UNDERSTANDING ASYMPTOTIC NOTATION

Big O Notation :

- Big O notation helps us to describe the time complexity of algorithms.
- Where it's a way to express the upper bound of an algorithm's space and time complexity
- It only talks about the order of growth of time or space in terms of given input size , not focusing on the exact value.
- It denoted as O(f(n)) , where f(b) is a function that represents the number of steps the algorithm performs to solve a problem of size n.

How it help to analyze algorithms:

- As already mentioned it only focuses on growth rate not exact time.

Best case scenario:

1. It has the fastest scenario
2. In (search operation) it found the element at the beginning itself.

Average case scenario :

1. It is typically based on the input.
2. It split the search field into two parts , and find the element somewhere in the middle of that two parts.

Worst case scenario:

1. The slowest case.
2. Either it found the element at last or not found the element.