

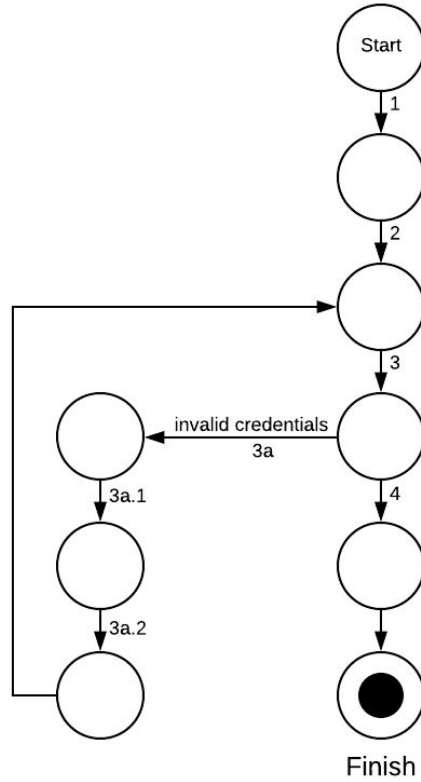
1.

Functional Requirement	Positive	Negative
F1.1	Attempt to add a book with a category, a book ID with character length 7, a title, an author, and a cost of \$20	Attempt to add a book with a book ID of 10 characters and a cost of -\$5
F2.1	Attempt to browse the bookstore by searching with respect to book category	Attempt to browse the bookstore by searching for an invalid book category
F2.2	Search the bookstore with an empty search value	Search the bookstore with an invalid search value
F3	Attempt to add a book to the books order	Attempt to add book in draft to the books order
F4.1	Attempt to view the books order showing the book id, description, unit cost, number of order copies, and total cost of ordered copies	Attempt to view the books order of an empty list
F5.1	Attempt to update the number of ordered copies in the books order when copies is equal to 0	Attempt to update the number of ordered copies in the books order to a value greater than 0 when the value is 0
F6.1	Apply 13% tax on all book orders and display date, total amount, amount of taxes, and amount of shipping fees for book orders	Attempt to apply 13% tax on addition of a book to shopping cart
F6.2	Apply \$10 plus 5% tax on book orders with handling and shipping fee	Attempt to apply \$10 plus 5% tax on addition of a book to shopping cart
F7	Attempt to remove a book from the store	Attempt to remove a book not in the store
F8	Attempt to login as an	Attempt to login as an

	administrator with valid credentials	administrator with invalid credentials
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2.

Use Case 1



ID	Events	Description
1	1-2-3-4	Administrator logs in with proper credentials on first try
2	1-2-3-3a-3a.1-3a.2-2-3-4	Administrator first logs in with wrong credentials then proper login credentials

Scenario Reference: 1

Setup: Create credential with username “admin” and password “password”, e-BookStore is ON, Administrator is not logged in

	External Event	Reaction	Comment
1	Administrator enters “admin” and “password”	e-BookStore presents administrators operations page	

Success Criteria: Administrator is logged in

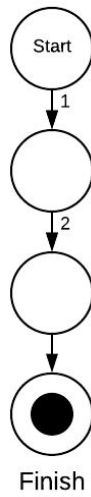
Scenario Reference: 2

Setup: Create credential with username “test” and password “123 then with username “admin” and password “password”, e-BookStore is ON, Administrator is not logged in

	External Event	Reaction	Comment
1	Administrator enters “test” and “123”	e-BookStore displays invalid credentials error message	
2	Administrator enters “admin” and “password”	e-BookStore presents administrators operations page	

