

Sorting – Day Two

- Students will be able to relate a real-world task such as sorting cards to sorting/organizing information in a computer.
- Students will understand the problem of sorting and why it is nontrivial for large data sets.
- Students will be able to describe in pseudocode simple sorting algorithms (such as bubblesort).
- Students will be able to reason about the correctness and efficiency of different sorting algorithms, and will understand that the time required to sort a data set increases as the size of the data set grows.

$O(n)$ n^2 $2n$ $\frac{n}{2}$

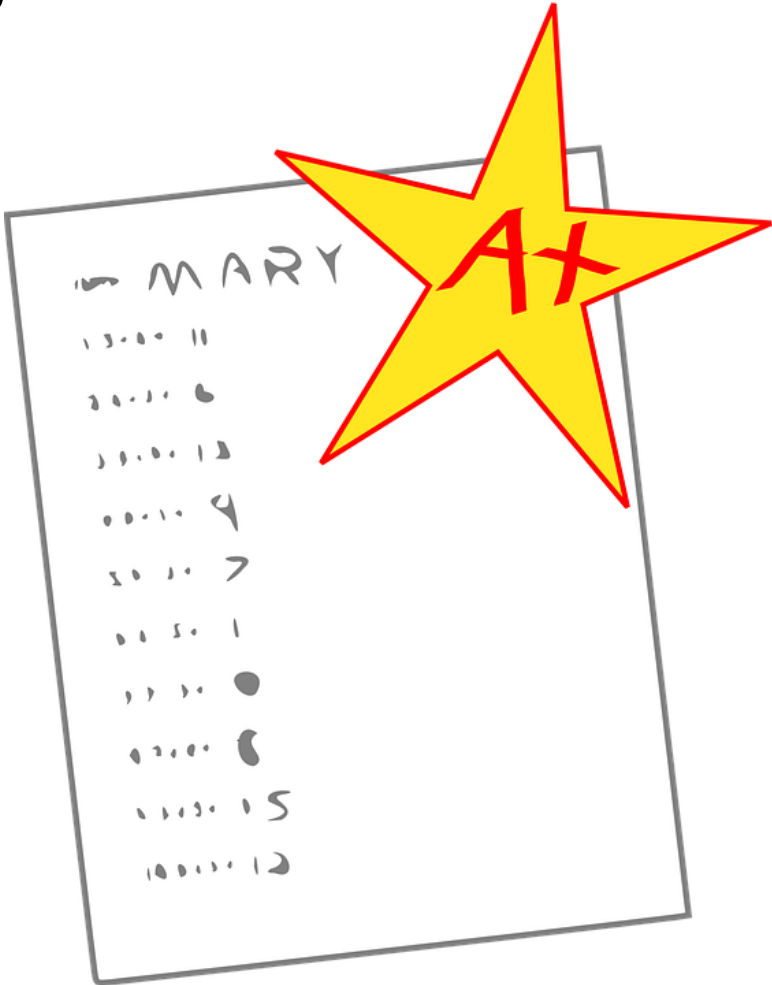
$n =$ size of list

Journal $\log(n)$

How do you think a sorting algorithm should be "measured" to determine if it is the "best"?

Big O notation

Talk about tests



New Partners

- Share sorting algorithms

1. Does it work correctly? (correctness)
2. Is it well written and easy to follow?
3. Is it efficient in terms of time? Is it efficient only under certain conditions?
4. Is it efficient in use of space? Do you need a lot of extra table room as temporary places to arrange the cards in the process of sorting

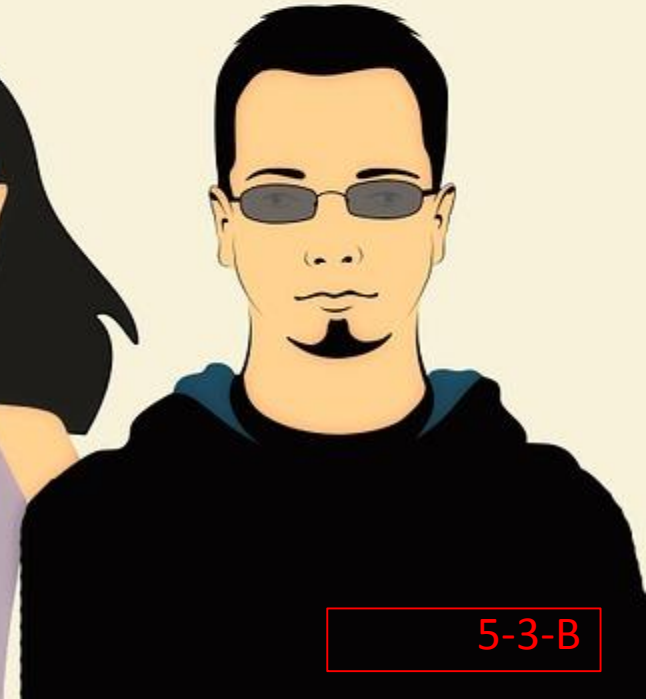
- Choose the best of the pair, be ready to defend your decision



