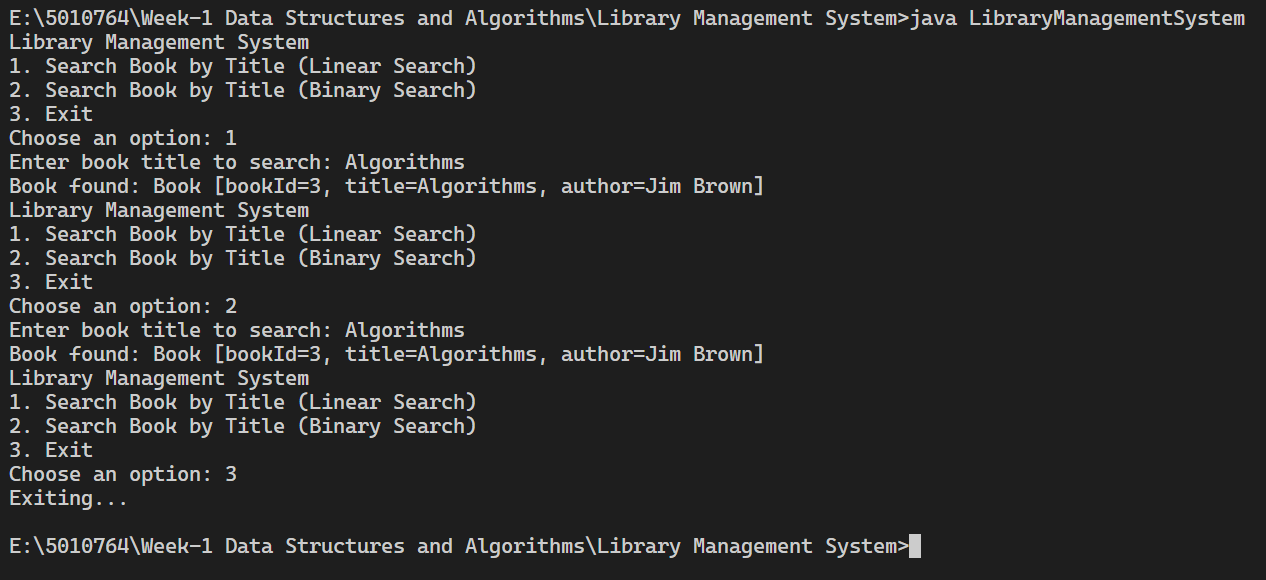
**LIBRARY MANAGEMENT SYSTEM:**

1. **Understanding Search Algorithms**
   * **Linear Search: This search method examines each element in the list sequentially until the target is found or the end of the list is reached. It is simple to implement but may be less efficient for large data sets.**
   * **Binary Search: This search technique works on a sorted list by repeatedly dividing the search interval in half. It compares the target value with the middle element, narrowing down the search range based on whether the target is less than or greater than the middle value. It is more efficient but requires the list to be sorted.**
2. **Setup**
   * **Define a Book class with attributes such as bookId, title, and author to represent each book in the library.**
3. **Implementation**
   * **Linear Search Implementation: This method will be used to locate books by their title by scanning through the list from start to end.**
   * **Binary Search Implementation: This method will be used to find books by title in a sorted list. The search involves dividing the list and comparing the target with the middle element to efficiently locate the book.**
4. **Analysis**
   * **Time Complexity Comparison:**
     + **Linear Search: O(n), where n is the number of books. The algorithm requires examining each book in the list sequentially.**
     + **Binary Search: O(log n), where n is the number of books. The algorithm efficiently reduces the search range with each step.**
   * **When to Use Each Algorithm:**
     + **Linear Search is suitable for smaller or unsorted lists where simplicity is preferred and sorting overhead is not justified.**
     + **Binary Search is ideal for larger lists that are sorted, as it provides faster search times due to its logarithmic complexity.**
5. **Output**

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