Sorting

The problem

- Take a list of items and put them into order, according to some key. Examples:

    - sort ints by value

    - sort strings by length

    - sort students by student number

- We might sort into non-ascending or non-descending order.

- Why don't I just say descending or ascending order?

Why is sorting important?

- Searching can be significantly faster if the list is sorted.

- And sometimes we want a sorted list for other reasons.
  Example: A user may want to see book recommendations in order by their star-rating

Sorting techniques

- In real life, how would you sort:

    - Playing cards in your hand?

    - A stack of midterms

- There are many sorting techniques!

- We'll compare several.