resources). We will generally focus on execution time.

algorithm analysis

- how to compare efficiency of programs A, B?

  - how are they coded?

  - what computer are we running this on?

  - what data are we using to test?