

Quicksort: Sort a collection of integers in increasing order.

Example: $\{ 7, 3, 2, 9, 8, 1 \}$ is sorted to $\{ 1, 2, 3, 7, 8, 9 \}$

$\{ 7, 3, 2, 9, 8, 1 \}$

$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ X, 3, 2, 9, 8, 1 \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, 9, 8, X \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, 9, 8, X \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, 9, 8, X \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, 9, 8, X \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, X, 8, 9 \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, X, 8, 9 \}$
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$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

7 $\{ 1, 3, 2, X, 8, 9 \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

Choose pivot, say 7, and reorganize

$\{ 1, 3, 2, 7, 8, 9 \}$

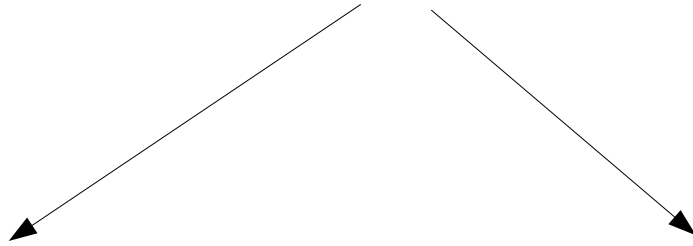


$\{ 7, 3, 2, 9, 8, 1 \}$

$\{ 1, 3, 2, 7, 8, 9 \}$

$\{ 1, 3, 2 \}$

$\{ 8, 9 \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

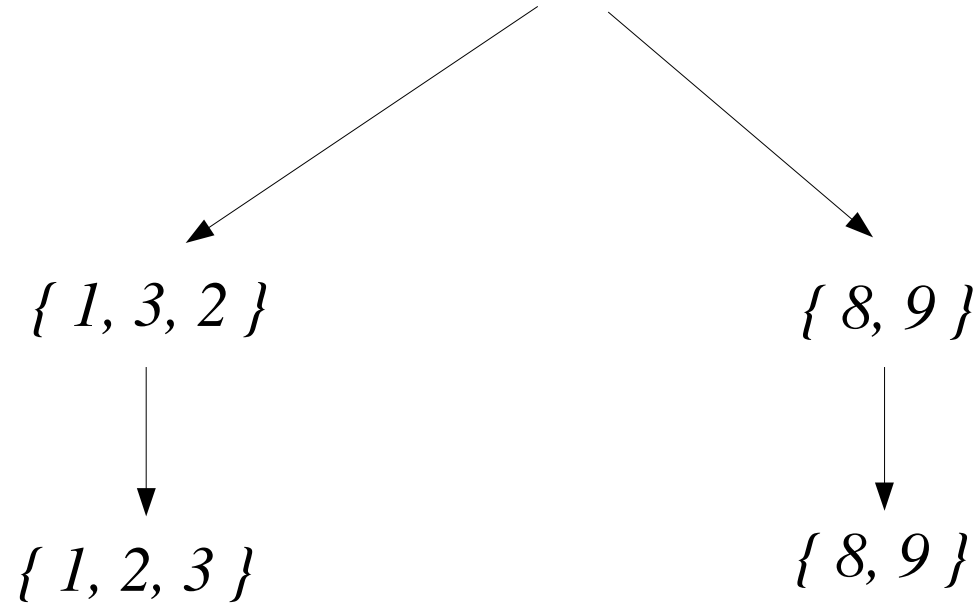
$\{ 1, 3, 2, 7, 8, 9 \}$

$\{ 1, 3, 2 \}$

$\{ 8, 9 \}$

$\{ 1, 2, 3 \}$

$\{ 8, 9 \}$



$\{ 7, 3, 2, 9, 8, 1 \}$

$\{ 1, 3, 2, 7, 8, 9 \}$

$\{ 1, 3, 2 \}$

$\{ 8, 9 \}$

$\{ 1, 2, 3 \}$

$\{ 8, 9 \}$

$\{ 1, 2, 3, 7, 8, 9 \}$