Success Criteria: Administrator is logged in

Use Case 2



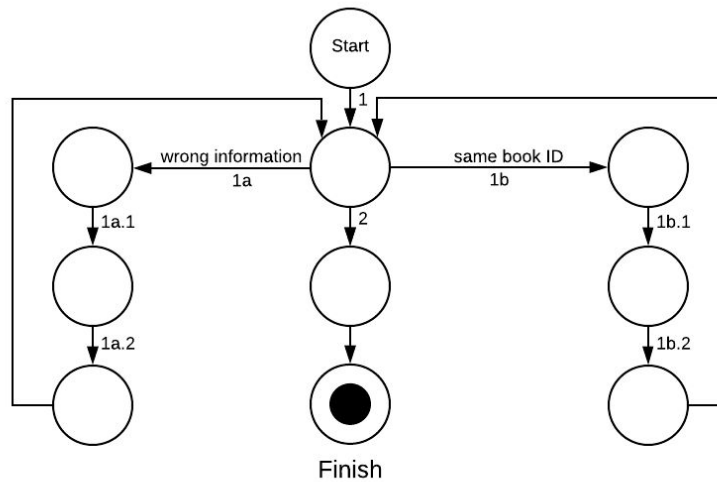
ID	Events	Description
3	1-2	Administrator chooses to sign out

Scenario Reference: 3

Setup: Administrator is logged in

	External Event	Reaction	Comment
1	Administrator selects the sign out button	e-BookStore acknowledges the administrator has signed out	

Use Case 3



ID	Events	Description
4	1-2	Administrator adds book with proper book information
5	1-1a-1a.1-1a.2-1-2	Administrator fills out book information wrong then is able to add the book
6	1-1b-1b.1-1b.2-1-2	Administrator fills out book information with the same book ID then is able to add the book

Scenario Reference: 4

Setup: Create book with category: “programming”, book ID: “12345”, title: “Java”, author: “Joe”, cost: “15”, administrator is logged in, visiting page for adding books.

	External Event	Reaction	Comment
1	Administrator enters book information with category: “programming”, book ID: “12345”, title: “Java”, author: “Joe”, cost: “15”	e-BookStore acknowledges the book addition to the catalogue	

Scenario Reference: 5

Setup: First create a book with title:“Python”. Then create a book with category: “programming”, book ID: “1236”, title: “Python”, author: “Sam”, cost: “12”. Administrator is logged in and visiting the page for adding books.

	External Event	Reaction	Comment
1	Administrator enters book information with title:“programming”, book ID: “1236”, title: “Python”, author: “Sam”, cost: “12”	e-BookStore displays the pertinent error messages	
2	Administrator enters book information with category:title: “Python”, “programming”, book ID: “1236”, author: “Sam”, cost: “12”	e-BookStore acknowledges the book addition to the catalogue	

Scenario Reference: 6

Setup: First create a book with category: “programming”, book ID: “1236”, title: “C”, author: “Jack”, cost: “10”. Then create a book with category: “programming”, book ID: “1237”, title: “Python”, author: “Sam”, cost: “10”. Administrator is logged in and visiting the page for adding books.

	External Event	Reaction	Comment
1	Administrator enters book information with category: “programming”, book ID: “1236”, title: “C”, author: “Jack”, cost: “10”	e-BookStore displays a duplicated book id error message	
2	Administrator enters book information with category: “programming”, book ID: “1237”, title: “Python”, author:	e-BookStore acknowledges the book addition to the catalogue	

	External Event	Reaction	Comment
1	User searches category programming	e-BookStore displays list of books in that category	

Scenario Reference: 8

Setup: Create book with category: "programming", book ID: "12345", title: "Java", author: "Joe", cost: "15". e-BookStore is ON.

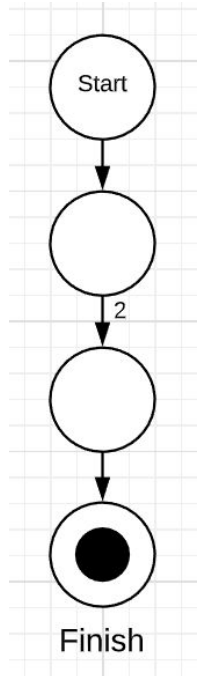
	External Event	Reaction	Comment
1	User searches without category	e-BookStore displays all of the books in the catalogue	

Scenario Reference: 9

Setup: Create book with category: "programming", book ID: "12345", title: "Java", author: "Joe", cost: "15". e-BookStore is ON.

