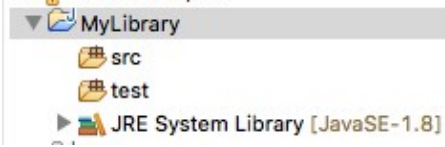


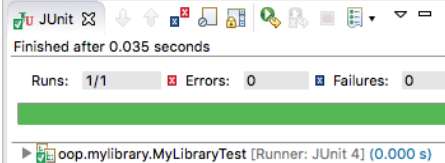


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S.No	Prio.	Story	Test	Example	Notes
1	1	As a Programmer, I want a Project in which I can develop the MyLibrary Program, so I can use Eclipse.	MyLibrary is one of the Projects in my Eclipse with a src and a test folder.		
2	2	As a Programmer, I want a class called MyLibrary in a package called oop.mylibrary in the src folder, so I can use Eclipse.	The MyLibrary Project has a class in the src directory and the oop.mylibrary package called MyLibrary		
3	3	As a Programmer, I want a JUnit test called MyLibraryTest in a package called oop.mylibrary in the test, so I can use Eclipse.	The MyLibrary Project has a JUnit test in the test directory and the oop.mylibrary package called MyLibraryTest		
4	4	As a Programmer, I want a test in MyLibraryTest that will test the constructor.	MyLibraryTest has the code shown in the Example in it.	<pre>package oop.mylibrary; import static org.junit.Assert.*; import static org.hamcrest.CoreMatchers.instanceOf; import org.junit.Test; public class MyLibraryTest { @Test public void testConstructor() { MyLibrary ml = new MyLibrary(); assertThat(ml, instanceOf(MyLibrary.class)); } }</pre>	
5	5	As a programmer, I want MyLibrary test to run, so I can test my class.	Run the MyLibraryTest, to make sure it runs		

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6	6	As a Programmer, I want to create and run a test that will check that getFriends() will return an empty array on an newly created MyLibrary and that it's type is ArrayList<Friend>	Add an run the following test to MyLibraryTest	<pre> @Test public void testGetFriends() { ml = new MyLibrary(); assertEquals(0, ml.getFriends().size()); assertNotNull(ml.getFriends(), instanceOf(ArrayList.class)); } </pre>	
7	7	As a Programmer, I want to create and run tests that will check that getItems and getLoans() in the same way the test check getFriends.	Add tests like the ones in story 6 to the program and run them.		
8	8	As a Programmer, I want to create and run a test that will check that addFriend() will add a Friend to friends.	Add and run a the test to the right in MyLibraryTest.	<pre> @Test public void testAddFriend() { ml = new MyLibrary(); Friend testFriend = new Friend("bob", "here", "123", "bob@bob"); assertEquals(0, ml.getFriends().size()); assertNotNull(ml.getFriends(), instanceOf(ArrayList.class)); ml.addFriend(testFriend); assertEquals(1, ml.getFriends().size()); } </pre>	
9	9	As a Programmer, I want to create and run tests that will check that addItem() and addLoan will add an Item and a Loan to items and friends, to create my the MyLibrary class.	Add tests like the ones in story 8 to the program and run them.		

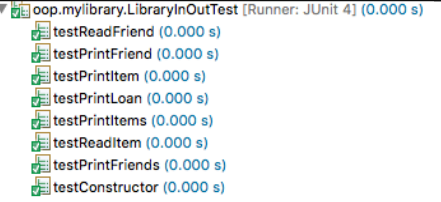
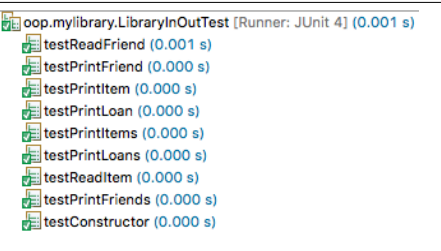

