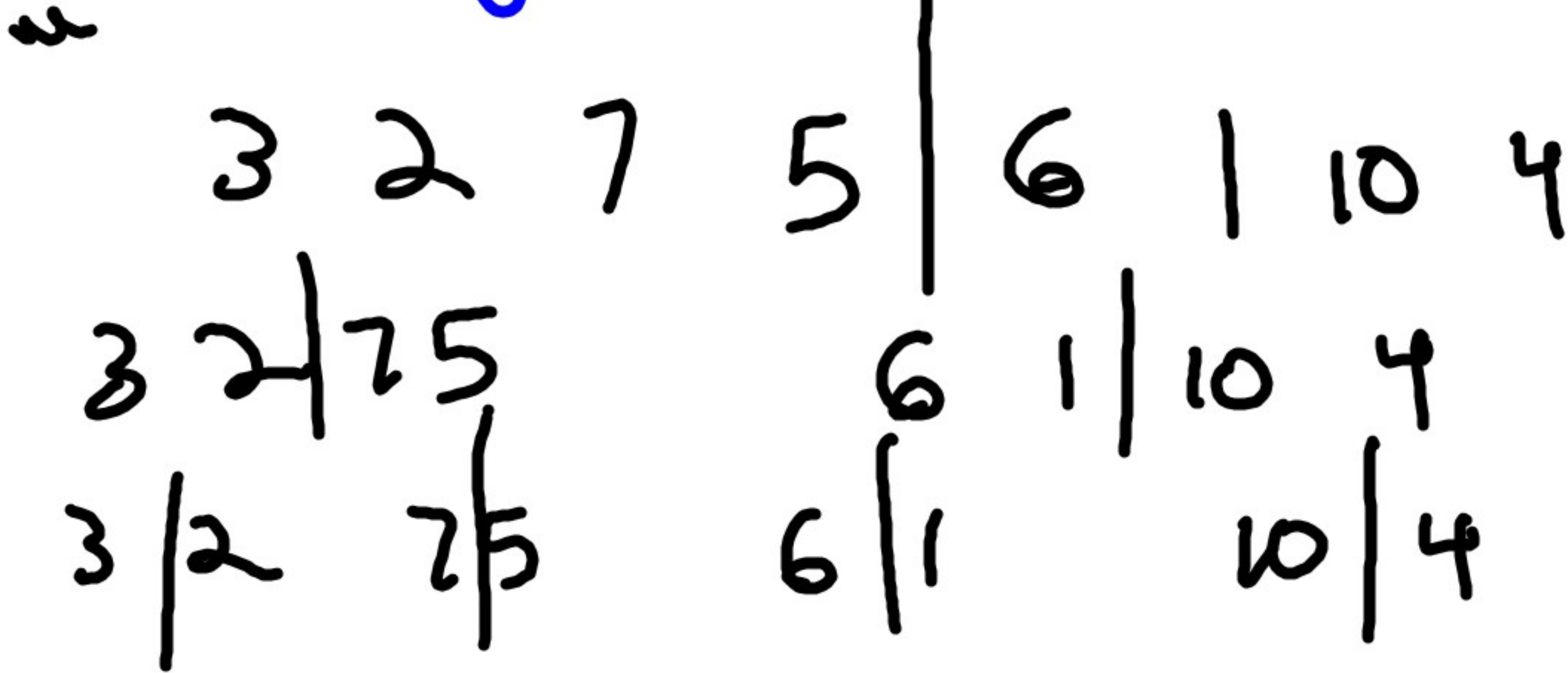


# Merge Sort



3/2

23

7/5

57

6/1

16

10/4

4 10

2 3  
\* ~~20~~

5 7  
↑ ↑

1 4  
\* ~~2~~

6 10  
\* ↑

1 2 3 4 5 6 7 10

Merge sort:  $n \log_2 n$

$O(n \log n)$

