**Exercise 6: Library Management System**

**1. Understand Search Algorithms**

* **Linear Search**: Checks elements one by one. Time Complexity: O(n)
* **Binary Search**: Requires sorted data. Time Complexity: O(log n)

✅ Choose based on data structure and size.

**2. Setup**

Create a Book class with:

* bookId
* title
* author

**3. Implementation**

👉 Visit the code in the repository to see:

* Linear Search by title.
* Binary Search on a sorted array of books.

**4. Analysis**

| **Algorithm** | **Time Complexity** | **Sorted Data Required** |
| --- | --- | --- |
| Linear Search | O(n) | No |
| Binary Search | O(log n) | Yes |

\*Binary search is ideal for large sorted datasets.