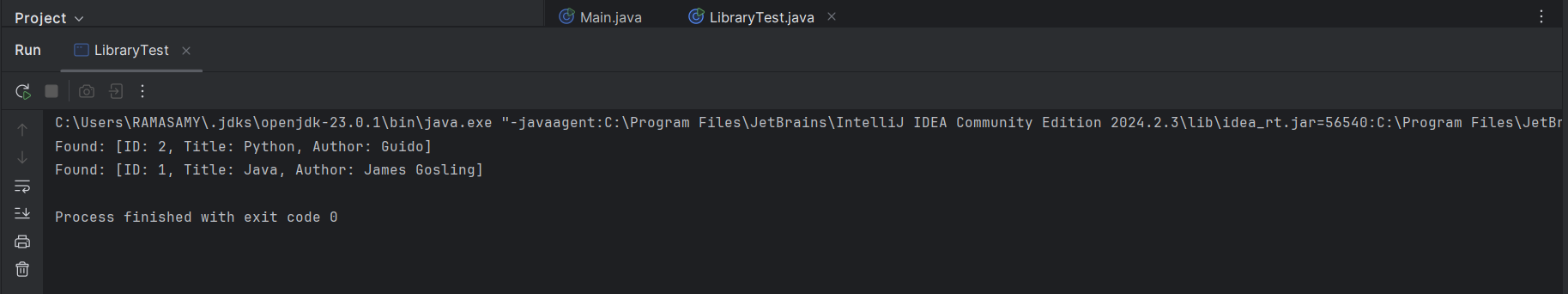
**Exercise 6: Library Management System**

**CODE:**

**LibraryTest.java**

import java.util.\*;  
class Book {  
 int bookId;  
 String title;  
 String author;  
  
 public Book(int bookId, String title, String author) {  
 this.bookId = bookId;  
 this.title = title;  
 this.author = author;  
 }  
  
 public String toString() {  
 return "[ID: " + bookId + ", Title: " + title + ", Author: " + author + "]";  
 }  
}  
  
class Library {  
 Book[] books = new Book[10];  
 int count = 0;  
  
 public void addBook(Book book) {  
 books[count++] = book;  
 }  
  
 public void linearSearch(String title) {  
 for (int i = 0; i < count; i++) {  
 if (books[i].title.equalsIgnoreCase(title)) {  
 System.*out*.println("Found: " + books[i]);  
 return;  
 }  
 }  
 System.*out*.println("Not found.");  
 }  
  
 public void sortBooks() {  
 Arrays.*sort*(books, 0, count, Comparator.*comparing*(b -> b.title));  
 }  
  
 public void binarySearch(String title) {  
 int left = 0, right = count - 1;  
 while (left <= right) {  
 int mid = (left + right) / 2;  
 int cmp = books[mid].title.compareToIgnoreCase(title);  
 if (cmp == 0) {  
 System.*out*.println("Found: " + books[mid]);  
 return;  
 } else if (cmp < 0) {  
 left = mid + 1;  
 } else {  
 right = mid - 1;  
 }  
 }  
 System.*out*.println("Not found.");  
 }  
}  
  
class LibraryTest {  
 public static void main(String[] args) {  
 Library lib = new Library();  
 lib.addBook(new Book(1, "Java", "James Gosling"));  
 lib.addBook(new Book(2, "Python", "Guido"));  
 lib.linearSearch("Python");  
 lib.sortBooks();  
 lib.binarySearch("Java");  
 }  
}

**OUTPUT:**

****