

Library Management System Test Cases

| Test Case ID | Test Case Name | Description | Preconditions | Test Steps | Test Data | Expected Result | Actual Result | Status |
|--------------|------------------------------------|--|--|---|------------------|---|---------------|--------|
| TC1 | Get Books by Valid Author | Verify method returns books for a valid author | Repository contains books by "Kent Beck" | 1. Call <code>getBooksByAuthor("Kent Beck")</code> | "Kent Beck" | List containing "Test Driven Development" | | |
| TC2 | Get Books by Unknown Author | Verify method returns an empty list for an unknown author | Repository does not contain books by "Unknown Author" | 1. Call <code>getBooksByAuthor("Unknown Author")</code> | "Unknown Author" | An empty list | | |
| TC3 | Get Books by Null Author | Verify method returns an empty list when the author is null | Repository contains some books | 1. Call <code>getBooksByAuthor(null)</code> | null | An empty list | | |
| TC4 | Get Books by Empty Author | Verify method returns an empty list when the author is an empty string | Repository contains some books | 1. Call <code>getBooksByAuthor("")</code> | "" | An empty list | | |
| TC5 | Get Books by Case-Sensitive Author | Verify method is case-sensitive when searching by author | Repository contains books by "Kent Beck" | 1. Call <code>getBooksByAuthor("kent beck")</code> | "kent beck" | An empty list | | |
| TC6 | Get Books by Valid Title | Verify method returns books for a valid title | Repository contains the book "Clean Code" | 1. Call <code>getBooksByTitle("Clean Code")</code> | "Clean Code" | List containing "Clean Code" | | |
| TC7 | Get Books by Unknown Title | Verify method returns an empty list for an unknown title | Repository does not contain books with the title "Unknown Title" | 1. Call <code>getBooksByTitle("Unknown Title")</code> | "Unknown Title" | An empty list | | |
| TC8 | Get Books by Null Title | Verify method returns an | Repository contains some books | 1. Call <code>getBooksByTitle(</code> | null | An empty list | | |

| | | | | | | | | |
|------|---|--|--|---|-------------------------------------|------------------------------|--|--|
| | | empty list when the title is null | | null) | | | | |
| TC9 | Get Books by Empty Title | Verify method returns an empty list when the title is an empty string | Repository contains some books | 1. Call <code>getBooks ByTitle("")</code> | "" | An empty list | | |
| TC10 | Get Books by Case-Sensitive Title | Verify method is case-sensitive when searching by title | Repository contains the book "Clean Code" | 1. Call <code>getBooks ByTitle("clean code")</code> | "clean code" | An empty list | | |
| TC11 | Get Books by Valid Author and Title | Verify method returns books for a valid author and title | Repository contains the book "Clean Code" by "Robert C. Martin" | 1. Call <code>getBooks ByAuthor AndTitle ("Robert C. Martin", "Clean Code")</code> | "Robert C. Martin", "Clean Code" | List containing "Clean Code" | | |
| TC12 | Get Books by Unknown Author and Title | Verify method returns an empty list for unknown author and title | Repository does not contain books by "Unknown Author" with the title "Unknown Title" | 1. Call <code>getBooks ByAuthor AndTitle ("Unknown Author", "Unknown Title")</code> | "Unknown Author", "Unknown Title" | An empty list | | |
| TC13 | Get Books by Valid Author and Invalid Title | Verify method returns an empty list for a valid author with an invalid title | Repository contains the book "Clean Code" by "Robert C. Martin" | 1. Call <code>getBooks ByAuthor AndTitle ("Robert C. Martin", "Unknown Title")</code> | "Robert C. Martin", "Unknown Title" | An empty list | | |
| TC14 | Get Books by Invalid Author and Valid Title | Verify method returns an empty list for an invalid author with a valid title | Repository contains the book "Clean Code" | 1. Call <code>getBooks ByAuthor AndTitle ("Unknown Author", "Clean Code")</code> | "Unknown Author", "Clean Code" | An empty list | | |
| TC15 | Get Books | Verify | Repository | 1. Call | null, | An empty | | |

| | | | | | | | | |
|------|--|--|---|---|--------------------------|---------------|--|--|
| | by Null Author and Title | method returns an empty list when both author and title are null | contains some books | getBooks ByAuthor AndTitle (null, null) | null | list | | |
| TC16 | Get Books by Valid Author and Null Title | Verify method returns an empty list for a valid author with a null title | Repository contains the book "Clean Code" by "Robert C. Martin" | 1. Call getBooks ByAuthor AndTitle ("Robert C. Martin", null) | "Robert C. Martin", null | An empty list | | |
| TC17 | Get Books by Null Author and Valid Title | Verify method returns an empty list for a null author with a valid title | Repository contains the book "Clean Code" | 1. Call getBooks ByAuthor AndTitle (null, "Clean Code") | null, "Clean Code" | An empty list | | |