**Search Algorithms:**

* **Linear Search Algorithm:**
* Linear search is a simple search algorithm that checks each element of a list one by one until it finds the desired element. It is a brute-force approach that has a time complexity of O(n), where n is the number of elements in the list.
* **Binary Search Algorithm:**
* Binary search is a more efficient search algorithm that works by dividing the list into two halves and searching for the desired element in one of the halves. It requires the list to be sorted in ascending or descending order. The time complexity of binary search is O(log n), where n is the number of elements in the list.

**The time complexity of linear and binary search:**

* The time complexity of linear search is O(n), where n is the number of elements in the list. The time complexity of binary search is O(log n), where n is the number of elements in the list.

**Discuss when to use each algorithm based on the data set size and order:**

1. **Linear Search:**
   * Use linear search when the data set is small or when the list is not sorted.
   * Linear search is simple to implement and easy to understand.
   * However, it can be slow for large data sets.
2. **Binary Search:**
   * Use binary search when the data set is large and the list is sorted.
   * Binary search is more efficient than linear search for large data sets.
   * However, it requires the list to be sorted, which can be a drawback if the list is frequently updated.

**Better Algorithm**:

In the context of the library management system, binary search is a better choice if the list of books is large and sorted by title. However, if the list is small or not sorted, linear search may be a better choice.