	External Event	Reaction	Comment
1	User searches category nature	e-BookStore displays no matching book found message	

Use Case 5



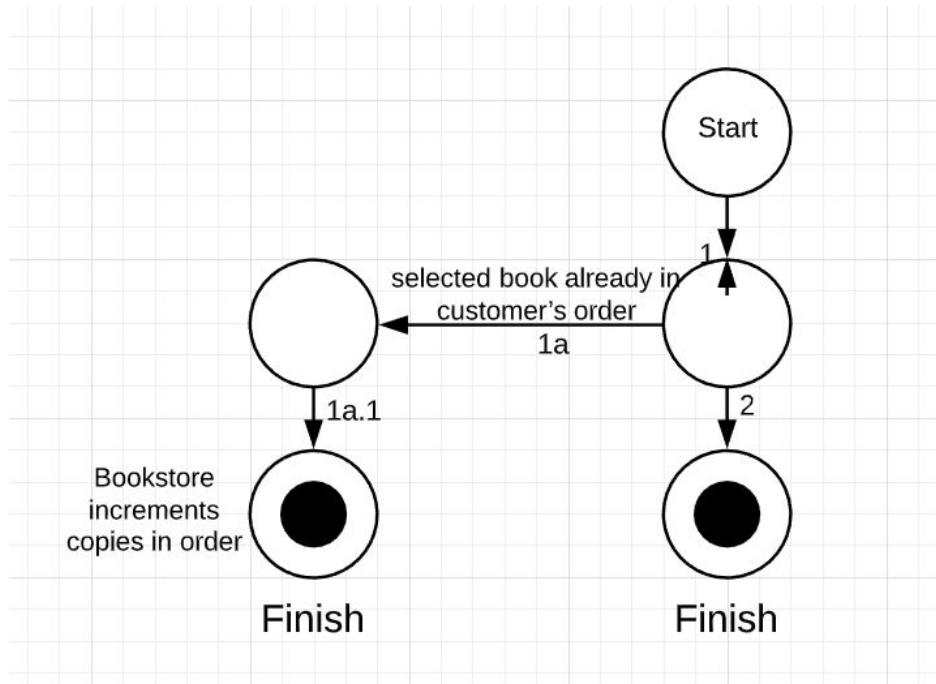
ID	Events	Description
10	1-2	Admin removes a book

Scenario Reference: 10

Setup: Admin logged in with a list of catalogue books displayed

	External Event	Reaction	Comment
1	Admins selects to remove a book	e-BookStore modifies list to remove book and displays new catalogue	

Use Case 6



ID	Events	Description
11	1-2	Customer selects book to add to order
12	1-1a-1a.1	Customer selected book to already in order to copies incremented

Scenario Reference: 11

Setup: list of catalogue books displayed

	External Event	Reaction	Comment
1	Customer selects book to add to order	e-BookStore adds book to book order	

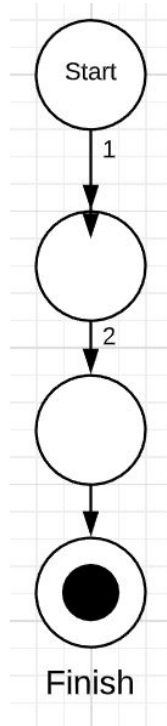
Scenario Reference: 12

Setup: list of catalogue books displayed

	External Event	Reaction	Comment
1	Customer selects book to add to order	e-BookStore adds book to book order	

2	Customer selects book already in order	e-BookStore adds copy of book to order	
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Use Case 7