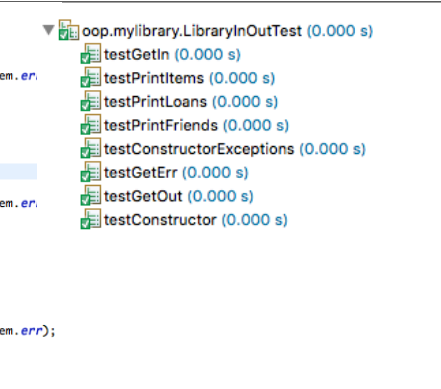
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10	10	As a Programmer, I want to test all of the getters and setters in the Friend class, to create my Friend class.	Create a new JUnit test case called FriendTest. Write tests that will test the constructor, setName, getName, setAddr, getAddr, setPhone, getPhone, setEmail, and getEmail.	<ul style="list-style-type: none"> oop.mylibrary.FriendTest [Runner: JUnit 4] (0.000 s) <ul style="list-style-type: none"> testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	
11	11	As a Programmer, I want to test all of the getters and setters in the Item class, to create my Item class.	Create a new JUnit test case called ItemTest. Write tests that will test the constructor, setDescription, and getDescription.	<ul style="list-style-type: none"> oop.mylibrary.ItemTest [Runner: JUnit 4] (0.000 s) <ul style="list-style-type: none"> testSetDescription (0.000 s) testConstructor (0.000 s) 	
12	12	As a Programmer, I want to test all of the getters and setters in the Loan class, to create my Loan class.	Create a new JUnit test case called itemLoan. Write tests that will test the constructor, setFriend, getFriend, and setItem getItem.	<ul style="list-style-type: none"> oop.mylibrary.LoanTest [Runner: JUnit 4] (0.000 s) <ul style="list-style-type: none"> testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	
13	13	As a programmer, I want to run all of my tests at the same time, so I can test all of my program every time I add to it.	Create a new JUnit test suite that contains all of the test cases you have written.	<ul style="list-style-type: none"> oop.mylibrary.AllTests [Runner: JUnit 4] (0.001 s) <ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.001 s) oop.mylibrary.ItemTest (0.000 s) oop.mylibrary.LoanTest (0.000 s) oop.mylibrary.MyLibraryTest (0.000 s) 	
14	14	As a programmer, I want a LibraryInOut class that has a constructor that takes one BufferedReader and two PrintStreams, so I can print either to the standard input, output and error, or to a string for testing.	The class will have three protected functions called getIn, which returns the class's input, getOut, which returns the class's output, and getErr, which returns the class's error.	<pre> @Test public void testConstructor() { BufferedReader in = new BufferedReader(new StringReader("test")); PrintStream out = new PrintStream(new ByteArrayOutputStream()); PrintStream err = new PrintStream(new ByteArrayOutputStream()); lio = new LibraryInOut(in, out, err); assertThat(lio.getIn(), instanceof(BufferedReader.class)); assertThat(lio.getOut(), instanceof(PrintStream.class)); assertThat(lio.getErr(), instanceof(PrintStream.class)); lio = new LibraryInOut(in); } </pre>	
15	15	As a programmer, I want to test the functions that print a Friend class with the fields separated by tabs.	If a Friend called f has name = "bob", address = "here", phone = "123" and email = "bob@bob", print(f) will print "bob\tthere\t123\tbob@bob"	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) <ul style="list-style-type: none"> testPrintFriend (0.000 s) testConstructor (0.000 s) 	

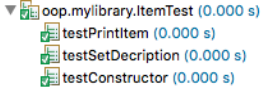
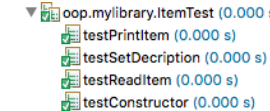


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16	16	As a programmer, I want to test the functions that print an Item class as the field.	If an Item called i has description = "test", print(i) will print "test"	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testConstructor (0.000 s) 	
17	17	As a programmer, I want to test the functions that print a Loan class as the fields in the Friend in its friend followed by a tab, followed by "borrowed", followed by another tab, followed by the Item in the item field.	If a Friend called f has name = "bob", address = "here", phone = "123" and email = "bob@bob" and an Item called i has description = "test" and a Loan object = "test" and a Loan object called l is created using the constructor Loan(f, i), then print(l) will print "bob\tthere\t123\tbob@bob\tborrowed\ttest".	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.001 s) testPrintFriend (0.001 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testConstructor (0.000 s) 	
18	18	As a programmer, I want to test the function that reads a Friend class.	If a Friend called f reads "bob", "here", "123", and "bob@bob" each on a separate line, it will have name = "bob", address = "here", phone = "123" and email = "bob@bob" after f = readFriend();	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.001 s) testReadFriend (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testConstructor (0.000 s) 	
19	19	As a programmer, I want to test the function that reads an Item class.	If an Item called i reads "test", it will have description = "test" after i = readItem();	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) testReadFriend (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testReadItem (0.000 s) testConstructor (0.000 s) 	
20	20	As a programmer, I want to test the function that prints a list of Friends.	If an ArrayList of Friend is printed. It will print each of the elements of the list as print(Friend) does followed by a newline.	<ul style="list-style-type: none"> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) testReadFriend (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testReadItem (0.000 s) testPrintFriends (0.000 s) testConstructor (0.000 s) 	

