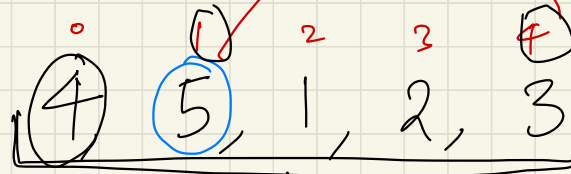



Selection Sort :

1st step :
 $i = 0$ (n-1)

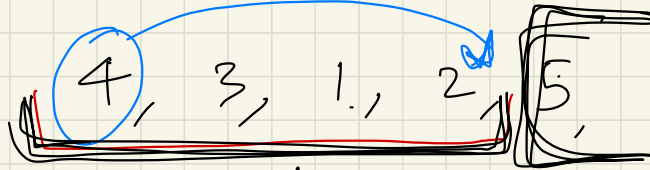


4, 5, 1, 2, 3

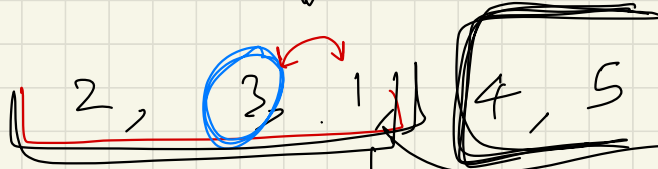
1, 5, 4, 2, 3

1, 2, 4, 5, 3

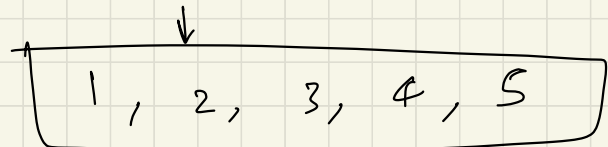
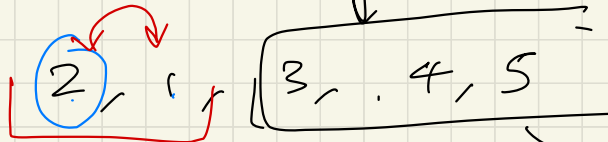
$i = 1$ n-2



$i = 2$ n-3



$i = 3$



$\leq N - i - 1$

Already at correct position, ignore in future steps.

Ans

→ Total Comparisons

$$0 + 1 + 2 + \dots + (n-1)$$

$$\frac{(n-1) * (n-1+1)}{2}$$

Worst case = $O(N^2)$

Best case = $O(N^2)$

Stable = No

// It performs well on
small lists / arrays.

$$= \frac{n(n-1)}{2} = \frac{n^2}{2}$$

why constant removed?

why 1.81 dominating ??

Time Complexity