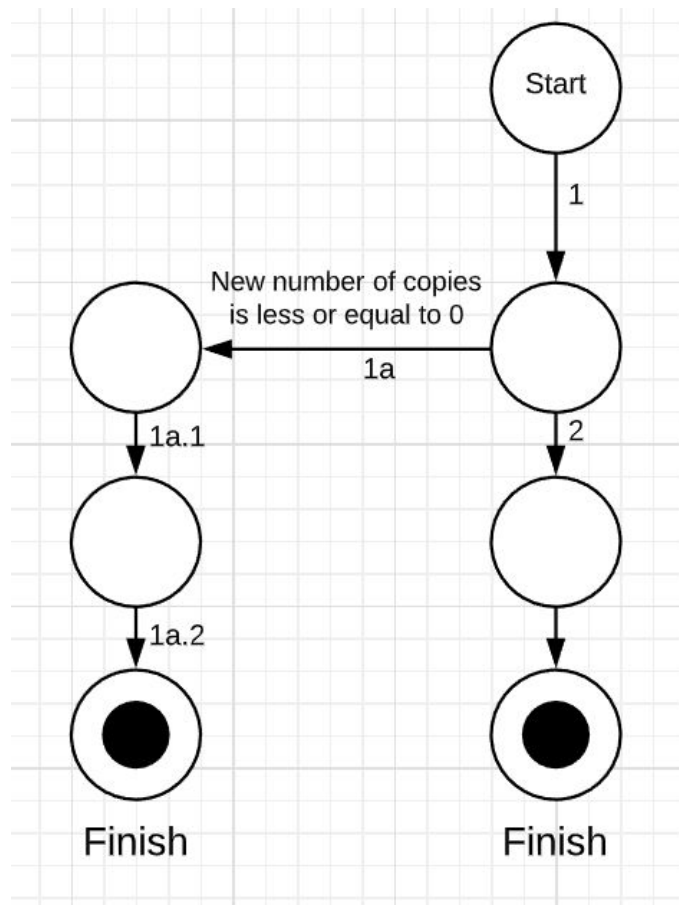
ID	Events	Description
13	1-2	Customer selects to view book order

Scenario Reference: 13

Setup: list of catalogue books displayed

	External Event	Reaction	Comment
1	Customer selects to view book order	e-BookStore shows book order info	

Use Case 8



ID	Events	Description
14	1-2	Customer updates the wanted copies of a book
15	1-1a.1-1a.2	Customer updates wanted copies of book to a number less than equal to 0.

Scenario Reference: 14

Setup: The customer's books order is being shown

	External Event	Reaction	Comment
1	Customer specifies	e-BookStore updates	

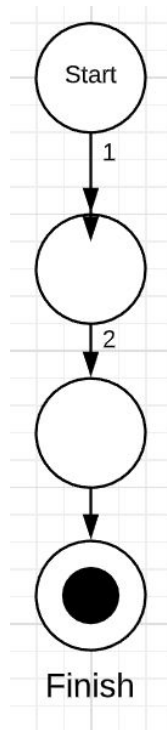
	wanted copies of an ordered book	the total cost for the book	
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Scenario Reference: 15

Setup: The customer's books order is being shown

	External Event	Reaction	Comment
1	Customer specifies wanted copies of an ordered book less than or equal to 0	e-BookStore updates the total cost for the book to 0 and removes the book from the order	

Use Case 9



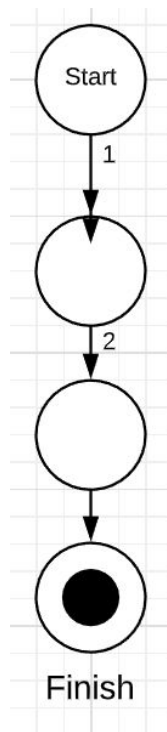
ID	Events	Description
16	1-2	Customer selects checkout

Scenario Reference: 16

Setup: The customer's books order is being shown

	External Event	Reaction	Comment
1	Customer selects to checkout	e-BookStore processes the books order and display the information	