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21	21	As a programmer, I want to test the function that prints a list of Items.	If an ArrayList of Item is printed. It will print each of the elements of the list as print(Item) does followed by a newline.	 <pre> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) testReadFriend (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testPrintItems (0.000 s) testReadItem (0.000 s) testPrintFriends (0.000 s) testConstructor (0.000 s) </pre>	
22	22	As a programmer, I want to test the function that prints a list of Loan.	If an ArrayList of Loan is printed. It will print each of the elements of the list as print(Loan) does followed by a newline.	 <pre> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.001 s) testReadFriend (0.001 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testReadItem (0.000 s) testPrintFriends (0.000 s) testConstructor (0.000 s) </pre>	
23	23	As a programmer, I want to test that the constructor for LibraryInOut throws a NullPointerException if it is passed null as any of its parameters	If the Library constructor is called with a null value as any of its parameters, it will throw a NullPointerException.	 <pre> oop.mylibrary.LibraryInOutTest [Runner: JUnit 4] (0.000 s) testReadFriend (0.000 s) testPrintFriend (0.000 s) testPrintItem (0.000 s) testPrintLoan (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testReadItem (0.000 s) testPrintFriends (0.000 s) testConstructorExceptions (0.000 s) testConstructor (0.000 s) </pre>	
24	24	As a Programmer, I want my I/O class to provide getters and setters for the streams in, out and err, so I can begin moving my print functions to the classes where they belong		<pre> @Test public void testGetIn() { BufferedReader in = new BufferedReader(new InputStreamReader(System.in)); lio = new LibraryInOut(in, System.out, System.err); assertEquals(in, lio.getIn()); } @Test public void testGetOut() { BufferedReader in = new BufferedReader(new InputStreamReader(System.in)); lio = new LibraryInOut(in, System.out, System.err); assertEquals(System.out, lio.getOut()); } @Test public void testGetErr() { BufferedReader in = new BufferedReader(new InputStreamReader(System.in)); lio = new LibraryInOut(in, System.out, System.err); assertEquals(System.err, lio.getErr()); } </pre>  <pre> oop.mylibrary.LibraryInOutTest (0.000 s) testGetIn (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testPrintFriends (0.000 s) testConstructorExceptions (0.000 s) testGetErr (0.000 s) testGetOut (0.000 s) testConstructor (0.000 s) </pre>	

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25	25	<p>As a Programmer, I want my Item class to provide a print function for the Item, to make the program easier to understand.</p>	<pre>@Test public void testPrintItem() { ByteArrayOutputStream stuffPrinted = new ByteArrayOutputStream(); PrintStream out = new PrintStream(stuffPrinted); item = new Item("test"); item.print(out); assertEquals("test", stuffPrinted.toString()); }</pre>	 <ul style="list-style-type: none"> oop.mylibrary.ItemTest (0.000 s) <ul style="list-style-type: none"> testPrintItem (0.000 s) testSetDescription (0.000 s) testConstructor (0.000 s) 	
26	26	<p>As a Programmer, I want my Item class to provide a read function for the Item, to make the program easier to understand.</p>	<pre>@Test public void testReadItem() { BufferedReader in = new BufferedReader(new StringReader("test")); try { item.read(in, System.out); assertEquals("test", item.getDescription()); } catch (IOException e) { e.printStackTrace(); fail("Test threw IOException" + " with message: " + e.getMessage()); } }</pre>	 <ul style="list-style-type: none"> oop.mylibrary.ItemTest (0.000 s) <ul style="list-style-type: none"> testPrintItem (0.000 s) testSetDescription (0.000 s) testReadItem (0.000 s) testConstructor (0.000 s) 	
27	27	<p>As a Programmer, I want my Friend class to provide a print function for the Item, to make the program easier to understand.</p>	<p>The FriendTest class has a test function that calls the print() method on a Friend object and tests that it was printed properly similar to the way testPrintItem tests the call to the print () method on an Item.</p>	 <ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.000 s) <ul style="list-style-type: none"> testPrintFriend (0.000 s) testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	
28	28	<p>As a Programmer, I want my Friend class to provide a read function for the Item, to make the program easier to understand.</p>	<p>The FriendTest class has a test function that calls the read() method on a Friend object and tests that it was read properly similar to the way testReadItem tests the call to the print () method on an Item.</p>	 <ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.000 s) <ul style="list-style-type: none"> testReadFriend (0.000 s) testPrintFriend (0.000 s) testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	

