



Merge sort

- **merge sort:** Repeatedly divides the data in half, sorts each half, and combines the sorted halves into a sorted whole.

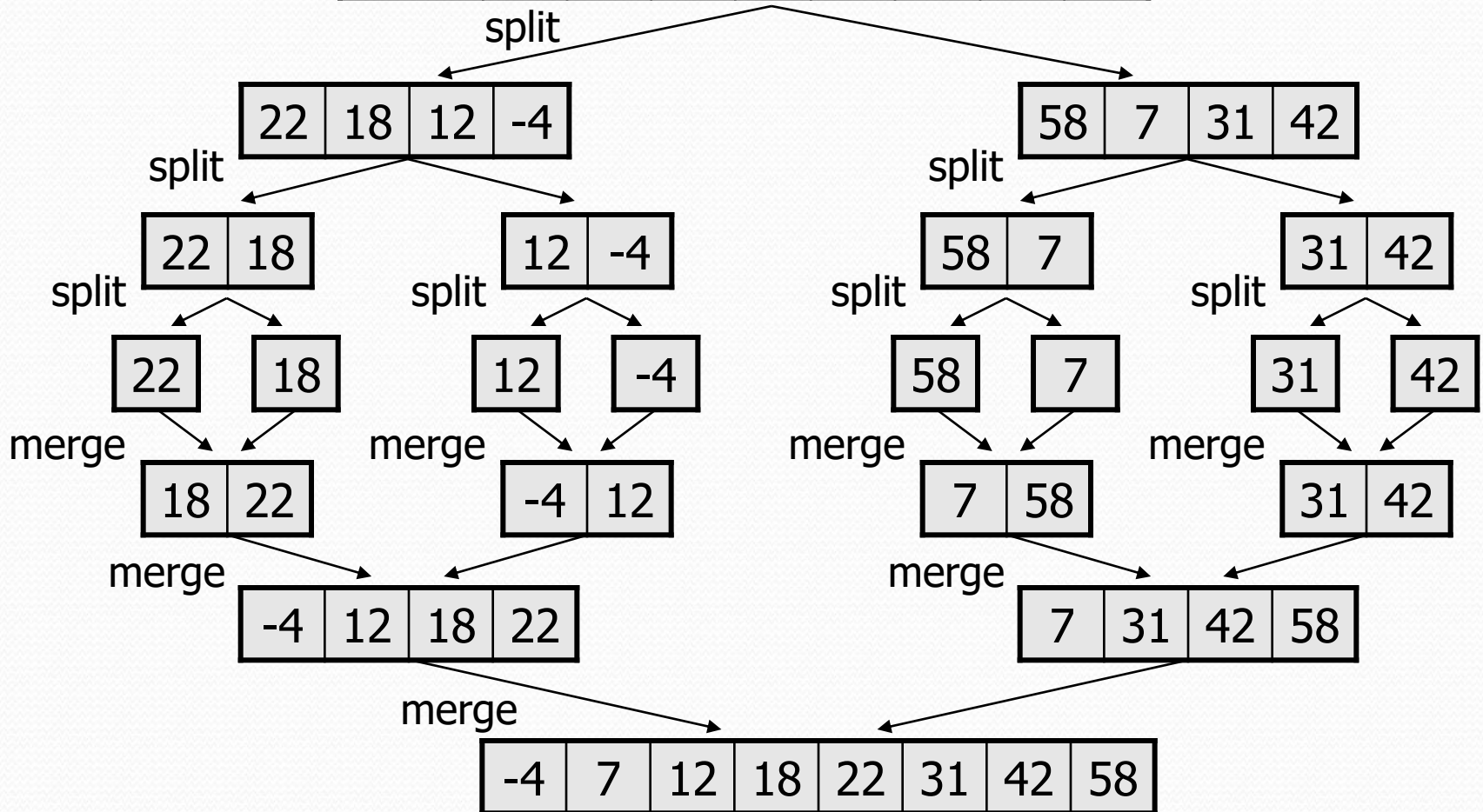
The algorithm:

- Divide the list into two roughly equal halves.
- Sort the left half.
- Sort the right half.
- Merge the two sorted halves into one sorted list.

