CST8130 – Data Structures

Assignment <2> - Test Plan

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1. <Search Book Tests>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Test to see if user can search for a book that doesn't exist	5 111	Enter the code for the book: 111 Code not found in catalog...	Enter the code for the book: 111 Code not found in catalog...	PASS
Test to see if user can search for book that exists.	5 100	Enter the code for the book: 100 Book: 100, Title: Test, Quantity: 20, Author: Tester, Genre: Fiction Binary Search completed in 371000 nsec	Enter the code for the book: 100 Book: 100, Title: Test, Quantity: 20, Author: Tester, Genre: Fiction Binary Search completed in 371000 nsec	PASS
Test to see if the user can input a string as the input for the code.	5 Test	Enter the code for the book: Test Please enter an integer for the book code to search for...	Enter the code for the book: Test Please enter an integer for the book code to search for...	PASS

2. <Save File Test>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Test to see if you can save to	6 Test.txt	Enter the filename to save to: Test.txt	Enter the filename to save to: Test.txt	PASS

a file that doesn't exist.		Error: File does not exist.	Error: File does not exist.	
Test to see if you can save to a file that does exist.	6 MyLibrary.txt	Enter the filename to save to: MyLibrary.txt Library catalog successfully written to file.	Enter the filename to save to: MyLibrary.txt Library catalog successfully written to file.	PASS
Test to see if you can save to the same info twice to the same file.	6 MyLibrary.txt 2	Enter the filename to save to: MyLibrary.txt Library catalog successfully written to file. Library Catalog: Book: 111, Title: Test, Quantity: 200, Author: Testing, Genre: Fiction	Enter the filename to save to: MyLibrary.txt Library catalog successfully written to file. Library Catalog: Book: 111, Title: Test, Quantity: 200, Author: Testing, Genre: Fiction	PASS

3. <Read from File Test>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Test to see if you can read from a file that doesn't exist.	7 Test.txt	Enter the filename to read from: Test.txt Error: File does not exist.	Enter the filename to read from: Test.txt Error: File does not exist.	PASS
Test to see if you can read from a file that exists.	7 MyLibrary2.txt	Enter the filename to read from: MyLibrary2.txt Books successfully	Enter the filename to read from: MyLibrary2.txt Books successfully	PASS

		loaded from the file.	loaded from the file.	
Test to see if you can read from a file if you have duplicate book codes in your current catalog.	7 MyLibrary2.txt	Enter the filename to read from: MyLibrary2.txt Book code already exists Error Encountered while reading the file, aborting...	Enter the filename to read from: MyLibrary2.txt Book code already exists Error Encountered while reading the file, aborting...	PASS

4. <*Main Menu Test*>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Input of case 2 without having books in the catalog.	2	Library Catalog:	Library Catalog:	PASS
Input of case 3 without having books in the catalog.	3	Error...could not borrow book.	Error...could not borrow book.	PASS
Input of case 4 without having books in the catalog.	4	Error...could not return book.	Error...could not return book.	PASS
Input of case 8, testing exit sequence.	8	This program was created by: Shane O'Connell (#041144343) Exiting...	This program was created by: Shane O'Connell (#041144343) Exiting...	PASS
Enter a value above 8 in the menu to test for error checking.	9	Please enter an integer between 1 and 8.	Please enter an integer between 1 and 8.	PASS

Entering a String instead of an integer to test mismatch handling.	j	…Invalid input, please try again	…Invalid input, please try again	PASS

5. <Borrow Book Tests>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Test case 3 of the main menu to see if there is a book in the catalog.	3	Enter the code for the book:	Enter the code for the book:	PASS
Check for incorrect book code in the catalog.	222	Error…book not in the catalog.	Error…book not in the catalog.	PASS
Check to see if you can borrow the correct number of books from a book in the catalog.	111, 20	Enter the code for the book: 111 Enter valid quantity to borrow: 20	Enter the code for the book: 111 Enter valid quantity to borrow: 20	PASS

6. <Return Book Tests>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail

Test main menu case 4 to see if the return book knows there's a book in the catalog.	4	Enter the code for the book:	Enter the code for the book:	PASS
Check for incorrect book code in the catalog.	222	Error...book not in the catalog.	Error...book not in the catalog.	PASS
Check to see if you can return the correct number of books from a book in the catalog.	111, 20	Enter the code for the book: 111 Enter valid quantity to return: 20	Enter the code for the book: 111 Enter valid quantity to return: 20	PASS

7. <*Library addBook Tests*>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Test to see if you can add a full fiction book to the catalog	1, f, 100, Test, Shane Test, 10	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >f Enter the code for the book: 100 Enter the title of the book: Test Enter the author of the	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >f Enter the code for the book: 100 Enter the title of the book: Test Enter the author of the	PASS

		book: Shane Test Enter the quantity of the book: 10	book: Shane Test Enter the quantity of the book: 10	
Test to see if you can add a full non-fiction book to the catalog	1, n, 200, Test 2, Shane Test 2, 10, Study	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >n Enter the code for the book: 200 Enter the title of the book: Test 2 Enter the author of the book: Shane Test 2 Enter the quantity of the book: 10 Enter the field of Study: Study	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >n Enter the code for the book: 200 Enter the title of the book: Test 2 Enter the author of the book: Shane Test 2 Enter the quantity of the book: 10 Enter the field of Study: Study	<mark>PASS</mark>
Test to see if you can add a full non-fiction book to the catalog	1, r, 300, Test 3, Shane Test 3, 10, 1st	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >r Enter the code for the book: 300 Enter the title of the book: Test 3 Enter the author of the	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >r Enter the code for the book: 300 Enter the title of the book: Test 3 Enter the author of the	<mark>PASS</mark>

| | | book: Shane Test 3
Enter the quantity of the book: 10
Enter the edition of the book: 1st | book: Shane Test 3
Enter the quantity of the book: 10
Enter the edition of the book: 1st | |

8. <Library addBooks Tests Exception Handling/ Error Testing's>

Description of Test	Input Values	Expected Output	Actual Output / Result	Pass/Fail
Testing prompts to see if the user can enter "Hello" as the type of book they'd like to enter.	1, Hello	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > Hello Invalid entry, please enter f, n, or r. Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > Hello Invalid entry, please enter f, n, or r. Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? >	<mark>PASS</mark>
Trying to enter a string "hello" as the book code.	1, f, hello	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > f Enter the code for the book: hello	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > f Enter the code for the book: hello	<mark>PASS</mark>

		Invalid code. Please enter a valid integer. Enter the code for the book:	Invalid code. Please enter a valid integer. Enter the code for the book:	
Trying to input a negative value for the quantity of the book is incorrect.	1, f, 100, Title, Author, -12	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > f Enter the code for the book: hello Invalid code. Please enter a valid integer. Enter the code for the book: 100 Enter the title of the book: 100 Enter the author of the book: 100 Enter the quantity of the book: -12 Invalid quantity. Must be 0 or greater. Enter the quantity of the book:	Do you wish to add a Fiction(f), Non-Fiction(n), or Reference(r) book? > f Enter the code for the book: hello Invalid code. Please enter a valid integer. Enter the code for the book: 100 Enter the title of the book: 100 Enter the author of the book: 100 Enter the quantity of the book: -12 Invalid quantity. Must be 0 or greater. Enter the quantity of the book:	PASS