Linear Search

inear Search is a sequential search algorithm.

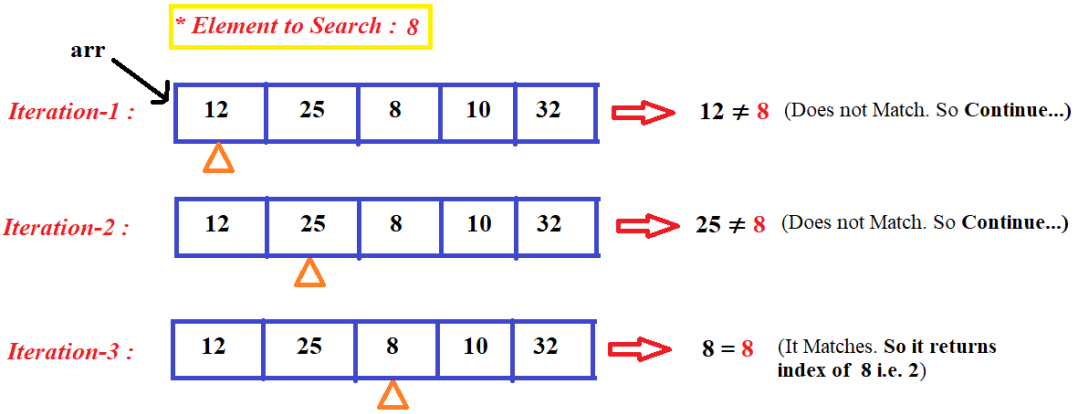
- **In Linear Search, we'll have to traverse the array comparing the elements consecutively one after the other**
- **Until the target value is found.**
- **Linear Search has a high time complexity making at most n comparison**
- **Hence, it is only suitable to search for elements in a small and unsorted list of elements**

Time Complexity	O(n)
Best Case	O(1)
Worst Case	O(n)
Space Complexity	O(1)
Avg. Comparisons	(n+1)/2

Algorithm to implement linear search in Java

1. Take input from the user for both the **array** & **item** to be searched.
2. Using a sequential loop compare each element in the array with the item.
3. If at any index both matches, terminate and print found.
4. Else continue comparison till the end of the array.
5. If reached the end without a match, print Not Found.

Linear Search




```
package Search;

public class LinearSearch {
  private static void linearSearch(int[] arr, int item) {

        for(int i=0;i < arr.length;i++){
            if(arr[i] == item)
            {
                System.out.println(item + " Found at index : " + i);
                return;
            }
        }
        System.out.println("Not found");

    }

    public static void main(String args[]) {
        int[] arr = {12, 5, 18, 25, -3, 19};

        int item = 25;
        linearSearch(arr, item);
    }
}
```