import java.util.Arrays;

class Book {

int bookId;

String title;

String author;

Book(int bookId, String title, String author) {

this.bookId = bookId;

this.title = title;

this.author = author;

}

@Override

public String toString() {

return bookId + " - " + title + " - " + author;

}

}

public class LibraryManagement {

public static int linearSearch(Book[] books, String title) {

for (int i = 0; i < books.length; i++) {

if (books[i].title.equals(title)) {

return i;

}

}

return -1;

}

public static int binarySearch(Book[] books, String title) {

Arrays.sort(books, (b1, b2) -> b1.title.compareTo(b2.title));

int left = 0, right = books.length - 1;

while (left <= right) {

int mid = left + (right - left) / 2;

int comparison = books[mid].title.compareTo(title);

if (comparison == 0) {

return mid;

} else if (comparison < 0) {

left = mid + 1;

} else {

right = mid - 1;

}

}

return -1;

}

public static void main(String[] args) {

Book[] books = {

new Book(1, "The Alchemist", "Paulo Coelho"),

new Book(2, "To Kill a Mockingbird", "Harper Lee"),

new Book(3, "1984", "George Orwell")

};

int linearResult = linearSearch(books, "1984");

System.out.println("Linear Search Result: " + (linearResult != -1 ? books[linearResult] : "Not Found"));

int binaryResult = binarySearch(books, "The Alchemist");

System.out.println("Binary Search Result: " + (binaryResult != -1 ? books[binaryResult] : "Not Found"));

}

}

OUTPUT:

