

Testing

This is a result of test cases for major functions (creating the inventory, displaying the inventory, adding a book, removing a book, exporting the inventory).

Scenario	Creating the inventory
Testing	Importing the books from the external text file to a list of Book objects.
Action(s) taken	Read contents from the external file (books.txt) and stored that information inside the inventory list, then print all lines of the inventory list to check its contents.
Test data	<pre>Code: inventory = list() with open('books.txt','r') as b: for line in b: parts = line.split(';') inventory.append(Books(parts[0], parts[1], parts[2], parts[3], parts[4], parts[5])) #check inventory for line in inventory: print(line.Title, line.Author, line.ISBN, line.CallNumber, line.Stock, line.Loaned)</pre>
Expected result	<p>The list “inventory” contains all books’ information from the external file showing below.</p> <pre>Mastering Windows Server 2019 – Second Edition;Krause,Jordan;978-1789804539;005.4476/KRA;5;3; Windows Server 2019 & PowerShell All In One For Dummies;Perrot,Sara;978-1119560715;005.4476/PER;10;2; Windows Server Automation with PowerShell Cookbook – Fourth Edition;Lee,Thomas;978-1800568457;005.4476/LEE;3;1; Python Cookbook: Recipes for Mastering Python 3;Beazley,David;978-1449340377;005.133/BEA;10;8; Automate the Boring Stuff With Python;Sweigart,Al;978-1593275990;005.133/SWE;10;10; Head First Python – 2nd Edition;Barry,Paul;978-1491919538;005.133/BAR;4;2; Python Crash Course – 2nd Edition;Matthes,Eric;978-1593279288;005.133/MAT;12;8; Python for Dummies;Maruch,Stef;978-0471778646;005.133/MAR;5;0; Beginning Programming with Python for Dummies;Mueller,John Paul;978-1119457893;005.133/MUE;7;5; Beginning COBOL for Programmers;Coughlan,Michael;978-1430262534;005.133/COU;1;0;</pre>
Actual result	<p>List inventory contains all the book information from the external file.</p> <pre>Mastering Windows Server 2019 – Second Edition Krause,Jordan 978-1789804539 005.4476/KRA 5 3 Windows Server 2019 & PowerShell All In One For Dummies Perrot,Sara 978-1119560715 005.4476/PER 10 2 Windows Server Automation with PowerShell Cookbook – Fourth Edition Lee,Thomas 978-1800568457 005.4476/LEE 3 1 Python Cookbook: Recipes for Mastering Python 3 Beazley,David 978-1449340377 005.133/BEA 10 8 Automate the Boring Stuff With Python Sweigart,Al 978-1593275990 005.133/SWE 10 10 Head First Python – 2nd Edition Barry,Paul 978-1491919538 005.133/BAR 4 2 Python Crash Course – 2nd Edition Matthes,Eric 978-1593279288 005.133/MAT 12 8 Python for Dummies Maruch,Stef 978-0471778646 005.133/MAR 5 0 Beginning Programming with Python for Dummies Mueller,John Paul 978-1119457893 005.133/MUE 7 5 Beginning COBOL for Programmers Coughlan,Michael 978-1430262534 005.133/COU 1 0</pre>
Pass/Fail	Pass