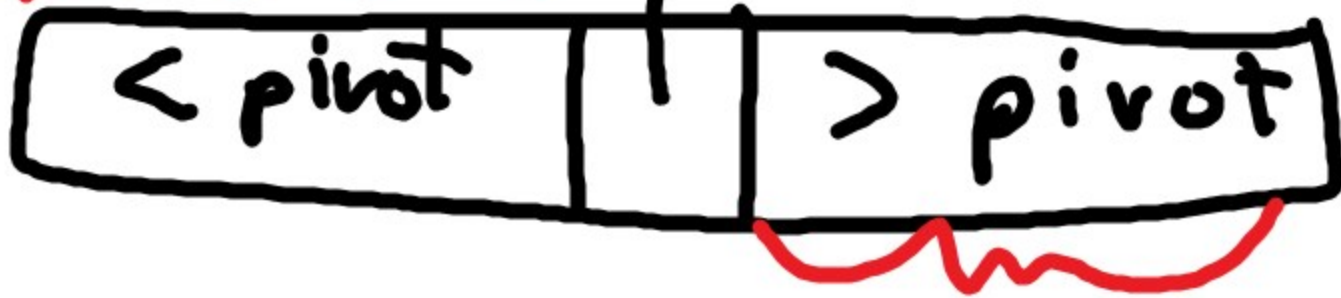
Insertion Sort:  $n^2$

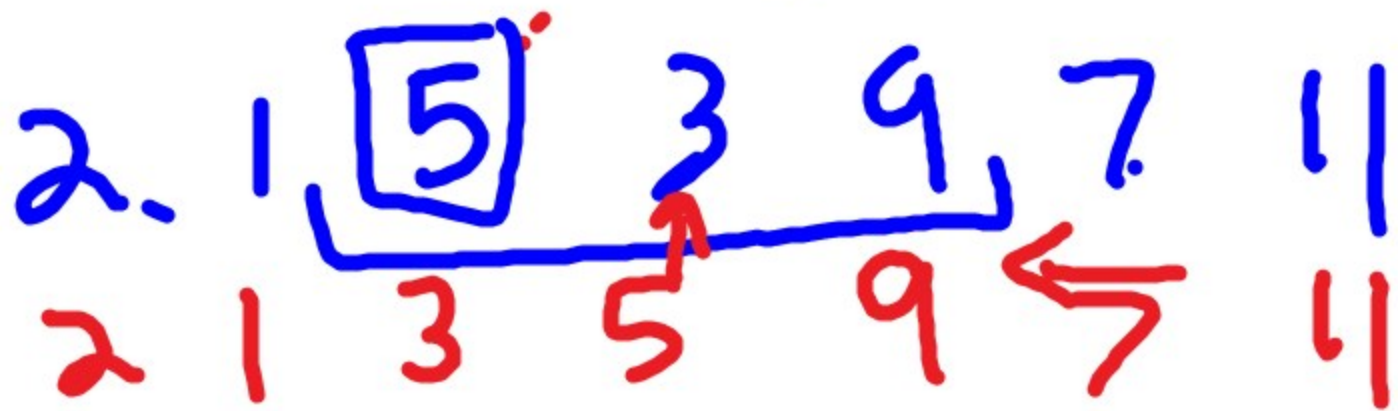
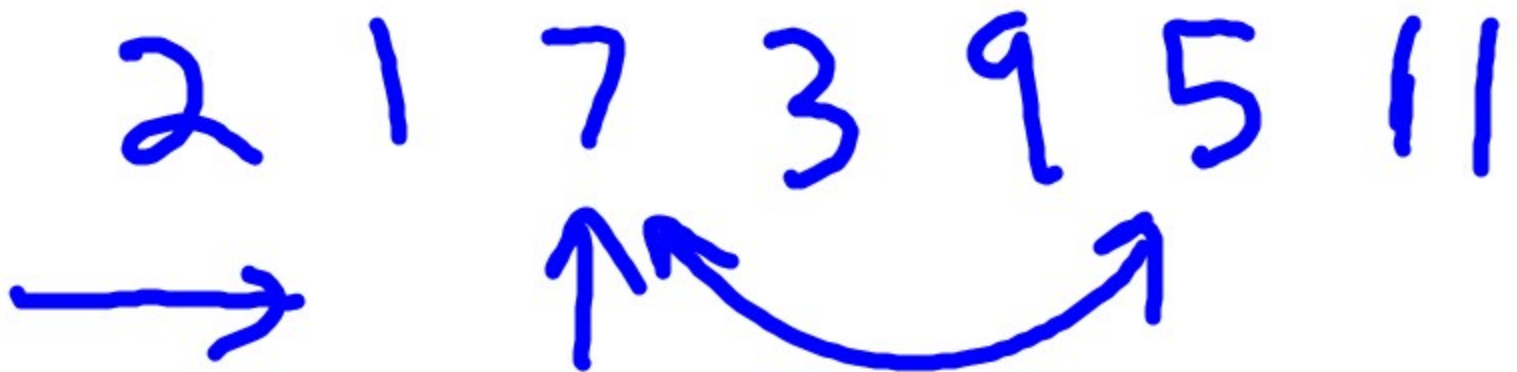
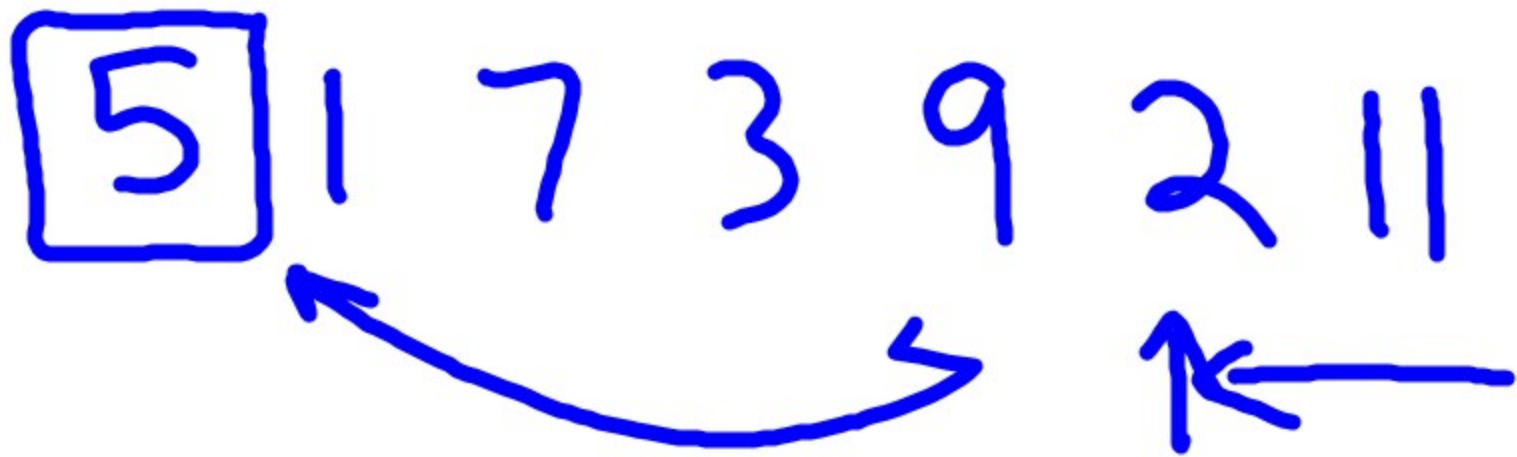
# Quick Sort

