

Quicksort

General idea:

- ▶ **Arbitrarily choose** an element x in the unsorted set for comparison.
- ▶ **Divide** the unsorted elements into two parts: $\leq x$ and $> x$.
- ▶ **Recursively** use QUICKSORT for the above two parts.

QUICKSORT(A, p, r)

- 1: **if** $p < r$ **then**
- 2: $q = \text{PARTITION}(A, p, r)$
- 3: QUICKSORT($A, p, q - 1$)
- 4: QUICKSORT($A, q + 1, r$)