## What are data structures?

## Time complexity or Complexity

Big O notation

Linear complexity

### Linear Search:

Linear search is a sequential searching algorithm where we start from one end and check every element of the list until the desired element is found. It is the simplest searching algorithm.

Time complexity: Worse case - O(n), Best case - O(1), Average case - O(n/2)

## Binary Search:

Binary search is the search technique that works efficiently on sorted lists.

Binary search follows the divide and conquer approach in which the list is divided into two halves, and the item is compared with the middle element of the list. If the match is found then, the location of the middle element is returned. Otherwise, we search into either of the halves depending upon the result produced through the match.

Time complexity: Ο(log n).