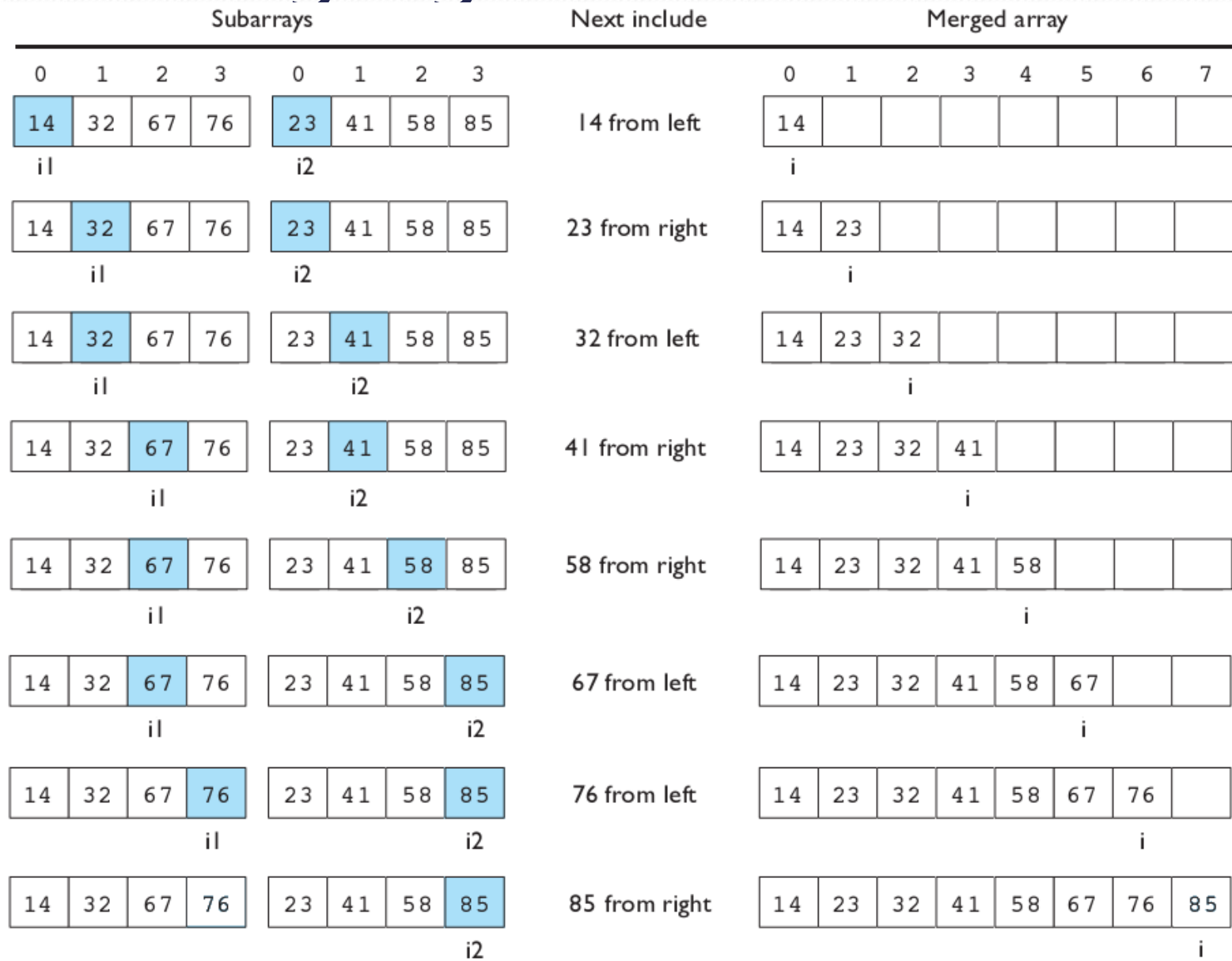
- An example of a "divide and conquer" algorithm.
 - Invented by John von Neumann in 1945

Merge sort example

index	0	1	2	3	4	5	6	7
value	22	18	12	-4	58	7	31	42



Merging sorted halves



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