

ANALYSIS

Comparing the time complexity of linear and binary search algorithms:

Linear search Time Complexity :

- Best Case - $O(1)$ if element present in first.
- Worst Case – $O(n)$ if it search all the elements.
- Performance – Slower on large data.

Binary search Time Complexity :

- Best Case - $O(1)$ if element present in middle.
- Worst Case – $O(\log n)$ it divides the array in half repeatedly.
- Performance – Much faster on large data.

Suitable algorithm of this platform (i.e. in our Ecommerce platform for search option) :

1. I personally prefer **Binary Search algorithm** as most of the Ecommerce site containing large data which is complex to find if we search in linear order as like linear search.
2. By using binary search technique we can achieve faster and responsive search.