

WHAT IS THE DEFINITION & DIFFERENCE BETWEEN LINEAR SEARCH AND BINARY SEARCH?

In computer science, the concept of search algorithms is considered to be very important for students. It is a process which is used to find the occurrence of a given element in a list. In any data structure where the element is actually sorted, search algorithms are used to retrieve or check that element. And if the element is found, the search is successful, else not. The search algorithms are mainly of two types- linear search and binary search. Both these types are equally important to study and so people often search for the [difference between linear search and binary search](#) to understand the whole concept in a better way.

So if you are also searching for the same or want to know about these two concepts, then you will get to know it in this article. As you scroll down, you will find out the difference between the binary search and linear search and also what exactly linear and binary search are. So just continue to read and check out all the info.

Difference between linear search and binary search

There are many differences between linear search and binary search as both are two different concepts under one main topic. So some of the major differences between the two are as follows-

1. Linear search is also called or commonly called sequential search and binary search is known as half-interval search.
2. In linear search, the elements that are present in an array can be in any random order, while in binary search, the elements in the array should only be in sorted order and not random.
3. Process of linear search is less complicated to implement and so quite easy, but the process of binary search is comparatively more complex and tougher to implement.
4. In linear search, the elements are searched only by one ie. in a sequential manner, while in binary search, the elements are searched using an approach which is called divide and conquer.
5. Linear search as a process is quite slow, but binary search as a process is comparatively faster than linear.
6. In linear search, both single arrays and multidimensional arrays can be used, but in binary search, only single dimensional arrays can be used and not multidimensional.
7. One more **difference between linear search and binary search** is that- linear search is considered to be not too efficient for larger arrays, but binary search is considered to be quite efficient for larger arrays.

What is Linear Search?

Linear search is the type of search algorithm which searches each element one at a time. In this, array is sequentially traversed from the list until the desired element is found. This is suitable for small arrays and also called sequential search.

What is Binary Search?

Binary search is the method which is used to search an element in a sorted array only. In this, the element that needs to be searched is compared to the middle element of the array. So it follows the concept of divide and conquer and is also called half-interval search.

Conclusion

Linear search and binary search, the two types of search algorithms are considered to be a very important concept in the field of computer science, and mainly in the subject, Algorithm Design and Analysis. Linear search is also called sequential search and binary search is called half-interval search. Both the concepts follow different procedures and so to help you understand better, we have provided above a simple yet detailed **difference between linear search and binary search** which will surely help you to understand the concept in a much better way.