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29	29	As a Programmer, I want my Loan class to provide a print function for the Item, to make the program easier to understand.	The LoanTest class has a test function that calls the print() method on a Loan object and tests that it was printed properly similar to the way testPrintItem tests the call to the print () method on an Item.	<ul style="list-style-type: none"> oop.mylibrary.LoanTest (0.000 s) <ul style="list-style-type: none"> testPrintLoan (0.000 s) testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	
30	30	As a Programmer, I want my Loan class to provide a read function for the Item, to make the program easier to understand.	The LoanTest class has a test function that calls the read() method on a Loan object and tests that it was read properly similar to the way testReadItem tests the call to the print () method on an Item.	<ul style="list-style-type: none"> oop.mylibrary.LoanTest (0.000 s) <ul style="list-style-type: none"> testPrintLoan (0.000 s) testReadLoan (0.000 s) testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	
31	31	As a Programmer, I want MyLibrary to be able to print an ArrayList of Items, so I can see my Items in MyLibrary	The MyLibraryTest class has a test function that calls the printItems() function in the MyLibrary class and checks that it prints a list of the Items stored in the MyLibrary class.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.000 s) <ul style="list-style-type: none"> testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testPrintItems (0.000 s) testGetFriends (0.000 s) testAddFriend (0.000 s) testLoadMyLibrary (0.000 s) testConstructor (0.000 s) 	
32	32	As a Programmer, I want MyLibrary to be able to print an ArrayList of Friend, so I can see my Friends in MyLibrary	The MyLibraryTest class has a test function that calls the printFriends() function in the MyLibrary class and checks that it prints a list of the Friends stored in the MyLibrary class.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.000 s) <ul style="list-style-type: none"> testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testPrintItems (0.000 s) testGetFriends (0.000 s) testAddFriend (0.000 s) testPrintFriends (0.000 s) testLoadMyLibrary (0.000 s) testConstructor (0.000 s) 	

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33	33	As a Programmer, I want MyLibrary to be able to print an ArrayList of Loans, so I can see my Loans in MyLibrary	The MyLibraryTest class has a test function that calls the printLoans() function in the MyLibrary class and checks that it prints a list of the Loans stored in the MyLibrary class.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.000 s) testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testGetFriends (0.000 s) testAddFriend (0.000 s) testPrintFriends (0.000 s) testConstructor (0.000 s) 	
34	34	As a Programmer, I want a MyLibrary to be able to print the lists of friends, items and loans so I can see what is in it.	The MyLibraryTest class has a test function that calls the print() function in the MyLibrary class and checks that it prints a list of the Loans stored in the MyLibrary class.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.000 s) testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testGetFriends (0.000 s) testAddFriend (0.000 s) testPrintFriends (0.000 s) testPrintLibrary (0.000 s) testConstructor (0.000 s) 	
35	35	As a User, I want to be able to save the Items I lend to people, so I can save them over time.	A test is able to write the list of Items created by the test function to the disk.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.001 s) testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testPrintItems (0.001 s) testPrintLoans (0.000 s) testGetFriends (0.000 s) testAddFriend (0.000 s) testPrintFriends (0.000 s) testSaveItems (0.000 s) testPrintLibrary (0.000 s) testConstructor (0.000 s) 	
36	36	As a User, I want to be able to save Items I have written to disk, so I can manage them over time.	A test is able to save an Item to a PrintStream.	<ul style="list-style-type: none"> oop.mylibrary.ItemTest (0.000 s) testSaveItem (0.000 s) testPrintItem (0.000 s) testSetDescription (0.000 s) testReadItem (0.000 s) testConstructor (0.000 s) 	
37	37	As a User, I want to be able to load an item from disk, so I can manage them over time.	A test is able to load an item from a Scanner.	<ul style="list-style-type: none"> oop.mylibrary.ItemTest (0.000 s) testLoadItem (0.000 s) testSaveItem (0.000 s) testPrintItem (0.000 s) testSetDescription (0.000 s) testReadItem (0.000 s) testConstructor (0.000 s) 	

