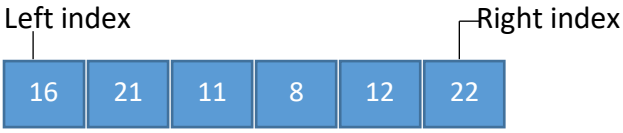
MERGE SORT

Input: Unsorted array. [16, 21, 11, 8, 12, 22].

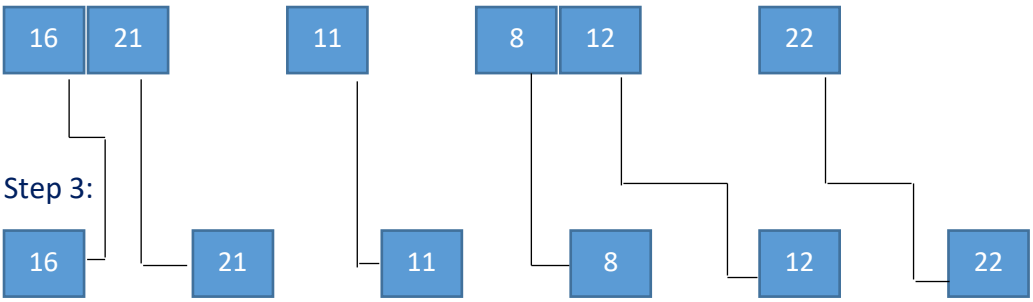
Output: Sorted array. [8, 11, 12, 16, 21, 22].

Step 0:



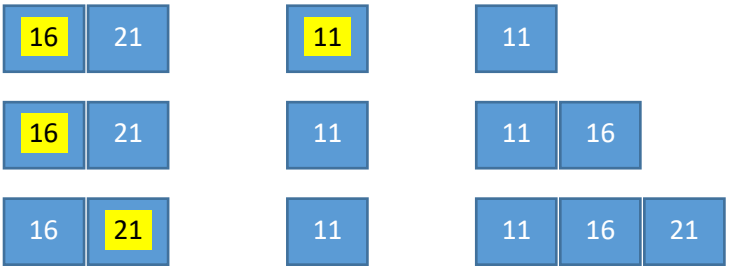
Step 1: if left index < right index, divide array into two parts.

Step 2: if left index < right index, divide array into two parts.

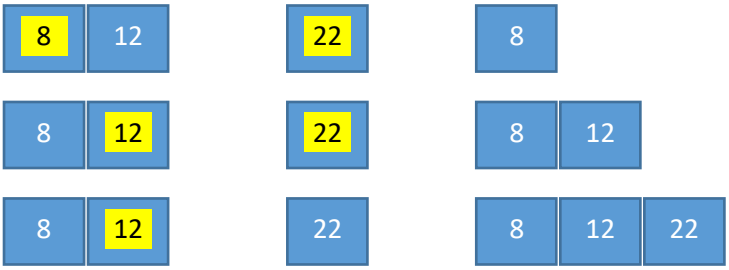


Step 4: After dividing the array into smalles units merging starts, based on comparison of elements.

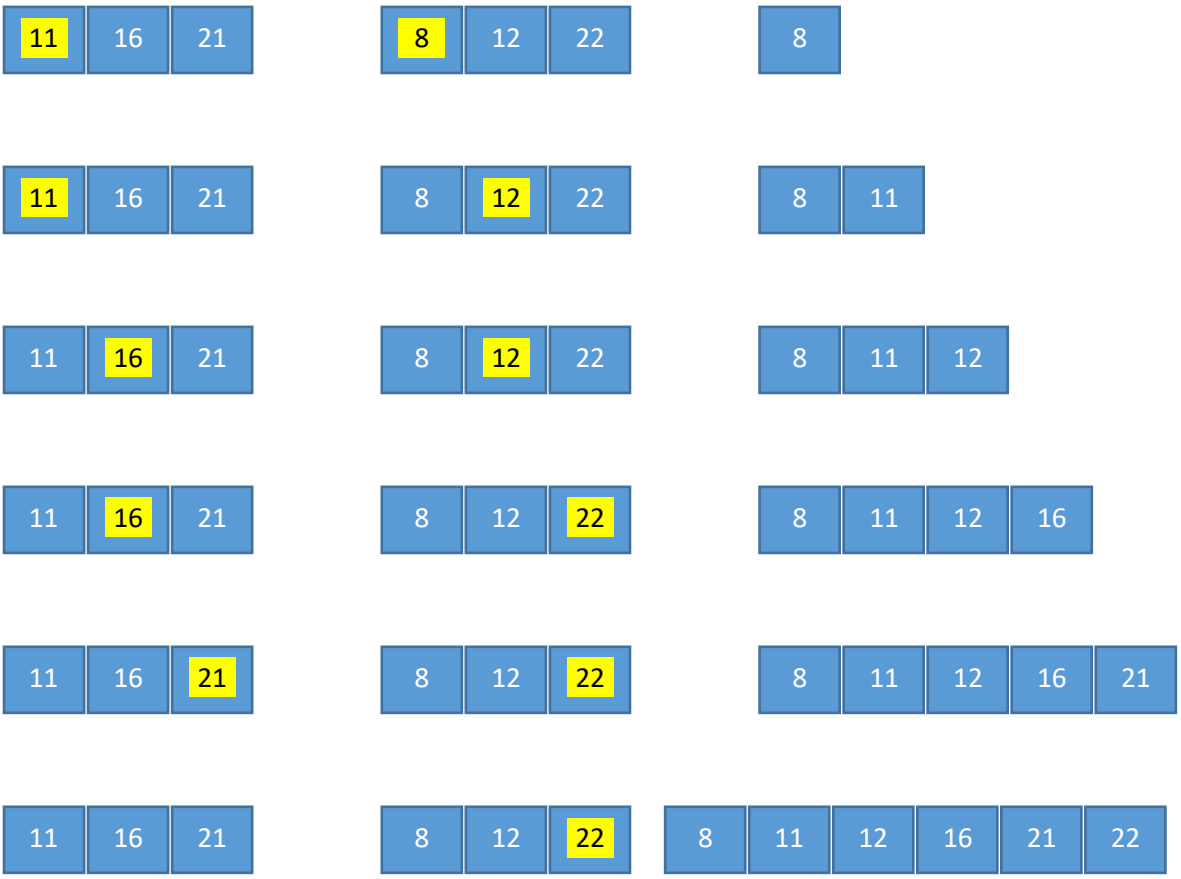
Step 5:



Step 6:



Step 7:



Best Case of Merge Sort: O(n logn)

Average Case of Merge Sort: O(n logn)

Worst Case of Merge Sort: O(n logn)