Share out

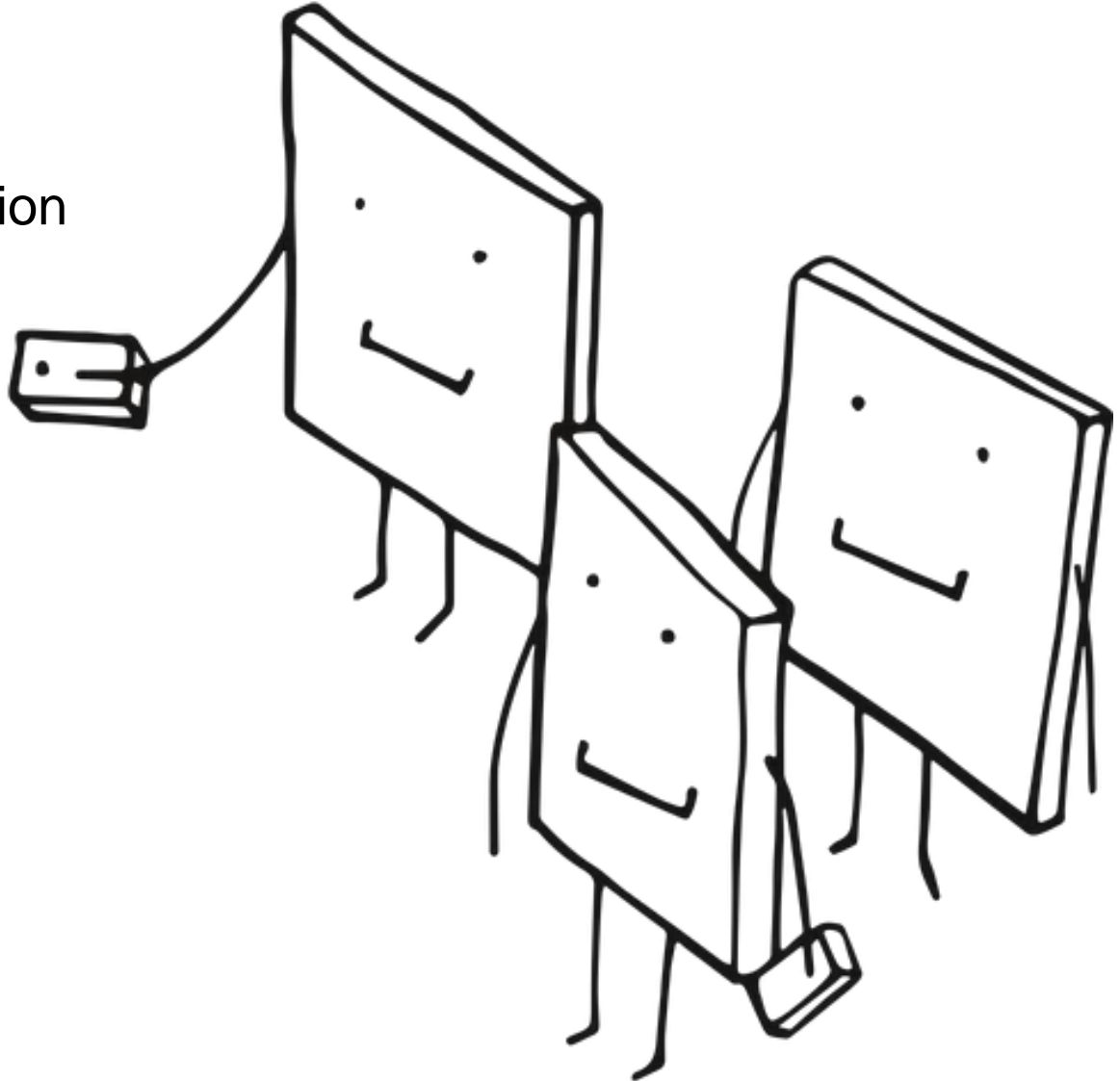
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demonstrate... why? how?