Use Case 10



ID	Events	Description
17	1-2	Customer selects a language

Scenario Reference: 17

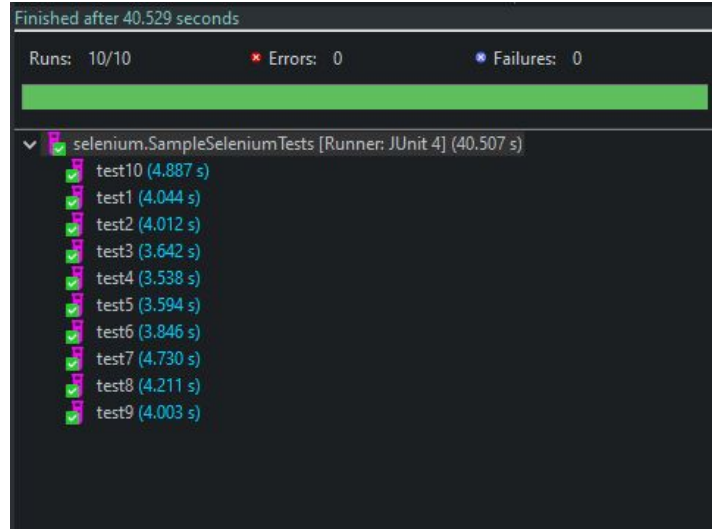
Setup: The e-BookStore is ON

	External Event	Reaction	Comment
1	Customer selects a language	e-BookStore displays information in the selected language	

3.

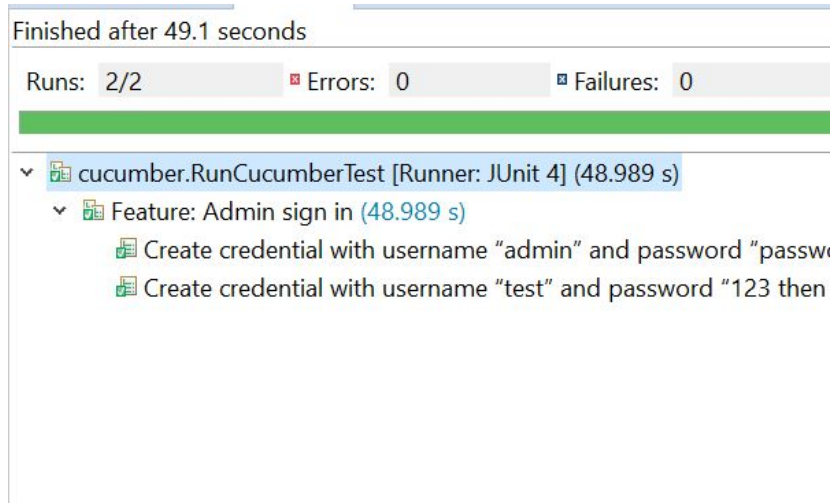
Functional Requirement	Test Implementation
F1.1 Positive	test1()
F1.1 Negative	test2()
F2.1 Positive	test3()
F2.1 Negative	test4()
F2.2 Positive	test5()
F2.2 Negative	test4()
F3 Positive	test6()
F4.1 Positive	test7()
F5.1 Negative	test8()
F6.1 Positive	test9()
F6.2 Positive	test9()
F8 Negative	test10()

- Test situation for F3 negative cannot be tested since there is no way to add a book in draft to the books order
- Test situation for F4.1 negative cannot be tested as the web application does not clearly tell the users if the books order list is empty
- Test situation for F5.1 positive cannot be tested since there is no indication of the book being removed from the web page once the copies is updated to 0
- Test situation for F7 positive and negative cannot be tested since there is no indication of the book being removed from the web page
- Test situation for F8 positive cannot be tested since there is no indication on the web page for a successful login attempt

