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Problem No. 9

Problem Statement :

Given two sorted arrays, write a function to merge the array in the sorting order.

Solution Approach:

Traverse both the arrays simultaneously and then copy the smaller of the two numbers from both the arrays into the resultant array and then increment accordingly.

Structured Pseudocode :

Merge\_sorted\_Array(arr1,arr2,result)

1.while (i<arr1.size() and j<arr2.size())

2. if(arr1[i]<arr2[j])

3. result[k++]=arr1[i++]

4. else

5. result[k++]=arr2[j++]

6.while(i<arr1.size())

7. result[k++]=arr1[i++]

8.while(j<arr2.size())

7. result[k++]=arr2[j++]

Results:

Discussion:

The traversal is of linear time complexity and the copying of elements into the final array is a constant time algorithm.

Separate files containing commented source code

The file has been attached.