

13/8/21

Linear Search in Java

Searching: It is a process of finding a given value position in a list of values.

Linear / Sequential Search:

- It is basic & simple search algorithm.
- In sequential search, we compare the target value with all the other elements given in the list.

eg:- arr = [18, 12, 19, 77, 29, 50] (unsorted array)

target = 77 **start**

In above example, the target value is compared with all the elements in array in sequential/linear way.

Time Complexity:

→ **Best Case**: $O(1) \rightarrow$ constant

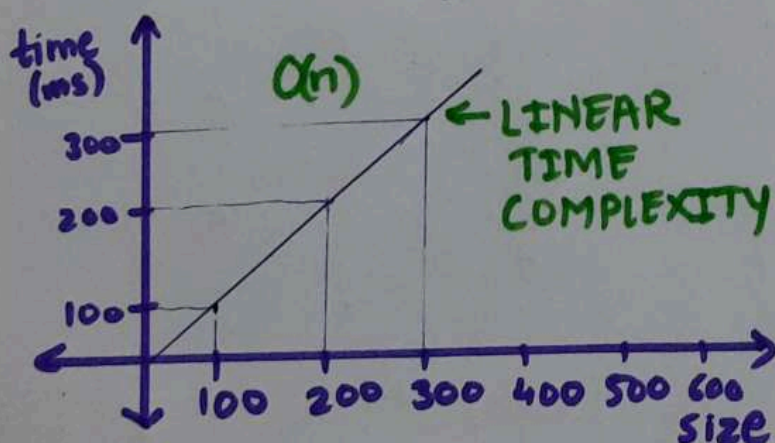
⇒ How many checks will the loop make in best case. i.e., the element will be found at 0th index. i.e., only one comparison will be made for best case.

→ **Worst Case**: $O(n)$

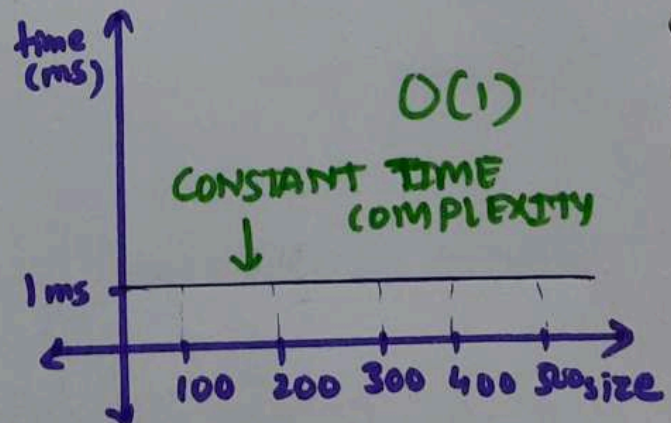
⇒ Worst case, here it will go through every element and then it says element not found.

⇒

size of array	No. of comparisons	time (ms)
100	100	100 ms
200	200	200 ms
n	n	



WORST CASE



BEST CASE