Complexity Analysis of Ternary Search:

- **Time Complexity:**
    - Best Case: $\Omega(1)$
    - Average Case: $\Theta(log3N)$)
    - Worst Case: $O(log3N)$
- **Auxiliary Space:** $O(1)$, as we are not using any extra space

Binary search Vs Ternary Search:

The time complexity of the binary search is less than the ternary search as the number of comparisons in ternary search is much more than binary search. Binary Search is used to find the maxima/minima of monotonic functions whereas Ternary Search is used to find the maxima/minima of unimodal functions.

Note: We can also use ternary search for monotonic functions but the time complexity will be slightly higher as compared to binary search.

Advantages of Ternary Search:

- Ternary search can find maxima/minima for unimodal functions, where binary search is not applicable.
- Ternary Search has a time complexity of $O(2 * log3n)$, which is more efficient than linear search and comparable to binary search.
- Fits well with optimization problems.

Drawbacks of Ternary Search:

- Ternary Search is only applicable to ordered lists or arrays, and cannot be used on unordered or non-linear data sets.
- Ternary Search takes more time to find maxima/minima of monotonic functions as compared to Binary Search.

When to use Ternary Search:

- When you have a large ordered array or list and need to find the position of a specific value.
- When you need to find the maximum or minimum value of a function.
- When you need to find a bitonic point in a bitonic sequence.
- When you have to evaluate a quadratic expression