- break list in two  
around pivot

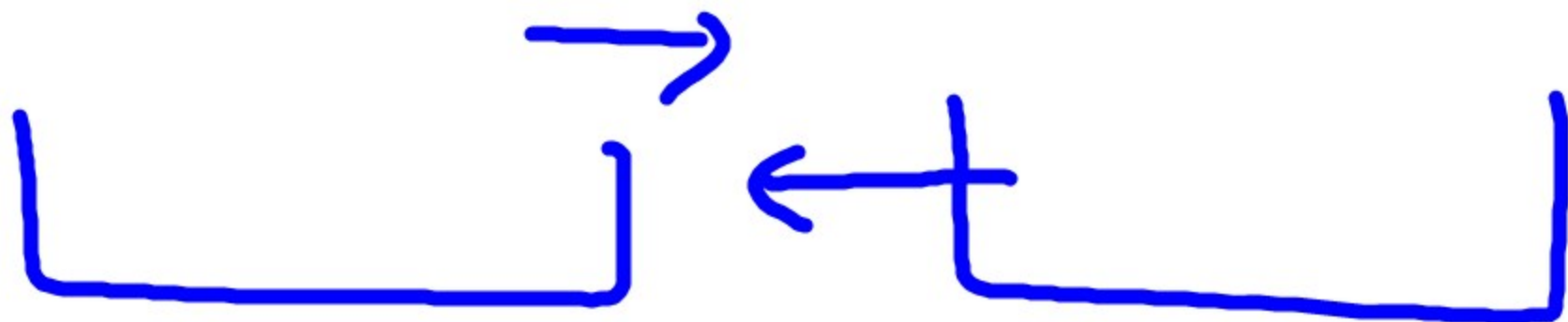
quick sort

in middle?





2 1 3 5 9 7 11



g.s.  
1 2 3

g.s.  
7 9 11