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38	38	As a User, I want to be able to load and save an Item to a file and then read the object back from the file, so I can manage them over time.	A test is able to open a file, write the contents of an Item object to that file, and read the Item back in.	<ul style="list-style-type: none"> oop.mylibrary.ItemTest (0.000 s) <ul style="list-style-type: none"> testLoadItem (0.000 s) testSaveItem (0.000 s) testPrintItem (0.000 s) testSetDescription (0.000 s) testReadItem (0.000 s) testSaveLoadItems (0.000 s) testConstructor (0.000 s) 	
39	39	As a User, I want to be able to save a Friend I have written to disk, so I can manage them over time.	A test is able to save a Friend object to a PrintStream	<ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.001 s) <ul style="list-style-type: none"> testReadFriend (0.000 s) testPrintFriend (0.001 s) testSaveFriend (0.000 s) testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	
40	40	As a User, I want to be able to load a Friend from disk, so I can manage them over time.	A test is able to load an Friend object from a Scanner.	<ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.000 s) <ul style="list-style-type: none"> testReadFriend (0.000 s) testPrintFriend (0.000 s) testLoadFriend (0.000 s) testSaveFriend (0.000 s) testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	
41	41	As a User, I want to be able to load and save a Friend object to a file and then read the Friend object back from the file, so I can manage them over time.	A test is able to open a file, write the contents of an Friend object to that file, and read the Friend back in.	<ul style="list-style-type: none"> oop.mylibrary.FriendTest (0.000 s) <ul style="list-style-type: none"> testReadFriend (0.000 s) testPrintFriend (0.000 s) testLoadFriend (0.000 s) testSaveFriend (0.000 s) testSaveLoadFriends (0.000 s) testSetAddr (0.000 s) testSetName (0.000 s) testConstructor (0.000 s) testSetEmail (0.000 s) testSetPhone (0.000 s) 	
42	42	As a User, I want to be able to save a Loan I have written to disk, so I can manage them over time.	A test is able to save a Loan object to a PrintStream	<ul style="list-style-type: none"> oop.mylibrary.LoanTest (0.000 s) <ul style="list-style-type: none"> testSaveLoan (0.000 s) testPrintLoan (0.000 s) testReadLoan (0.000 s) testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	

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43	43	As a User, I want to be able to load a Loan object from disk, so I can manage them over time.	A test is able to load an Loan object from a Scanner.	<ul style="list-style-type: none"> oop.mylibrary.LoanTest (0.000 s) <ul style="list-style-type: none"> testLoadLoan (0.000 s) testSaveLoan (0.000 s) testPrintLoan (0.000 s) testReadLoan (0.000 s) testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	
44	44	As a User, I want to be able to load and save a Loan object to a file and then read the Loan object back from the file, so I can manage them over time.	A test is able to open a file, write the contents of an Loan object to that file, and read the Loan back in. The Loan object will point to Friend and Item objects in the friends and items lists in the library.	<ul style="list-style-type: none"> oop.mylibrary.LoanTest (0.000 s) <ul style="list-style-type: none"> testLoadLoan (0.000 s) testSaveLoadLoan (0.000 s) testSaveLoan (0.000 s) testPrintLoan (0.000 s) testReadLoan (0.000 s) testSetFriend (0.000 s) testSetItem (0.000 s) testConstructor (0.000 s) 	
45	45	As a User, I want to be able to read all of the things in my library that I have written to disk back in to the program, so I can manage them over time.	A test is able to write the lists of Items, Friends and Loans created by a test function to the disk, then read them back in.	<ul style="list-style-type: none"> oop.mylibrary.MyLibraryTest (0.000 s) <ul style="list-style-type: none"> testSaveMyLibrary (0.000 s) testGetItems (0.000 s) testGetLoans (0.000 s) testAddItem (0.000 s) testAddLoan (0.000 s) testLoadSaveLibrary (0.000 s) testFindFriend (0.000 s) testPrintItems (0.000 s) testPrintLoans (0.000 s) testGetFriends (0.000 s) testFindItem (0.000 s) testAddFriend (0.000 s) testPrintFriends (0.000 s) testInitialization (0.000 s) testPrintLibrary (0.000 s) testLoadMyLibrary (0.000 s) testConstructor (0.000 s) 	
46	46	As a user, I want a user interface that will let me display my items, so I can see what I lend.			
47	47	As a user, I want a user interface that will let me display my friends, so I can see I lend things to.			

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48	48	As a user, I want a user interface that will let me display my loans, so I can see what is currently lent out.			
49	49	As a user, I want a user interface that will let me delete a loan, so I can delete a loan when the item is returned.			
50	50	As a user, I want a user interface that will let me save my database.			
51	51	As a user, I want a user interface that will let me load my database.			