Scenario	Displaying the inventory
Testing	Iterating through each object in the inventory and displaying their details.
Action(s) taken	Checked if the program can display all books' details in the inventory list, and if table formatting is correct.
Test data	<p>Code:</p> <pre>def DisplayInventory(): print('{:50}\t{:20}\t{:13}\t{:13}\t{:^10}\t{:^10}\t{:^10}\t'.format("Title", "Author","ISBN","Call Number","Stock","Loaned","Available")) for line in inventory: Available = int(line.Stock) - int(line.Loaned) print ('{:50.50}\t{:20}\t{:13}\t{:13}\t{:^10}\t{:^10}\t{:^10}\t'.format(line.Title, line.Author, line.ISBN, line.CallNumber, line.Stock, line.Loaned, Available)) #check inventory DisplayInventory()</pre>
Expected result	<p>Display a table as the example.</p> <pre> Displaying Westlands Books Inventory Name Author ISBN Call Number Stock Loaned Available Mastering Windows Server 2019 - Second Edition Krause,Jordan 978-1789804539 005.4476/KRA 5 3 2 Windows Server 2019 & PowerShell All In One For Du Perrot,Sara 978-1119560715 005.4476/DUM 10 2 8 Windows Server Automation with PowerShell Cookbook Lee,Thomas 978-1800568457 005.4476/LEE 3 1 2 Python Cookbook: Recipes for Mastering Python 3 Beazley,David 978-1449340377 005.133/BEA 10 8 2 Automate the Boring Stuff With Python Sweigart,Al 978-1593275990 005.133/SWE 10 10 0 Head First Python - 2nd Edition Barry,Paul 978-1491919538 005.133/BAR 4 2 2 Python Crash Course - 2nd Edition Matthes,Eric 978-1593279288 005.133/MAT 12 8 4 Python for Dummies Maruch,Stef 978-0471778646 005.133/DUM 5 0 5 Beginning Programming with Python for Dummies Mueller,John Paul 978-1119457893 005.133/DM 7 5 2 Beginning COBOL for Programmers Coughlan,Michael 978-1430262534 005.133/COU 1 0 1 </pre>
Actual result	<p>Displayed a table same as the example.</p> <pre> Displaying Westlands Books Inventory Title Author ISBN Call Number Stock Loaned Availab Mastering Windows Server 2019 - Second Edition Krause,Jordan 978-1789804539 005.4476/KRA 5 3 2 Windows Server 2019 & PowerShell All In One For Du Perrot,Sara 978-1119560715 005.4476/PER 10 2 8 Windows Server Automation with PowerShell Cookbook Lee,Thomas 978-1800568457 005.4476/LEE 3 1 2 Python Cookbook: Recipes for Mastering Python 3 Beazley,David 978-1449340377 005.133/BEA 10 8 2 Automate the Boring Stuff With Python Sweigart,Al 978-1593275990 005.133/SWE 10 10 0 Head First Python - 2nd Edition Barry,Paul 978-1491919538 005.133/BAR 4 2 2 Python Crash Course - 2nd Edition Matthes,Eric 978-1593279288 005.133/MAT 12 8 4 Python for Dummies Maruch,Stef 978-0471778646 005.133/MAR 5 0 5 Beginning Programming with Python for Dummies Mueller,John Paul 978-1119457893 005.133/MUE 7 5 2 Beginning COBOL for Programmers Coughlan,Michael 978-1430262534 005.133/COU 1 0 1 </pre>
Pass/Fail	Pass



Scenario	Adding a book
Testing	Adding a new book to the inventory
Action(s) taken	Input new book details following the prompt, and check the contents of the inventory list to see if the new book has been added.

