

# SOFTWARE QUALITY ASSURANCE PROFESSIONAL PROGRAM

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### **Declaration**

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# Acknowledgment

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Thank you



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#### 1. Introduction

A methodical procedure known as "Software Quality Assurance" (SQA) makes sure software products adhere to standards and specifications. Many tasks, such as planning, monitoring, testing, and process improvement, must be put into practice in order to produce software that satisfies high standards. Through the use of best practices and standards, software quality assurance, or SQA, seeks to prevent problems throughout the software development process.

People who are well-experienced in automation testing, enhance the accuracy, efficiency, and coverage of the testing process. Automation testing employs tools and scripts to automatically execute repetitive and complex test cases, minimizing human error and saving time. Assuring that fresh code modifications do not introduce new defects, it permits regular and comprehensive regression testing. Testers may accelerate test execution, support continuous integration and delivery (CI/CD), and eventually help produce software that is more dependable and robust by mastering automation testing.

In this assignment, We are able to improve our knowledge regarding automation testing. Swag Labs is one of an open-source web that we are able to use for automation testing practices. This assignment applying the knowledge that we learn from the Software quality assurance professional program. This project can be considered as a real-world scenario.

#### 1.1 Test environment

Resources	Description
Laptop	Vivobook_ASUSLaptop X1504VA_X1504VA
Web Browser	Google Chrome - Version 126.0.6478.63 (Official Build) (64-bit)
Operation System	Microsoft Windows 11 Home Single Language
Internet	MediaTek Wi-Fi 6E MT7902 Wireless LAN Card

Table 1: Testing environment



#### 1.2 Test tools

Artifact	Tool
Test case design	Xmind - Mind maps
Test Automation	Java, TestNG, Selenium
Diagram drawing	MockFolw
Integrated development environment	IntelliJ IDEA 2023.3.4 (Community Edition)

Table 2: Test tools

### 2. Objectives

Getting involved in an automation testing program provides an excellent opportunity to learn about modern approaches to current software development. This assignment mainly focuses on how to implement a Java basic automation testing code base for a website.

- First, we need to implement a code base for login for the Swag Labs website by using the provided username and password.
- Verify that the user navigates to the correct page and starts adding items to the cart.
- Then we need to add items to the cart as well as remove items from the cart.
- After that, View the cart and verify that the current user is on the correct page, and continue the testing process for the view cart process.
- Then, proceed to the checkout page and add order details.
- Next, validate the order summary and purchase the order.
- At the end, the user is allowed to see the successfully placed order alert and be directed back to the home page.



