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**Algorithm 1** k-way merge

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**Input:** k sorted arrays eith n elements each

**Output:** one single sorted array

**if** there are only two arrays left **then**

        merge these two arrays using double pointer

**return** merged array

**end if**

    apply the algorithm on two  $\frac{k}{2}$  sets of arrays

    merge the returned two arrays into one **return** this single array

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