Test data	Code:
	<pre>newtitle = input("Title>") newauthor = input("Author>") newISBN = input("ISBN>") newCallnumber = input("Call Number>") newstock = input("Stock>") newloaned = input("Loaned>") ad = Books(newtitle, newauthor, newISBN, newCallnumber, newstock, newloaned) inventory.append(ad) #check inventory DisplayInventory()</pre>
	Book data:
	Data 1: Harry Potter, J.K. Rowling, 978-1111111111, 005.133/HAR, 8, 5
	Data2: Norwegian Wood, Murakami,Haruki, 978-2222222222, 005.133/NOR, 6, 2
Expected result	New book which the user input will be added at the end of the inventory list.
Actual result	Books information were added in the inventory list, and displayed on the inventory table. (As my input, Harry Potter and Norwegian Wood were on the table.)
	<pre>Adding a New Book Title>Norwegian Wood Author>Murakami,Haruki ISBN>978-2222222222 Call Number>005.133/NOR Stock>6 Loaned>2 Title Mastering Windows Server 2019 – Second Edition Windows Server 2019 & PowerShell All In One For Du Windows Server Automation with PowerShell Cookbook Python Cookbook: Recipes for Mastering Python 3 Automate the Boring Stuff With Python Head First Python – 2nd Edition Python Crash Course – 2nd Edition Python for Dummies Beginning Programming with Python for Dummies Beginning COBOL for Programmers Harry Potter Norwegian Wood Author Krause,Jordan Perrot,Sara Lee,Thomas Beazley,David Sweigart,Al Barry,Paul Matthes,Eric Maruch,Stef Mueller,John Paul Coughlan,Michael J.K. Rowling Murakami,Haruki ISBN 978-1789804539 978-1119560715 978-1800560457 978-1449340377 978-1593275990 978-1491919538 978-1593279288 978-0471778646 978-1119457893 978-1430262534 978-1111111111 978-2222222222 Call Number 005.4476/KRA 005.4476/PER 005.4476/LEE 005.133/BEA 005.133/SWE 005.133/BAR 005.133/MAT 005.133/MAR 005.133/MUE 005.133/COU 005.133/HAR 005.133/NOR Stock 5 10 3 10 10 4 12 5 7 1 8 6 Loaned 3 2 1 8 10 2 8 0 5 0 5 2 Availab 2 8 2 2 0 2 4 5 2 1 3 4</pre>
Pass/Fail	Pass

Scenario	Removing a book
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Testing	Removing an individual book from the inventory
Action(s) taken	Input an Author and a Call number of the book which we want to remove, then check the contents of the inventory list to see if these books have been removed.
Test data	<p>Code:</p> <pre> Author = input("Author>") CallNumber = input("Call Number>") for item in inventory: if item.Author == Author and item.CallNumber == CallNumber: inventory.remove(item) #check inventory DisplayInventory() </pre> <p>Target book:</p> <ol style="list-style-type: none"> 1. Beginning COBOL for Programmers 2. Python for Dummies
Expected result	The targeted books will be removed from the inventory list and will not be displayed on the table.
Actual result	<p>Targeted books were successfully removed from the list and inventory table.</p> <pre> Removing a Book Author>Maruch,Stef Call Number>005.133/MAR Title Mastering Windows Server 2019 - Second Edition Windows Server 2019 & PowerShell All In One For Du Windows Server Automation with PowerShell Cookbook Python Cookbook: Recipes for Mastering Python 3 Automate the Boring Stuff With Python Head First Python - 2nd Edition Python Crash Course - 2nd Edition Beginning Programming with Python for Dummies Author Krause,Jordan Perrot,Sara Lee,Thomas Beazley,David Sweigart,Al Barry,Paul Matthes,Eric Mueller,John Paul ISBN 978-1789804539 978-1119560715 978-1080568457 978-1449340377 978-1593275990 978-1491919538 978-1593279208 978-1119457893 Call Number 005.4476/KRA 005.4476/PER 005.4476/LEE 005.133/BEA 005.133/SWE 005.133/BAR 005.133/MAT 005.133/MUE Stock 5 10 3 10 10 4 12 7 Loaned 3 2 1 8 10 2 8 5 Available 2 8 2 2 0 2 4 2 </pre>
Pass/Fail	Pass