# 3. Methodology

### 3.1 System Overview

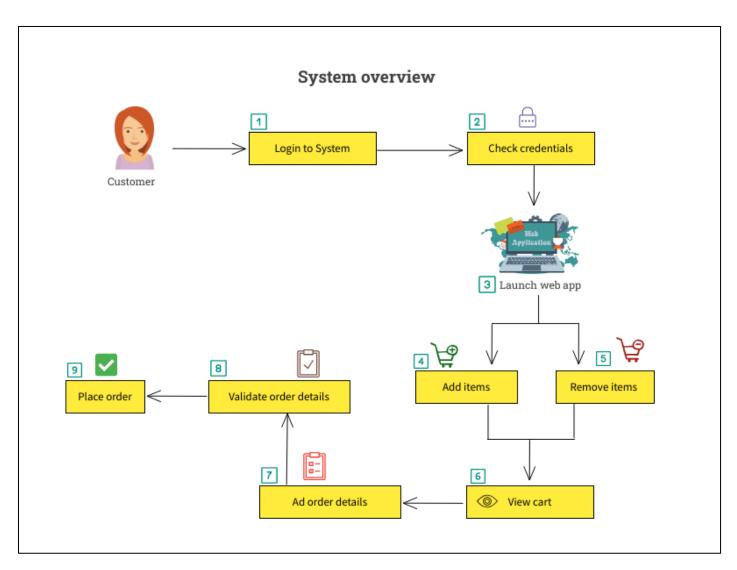


Figure 1: System Overview



### 3.2 System Overview in Swim lane diagram

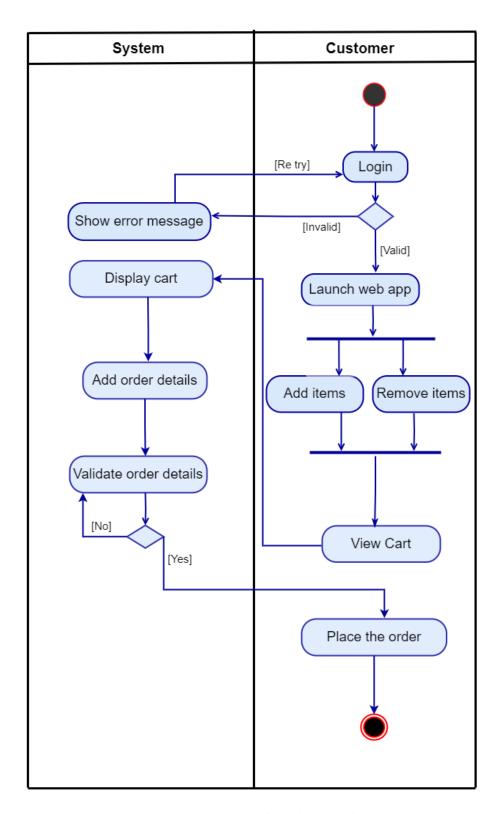


Figure 2: System Overview in Swim Lane diagram



### 3.3 Flow Charts

### 3.2.1 Login to Swag Labs

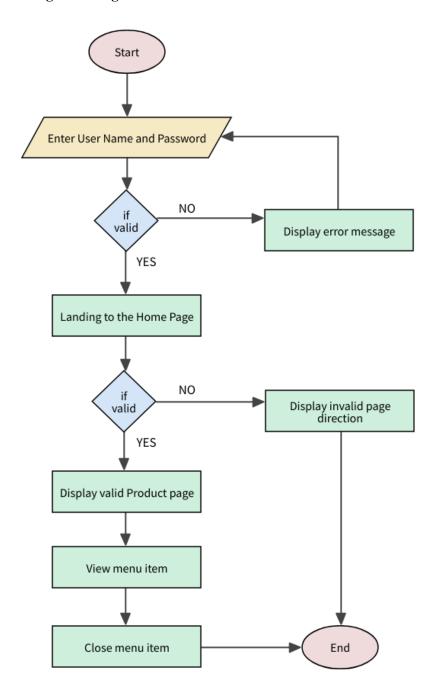


Figure 3: Login to Swag labs



#### 3.2.2 Add items and manage shopping cart

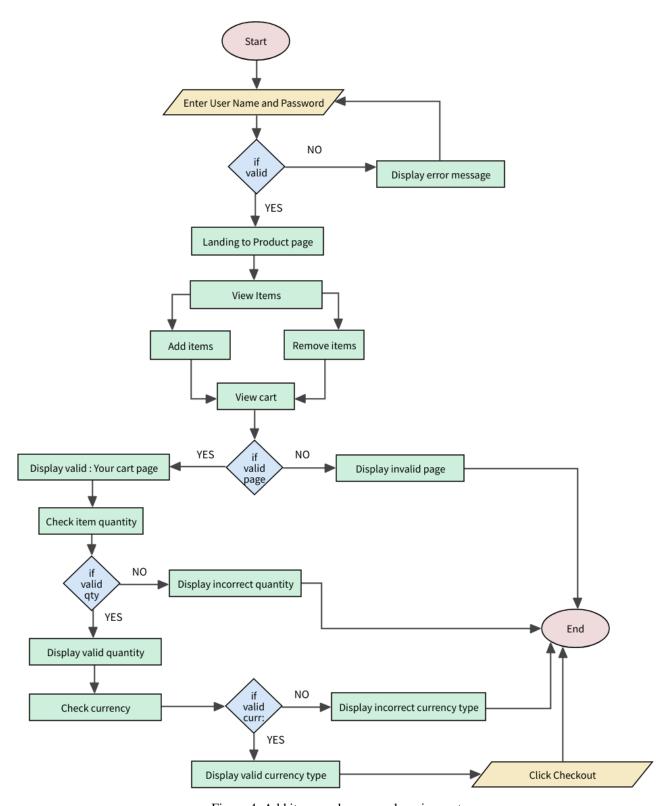


Figure 4: Add items and manage shopping cart



#### 3.2.3 Add user details to place the order

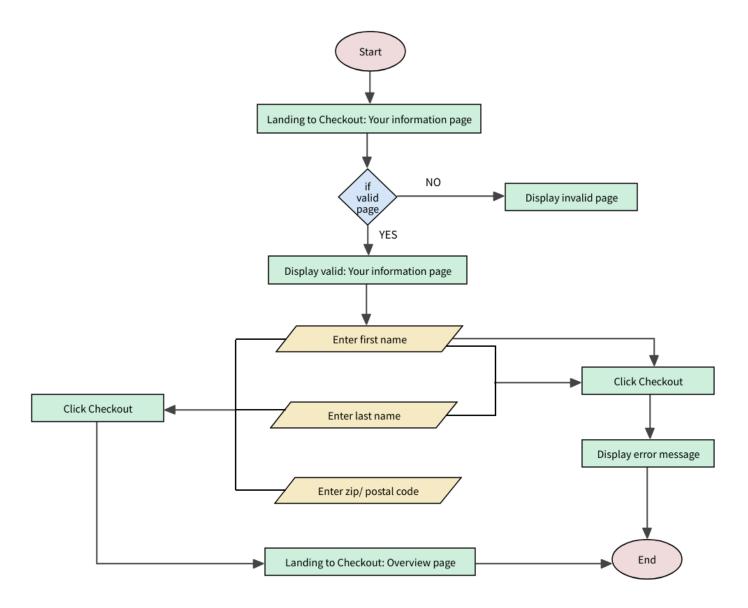


Figure 5: Add user details to place the order



#### 3.2.4 Checkout and place the order

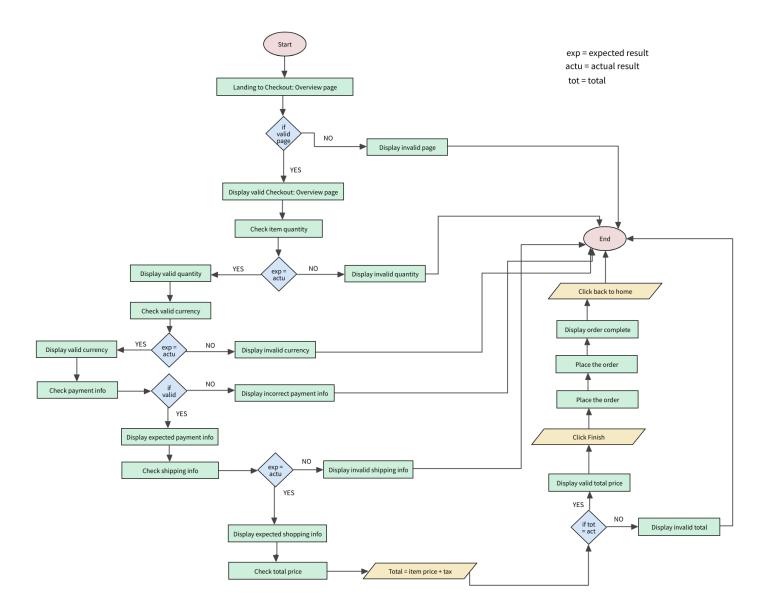


Figure 6: Checkout and place the order



### 4. Test Cases

### 4.1 Login to the system

Module: Login to the system		
Test Case No:	TC001	
Priority:	High	
Test Case Description:	Ensure that the customers are able to log in with valid credentials and that invalid credentials are handled appropriately.	
Sub-test cases:	<ul> <li>Check user can login with a valid username and password</li> <li>Check user can login with an invalid username and password</li> </ul>	
Pre-Condition:	The application is accessible and the login page should be loaded.	
