

Merging operation in merge sort

```
procedure merge(A[], B[], C[])
{
    // merge sorted arrays A and B
    // saving result in array C
    i ← 1
    j ← 1
    k ← 1
    while (i ≤ |A| ∧ j ≤ |B|) do
    {
        if (A[i] ≤ B[j]) C[k++] ← A[i++]
        else C[k++] ← B[j++]
    }
    // copy remaining elements
    if (i ≤ |A|)
    {
        while (i ≤ |A|) C[k++] ← A[i++]
    }
    else
    {
        while (j ≤ |B|) C[k++] ← B[j++]
    }
}
```

$$\text{Complexity} = O(|A| + |B| - 1)$$