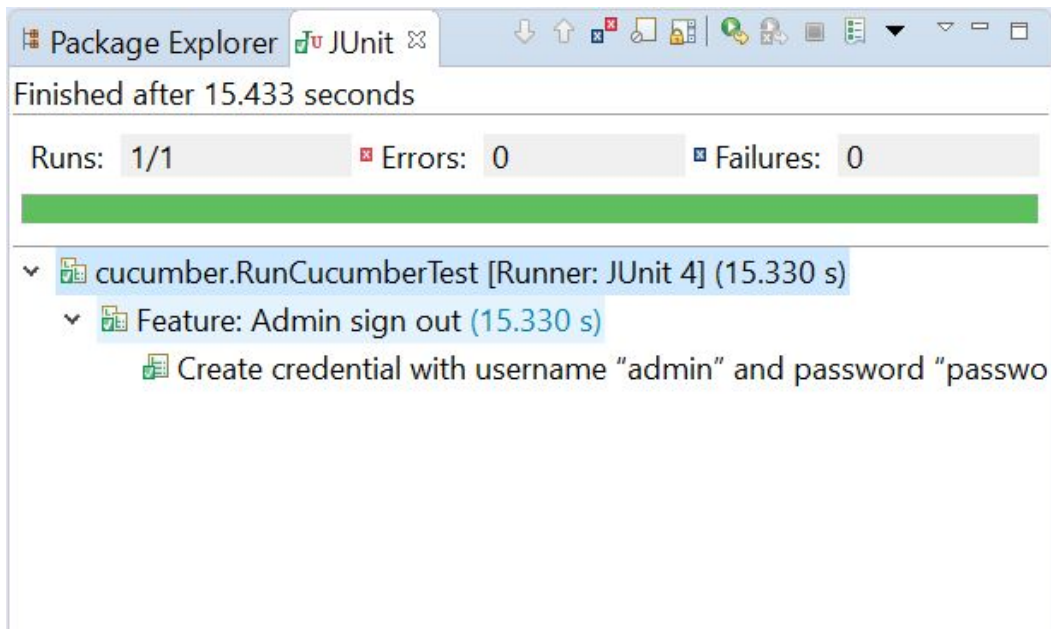


4. Screenshots (The tests were run independently for each use case because of ram issues and time consumption. Also the jar file was run through the command line as it could not be run through eclipse. So the app was run again from the command line for each scenario)

Use Case 1



Use Case 2



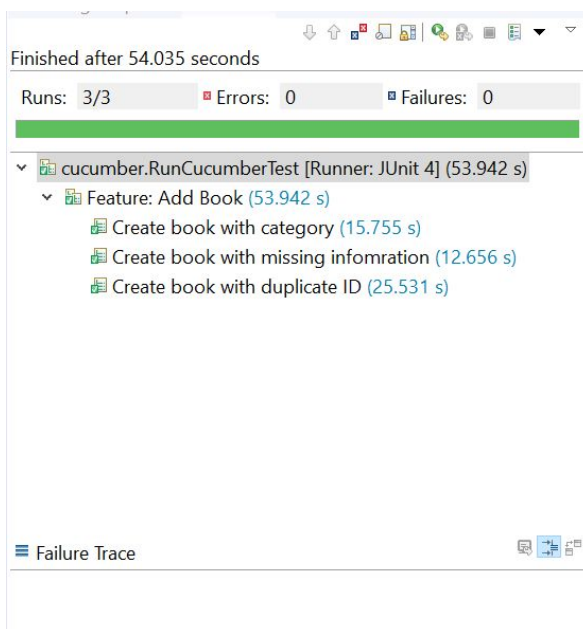
Package Explorer JUnit

Finished after 15.433 seconds

Runs: 1/1 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (15.330 s)
 - ▼ Feature: Admin sign out (15.330 s)
 - Create credential with username "admin" and password "passwo"

Use Case 3



Finished after 54.035 seconds

Runs: 3/3 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (53.942 s)
 - ▼ Feature: Add Book (53.942 s)
 - Create book with category (15.755 s)
 - Create book with missing infomration (12.656 s)
 - Create book with duplicate ID (25.531 s)

Failure Trace

Use Case 4

Finished after 39.396 seconds

Runs: 3/3 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (39.332 s)
 - ▼ Feature: Browse Catalogue (39.332 s)
 - Search valid category (12.098 s)
 - Search all category (12.825 s)
 - Search invalid category (14.409 s)

Use Case 5

Finished after 14.501 seconds

Runs: 1/1 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (14.398 s)
 - ▼ Feature: Admin removes a book (14.398 s)
 - Remove a book (14.398 s)

Use Case 6

Finished after 22.741 seconds

Runs: 2/2 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (22.650 s)
 - ▼ Feature: User order books (22.650 s)
 - User orders book not ordered before (11.095 s)
 - User orders book ordered before (11.555 s)

Use Case 7

Finished after 11.611 seconds





Runs: 1/1 Errors: 0 Failures: 0

- ▼ cucumber.RunCucumberTest [Runner: JUnit 4] (11.521 s)
 - ▼ Feature: User views order books (11.521 s)
 - User views ordered books (11.521 s)

