#### 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	6	Enter the	Enter the	PASS
you can save to	Test.txt	filename to	filename to	
		save to: Test.txt	save to: Test.txt	

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

## 3. < Read from File Test>

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

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

## 4. < Main Menu Test>

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

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

### 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	Errorbook not in the catalog.	Errorbook 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	Input Values	Expected	Actual Output	Pass/Fail
Test		Output	/ Result	

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	Errorbook not in the catalog.	Errorbook 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	Input Values	Expected	Actual Output	Pass/Fail
Test		Output	/ Result	
Test to see if	1, f, 100, Test,	Do you wish to	Do you wish to	PASS
you can add a	Shane Test,	add a	add a	
full fiction	10	Fiction(f),	Fiction(f),	
book to the		Non-	Non-	
catalog		Fiction(n), or	Fiction(n), or	
		Reference(r)	Reference(r)	
		book? >f	book? >f	
		Enter the code	Enter the code	
		for the book:	for the book:	
		100	100	
		Enter the title	Enter the title	
		of the book:	of the book:	
		Test	Test	
		Enter the	Enter the	
		author of the	author of the	

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

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