New Groups (2-4)

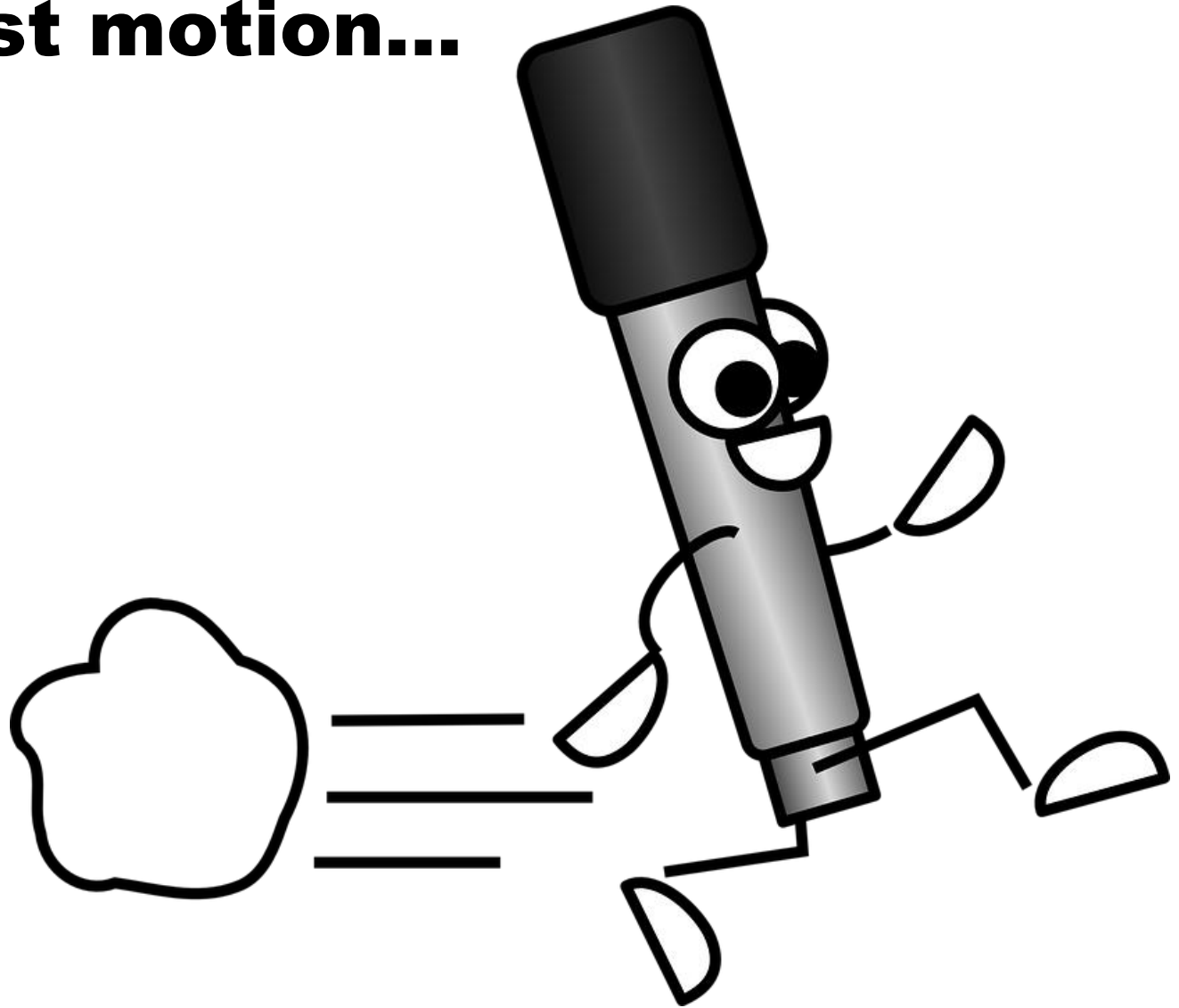
- Sorting Algorithm Evaluation



What are the different algorithms anyway?



Or in fast motion...



Homework

Finish Binary and
Linear Search
assignment

