Type of search:

1. Linear Search

Description: Iterates through the list sequentially to find the target element.

Time Complexity:

Worst case: (if the element is at the end or not found).

Best case: (if the element is at the beginning).

2. Binary Search

Description: Uses the "divide and conquer" approach, requiring a sorted array.

Time Complexity:

Worst case: (as the search space is halved each time).

Best case: (if the element is in the middle initially).

Python also provides built-in binary search in bisect module:

3. Jump Search

Description: Skips ahead by a fixed step (), then performs linear search in the block.

4. Interpolation Search

Description: Uses a formula to estimate the position of the target based on the values, similar to searching in a telephone book

Time Complexity:

Best case: (if the target is at the estimated position).

Worst case: (if values are not evenly distributed).

5. Search in Linked List

Description: Searching in a Linked List is linear since elements are not ind6. Search in Hash Table

Description: Uses hashing to achieve fast lookups, using dictionaries (dict) or sets (set).exed.

Worst case: (in case of excessive collisions).