Linear Learch im Java

* What is Searching? It is a process of finding a desired element in a set (or list) of items.

* Linear Search

It is a basic and simplest searching algorithm.

In linear Search, we start seaching from first element till the element we are looking for.

=>> If the target item found, it return the index.

⇒ If no value found, it return -1.

Eg: - arr = [18,12,9,14,77,50] = unsorted arr

* Suppose, we want to search for the value (3). 190 Per Cal

Target = 9

>>> Here, we start seaching from index 0 and check the value, In this case 18.18 doesn't match with 9, so we move on to next position.

The value at index 1 is 12. 12 doesn't match with 9, so we move on to next

The value at index 2 is 9. 9 match with 9. The seach ends here.

20, 9 exists at index 2.

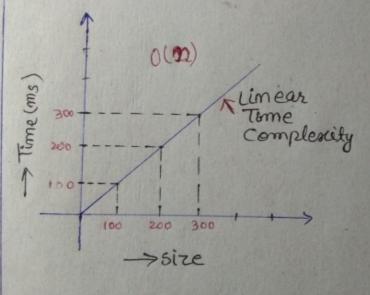
* Time Complexity for Linear Search

Best Case: [O(1)] // constant

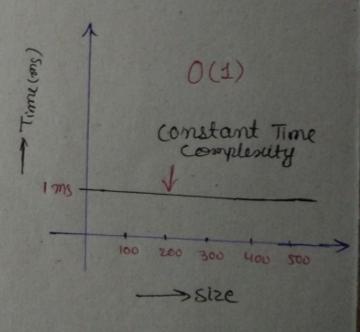
>>> In linear search, Best case occurs when the target (desired) value present at 0th index (1th location) means, for best case > only one comparison will be made.

Worst case: [O(n)] 1/ n=size of array

>>> worst case happens when the target (desired)
element is compared will all the elements of
array one by one and it says element not found.
i.e, we have done n comparisons (Here,
n >> size of array)



Worst case



Best case