

Bubble Sort

73 2 4 77 8 38

2 73 4 77 8 38

2 4 73 77 8 38

2 4 73 77 8 38

2 4 73 8 77 38

2 4 73 8 77 38

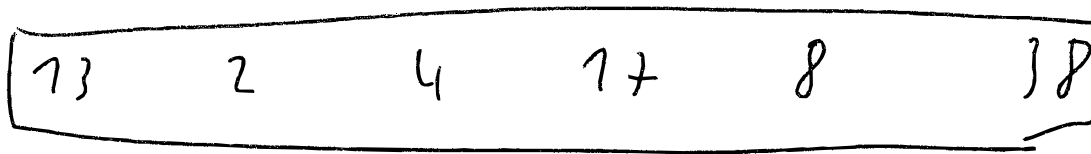
2 4 73 8 77 38

2 4 73 8 77 38

2 4 8 73 77 38

2 4 8 73 77 38

$O(n^2)$

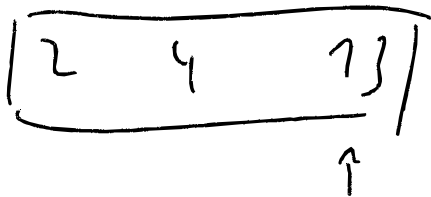


Merge Sort

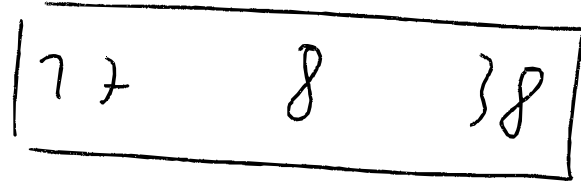
$O(n \cdot \log n)$



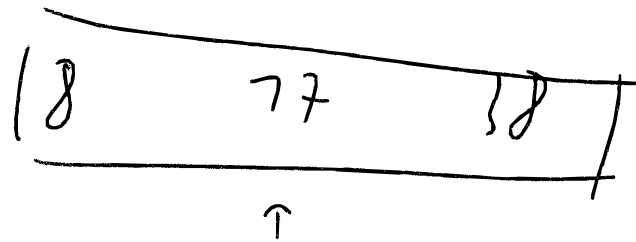
↓ ?



2 4 8



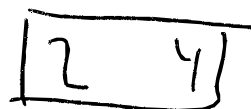
↓ ?



↓ ?



↓ ?



13 2 4 17 8 38

13 2 4

13 2 4

13 2

2 13

↑

2 4 13

17 8 38

17 8 38

17 8

8 17

8 17 38

2 4 8 13 17 38

73 (2) 4 7+ 8 38
↖

2 / 73 (4) 7+ 8 38
↖

2 4 / 73 7+ (8) 38
↖

~~2 4 8 73 7+ 38~~

2 4 8 / 7+ (73) 38

2 4 8 73 / 7+ 38

73 | (2) 4 77 8 38 Insertion Sort

2 73 | (4) 77 8 38 $O(n^2)$

2 4 73 | (77) 8 38

2 4 73 77 | (8) 38

2 4 8 73 77 | (38)

2 4 8 73 77 38 |

(25) 8 4 37 76 78 72 38

[8 4 76 78 72] 25

[37 38]

↓ ?

↓ ?

[4 8 72 76 78] 27

[37 38]

(25)

8

4

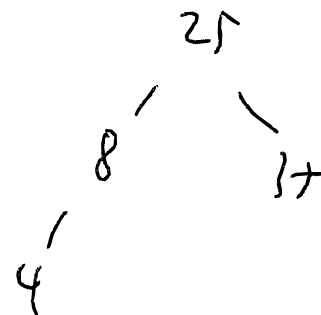
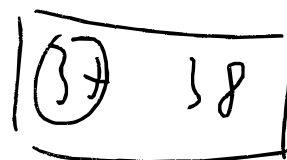
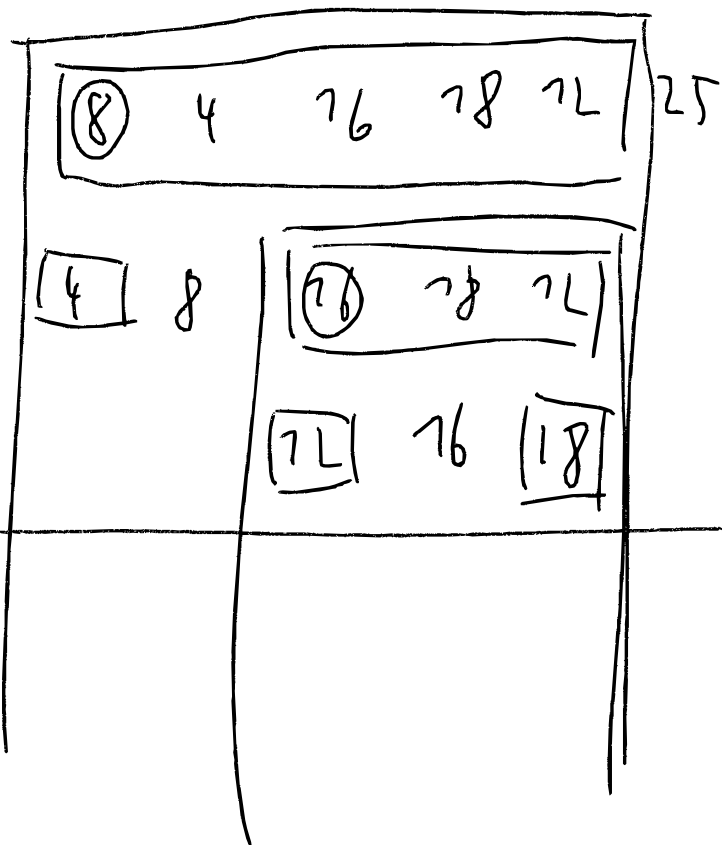
37

76

78

72

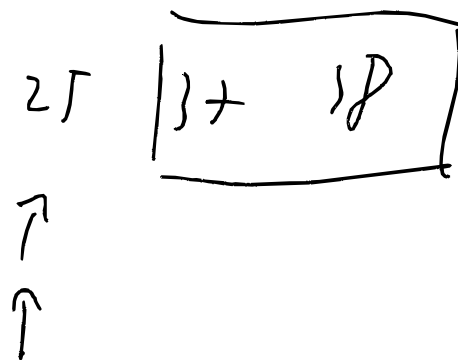
38



(25) 8 4 37 76 78 72 38

(37) 8 4 25 76 78 (72) 38

72 8 4 (25) 76 (78) 37 38



13 2 4 17 8 38