Scenario	Exporting the inventory																																																																													
Testing	Exporting the inventory to the external text file																																																																													
Action(s) taken	Export the inventory and rewrite the external file after added/removed books from the original file. Then compared contents of both the system and external file.																																																																													
Test data	<p>Code:</p> <pre>with open('books.txt','w') as p: for line in inventory: p.write ('{};{};{};{};{}\n'.format(line.Title, line.Author,line.ISBN,line.CallNumber,line.Stock,line.Loaned)) print("Export complete") print("") #check Inventory DisplayInventory()</pre> <p>Book added: Harry Potter</p> <p>Book removed: Beginning COBOL for Programmers</p>																																																																													
Expected result	The information of the book “Harry Potter” will be added, and the book “Beginning COBOL for Programmers” will be removed from the external file.																																																																													
Actual result	<p>The contents of the inventory list which was displayed on the program have been exported successfully. (The book “Beginning COBOL for Programmers” has been removed from the original file, and the new book “Harry Potter” is on the file.)</p> <p>Test result on the program:</p> <pre>1. Display Inventory 2. Add a book 3. Remove a book 4. Export inventory 5. Quit IMS select an option from the menu>4 Exporting Inventory Export complete</pre> <table><thead><tr><th>Title</th><th>Author</th><th>ISBN</th><th>Call Number</th><th>Stock</th><th>Loaned</th><th>Available</th></tr></thead><tbody><tr><td>Mastering Windows Server 2019 – Second Edition</td><td>Krause,Jordan</td><td>978-1789804539</td><td>005.4476/KRA</td><td>5</td><td>3</td><td>2</td></tr><tr><td>Windows Server 2019 & PowerShell All In One For Du</td><td>Perrot,Sara</td><td>978-1119568715</td><td>005.4476/PER</td><td>10</td><td>2</td><td>8</td></tr><tr><td>Windows Server Automation with PowerShell Cookbook</td><td>Lee,Thomas</td><td>978-1808568457</td><td>005.4476/LEE</td><td>3</td><td>1</td><td>2</td></tr><tr><td>Python Cookbook: Recipes for Mastering Python 3</td><td>Beazley,David</td><td>978-1449340377</td><td>005.133/BEA</td><td>10</td><td>8</td><td>2</td></tr><tr><td>Automate the Boring Stuff With Python</td><td>Sweigart,Al</td><td>978-1593275990</td><td>005.133/SWE</td><td>10</td><td>10</td><td>0</td></tr><tr><td>Head First Python – 2nd Edition</td><td>Barry,Paul</td><td>978-1491919538</td><td>005.133/BAR</td><td>4</td><td>2</td><td>2</td></tr><tr><td>Python Crash Course – 2nd Edition</td><td>Matthes,Eric</td><td>978-1593279288</td><td>005.133/MAT</td><td>12</td><td>8</td><td>4</td></tr><tr><td>Python for Dummies</td><td>Maruch,Stef</td><td>978-0471778646</td><td>005.133/MAR</td><td>5</td><td>0</td><td>5</td></tr><tr><td>Beginning Programming with Python for Dummies</td><td>Mueller,John Paul</td><td>978-1119457893</td><td>005.133/MUE</td><td>7</td><td>5</td><td>2</td></tr><tr><td>Harry Potter</td><td>J.K. Rowling</td><td>978-1111111111</td><td>005.133/HAR</td><td>8</td><td>5</td><td>3</td></tr></tbody></table> <p>Books.txt after exported new inventory.</p>	Title	Author	ISBN	Call Number	Stock	Loaned	Available	Mastering Windows Server 2019 – Second Edition	Krause,Jordan	978-1789804539	005.4476/KRA	5	3	2	Windows Server 2019 & PowerShell All In One For Du	Perrot,Sara	978-1119568715	005.4476/PER	10	2	8	Windows Server Automation with PowerShell Cookbook	Lee,Thomas	978-1808568457	005.4476/LEE	3	1	2	Python Cookbook: Recipes for Mastering Python 3	Beazley,David	978-1449340377	005.133/BEA	10	8	2	Automate the Boring Stuff With Python	Sweigart,Al	978-1593275990	005.133/SWE	10	10	0	Head First Python – 2nd Edition	Barry,Paul	978-1491919538	005.133/BAR	4	2	2	Python Crash Course – 2nd Edition	Matthes,Eric	978-1593279288	005.133/MAT	12	8	4	Python for Dummies	Maruch,Stef	978-0471778646	005.133/MAR	5	0	5	Beginning Programming with Python for Dummies	Mueller,John Paul	978-1119457893	005.133/MUE	7	5	2	Harry Potter	J.K. Rowling	978-1111111111	005.133/HAR	8	5	3
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