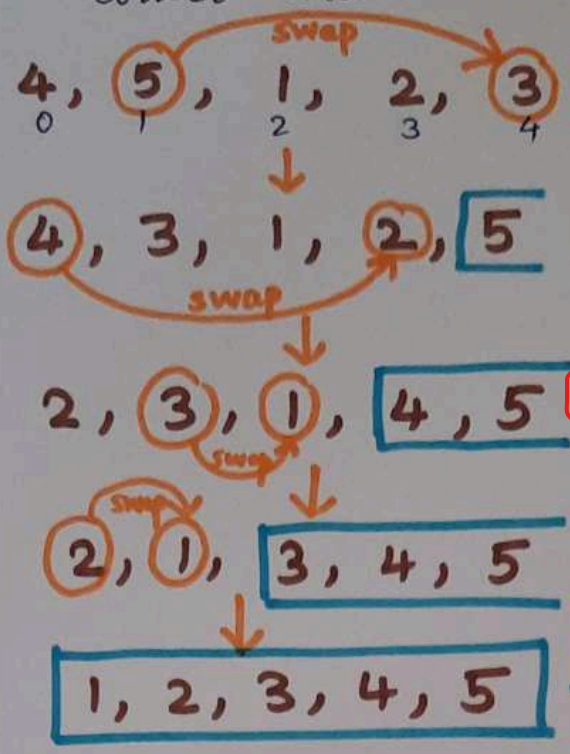
Selection Sort

Selection Sort : Select an element & put it on its correct index.

Example:



[get the greatest element of the array & put it on its correct index]

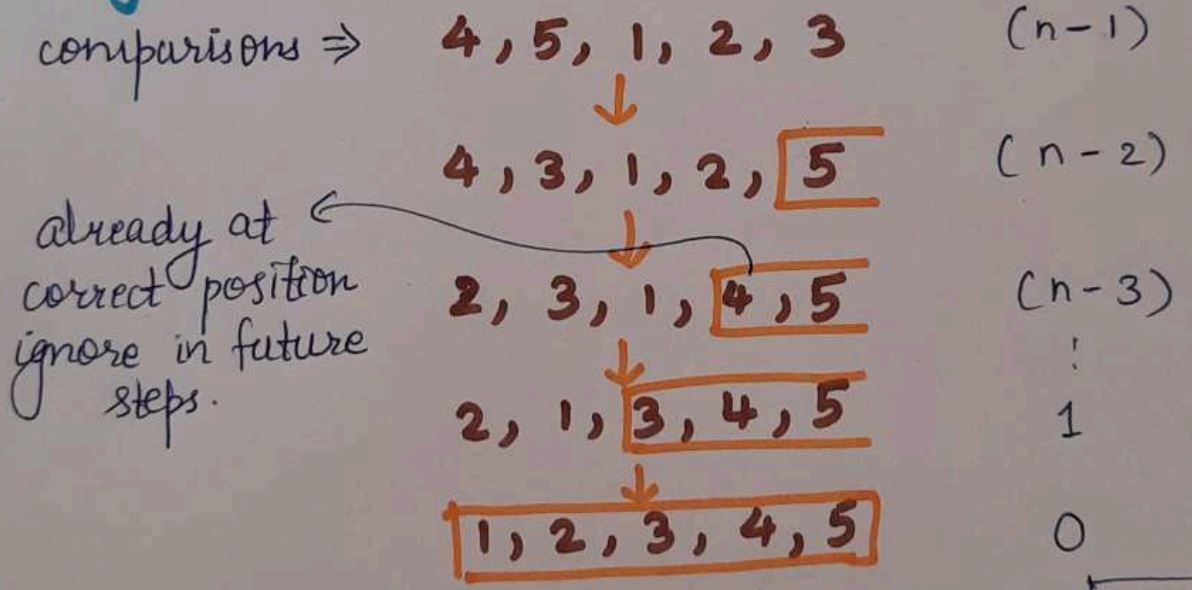
Adaptive:

Reduce no. of swap steps as compare to bubble sort

→ Here we selected maximum element & put it on right index, we can also do vice versa i.e, select minimum element and put it on right index !!

Complexity :

Total comparisons ⇒



$= 0 + 1 + 2 + 3 + \dots\dots (n-1) = \frac{n(n-1)}{2} = \boxed{\frac{n^2 - n}{2}}$

neglect le dominating constant te

Worst Case → $O(n^2)$

Best Case → $O(n^2)$

⇒ It is not stable sorting algorithm.

⇒ It performs well on small lists.