

n

n

n

n

m

n





5







2

4



1

2









$O(m + n)$

Motivating Question...

- If we happen to have two sorted arrays, could we efficiently merge them together into one array?

[] []

[1 2 3 4 5 7 8 12]

- Repeatedly copy the smaller element of each array into a new one.
- How efficient would this merge operation be on two arrays with m and n elements, respectively?

$$O(m + n)$$

Merge Sort