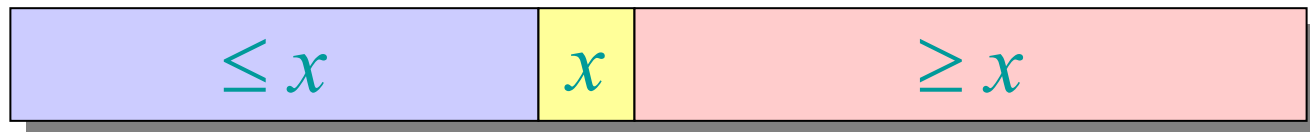




# Divide and conquer

Quicksort an  $n$ -element array:

**1. *Divide*:** Partition the array into two subarrays around a **pivot**  $x$  such that elements in lower subarray  $\leq x \leq$  elements in upper subarray.



**2. *Conquer*:** Recursively sort the two subarrays.

**3. *Combine*:** Trivial.

**Key:** *Linear-time partitioning subroutine.*