

Sorting

↪ arranging data in a given order

Bubble Sort

1	2	3	4	5	6	7
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1a	2	1b
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1a	1b	2
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TC $\rightarrow O(n^2)$

SC $\rightarrow O(1)$

Inplace sorting



Stable sorting



Quers

0	1	2	3	4	5	6
1	2	3	4	6	5	7

min idx ~~0~~
+
q
p
5

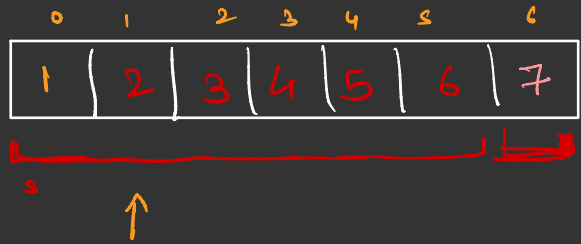
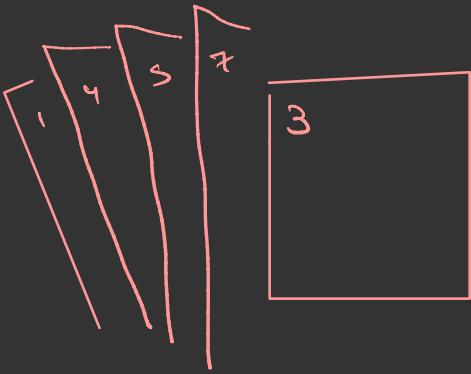
↑
um 510m

6	8	6	1
1	8	6	6

Inplace Sorting

stable sorting $\times \rightarrow$ unstable sort

Insertion Sort



Inplace sorting

Stable sort