

Merge Sort..

Such Sorting Technique that is using divide and conquer technique whose time complexity is in worst case i.e $O(n \log n)$

- ① It first divide the array into equal parts and then merge them in equal parts in a sorted manner.

How it works? let's take an example:

we have an array

14	33	27	10	35	19	42	44
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Divide the array into two halves.

14	33	27	10
35	19	42	44

No Sequence changed we will divide further

14	33	27	10	35	19	42	44
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Further divide to achieve the atomic value.

14	33	27	10	35	19	42	44
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now Comparing will take place.

Compare 14 and 33
Compare 27 and 10, sort them and so on which are already in sorted manner

14	33	10	27	19	35	42	44
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10	14	27	33	19	35	42	44
----	----	----	----	----	----	----	----

10	14	27	33	19	35	42	44
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Merge Sort

Algorithm: (merge Sort)

Step 1:- Divide the list into two halves

Step 2:- use divide and Conquer rule to achieve the atomic value.

Step 3:- Arrange or Sort the list/array accordingly.

Step 4:- merge the smaller lists into a single list in new Sorted order.