Use Case 8

Finished after 23.686 seconds




Runs: 2/2 Errors: 0 Failures: 0

- ▼  cucumber.RunCucumberTest [Runner: JUnit 4] (23.594 s)
 - ▼  Feature: User updates book order (23.593 s)
 -  User changes amount of books in order (12.223 s)
 -  User changes amount of books in order to 0 (11.370 s)

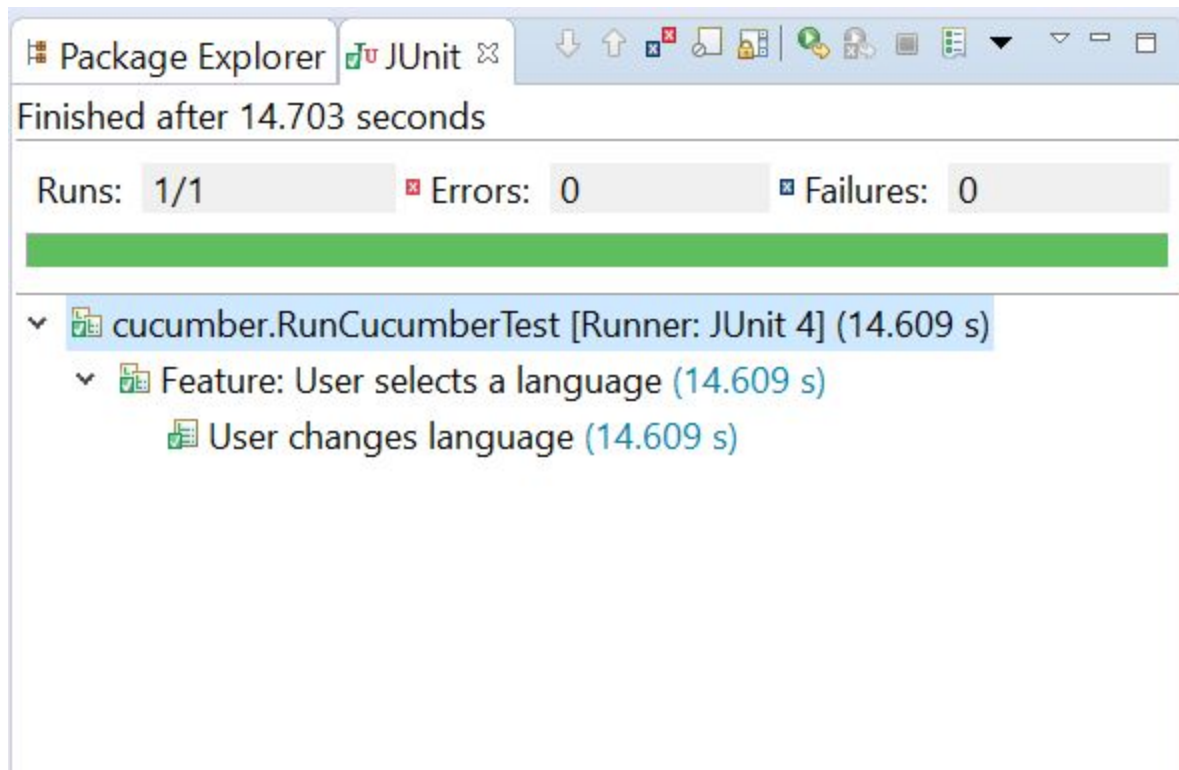
Use Case 9

Finished after 14.37 seconds

Runs: 1/1 Errors: 0 Failures: 0

- ▼  cucumber.RunCucumberTest [Runner: JUnit 4] (14.287 s)
 - ▼  Feature: User checks out books (14.287 s)
 -  User views ordered books (14.287 s)

Use Case 10



The screenshot shows the Package Explorer and JUnit test runner interface. The test run is complete, having finished after 14.703 seconds. The summary indicates 1/1 runs, 0 errors, and 0 failures. A green progress bar is visible. The test results are as follows:

- ✓ cucumber.RunCucumberTest [Runner: JUnit 4] (14.609 s)
 - ✓ Feature: User selects a language (14.609 s)
 - ✓ User changes language (14.609 s)