

Merge Sort

- “divide and conquer”-based sorting algorithm
- divides the array into 1/2 & continues to divide until there are no arrays to divide
- Combine, Combine ...

When Merge Sort?

- ✓ Efficient for sorting large data set
- ✓ $O[n \log n]$
- ✓ Stable sorting

Algorithm

6	5	3	1	8	7	2	4
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Step 1) Divide until it becomes atomic

Step 2) Combine 2, sort them

Step 3) Merge 2, sort them [look at first element of each for comparison]

Step 4) Continue to merge until all done

6 5 3 1 8 7 2 4