Test Steps:	<ol> <li>Load the Swag Labs login page</li> <li>Enter the user name and Password</li> <li>Click on the login button</li> </ol>	
Test Data:	Valid user name: standard_user Valid password: secret_sauce	
Expected Output:	The user is able to login to the system successfully	
Actual Output:	Successfully worked as expected	
Status (Pass / Fail):	Pass	
Test evidence:		



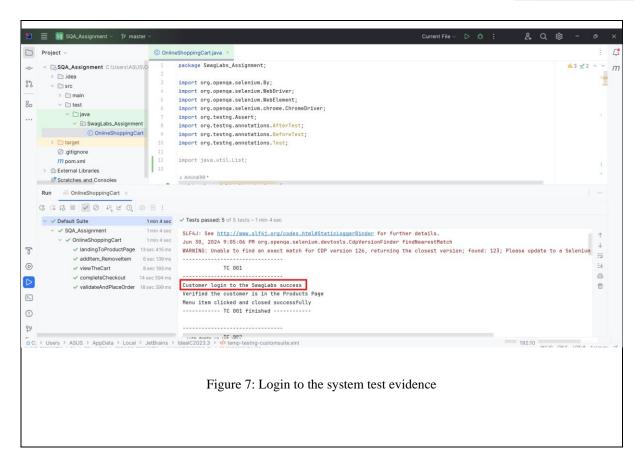


Table 3: Login to the system



### 4.2 Landing to the product page and open/ close the side navigation menu

Module: Landing to the product page and open/ close the side navigation menu		
Test Case No:	TC002	
Priority:	Medium	
Test Case Description:	Ensure that after login, the behavior of the landing page (Product page)	
Sub-test cases:	<ul> <li>Check after login, the user is directed to the relevant page (product page)</li> <li>Check the side navigation menu opening</li> <li>Check the side navigation menu closing</li> </ul>	
Pre-Condition:	The user is able to login to the Swag Labs online store.	
Test Steps:	<ol> <li>Landing on the Product page</li> <li>Click on the side navigation menu</li> <li>Click on the close icon in the side navigation menu</li> </ol>	
Test Data:	-	
Expected Output:	Landing on the product page, able to open and close the side navigation menu by simply clicking.	
Actual output:	Successfully worked as expected	
Status (Pass / Fail):	Pass	
Test evidence:		



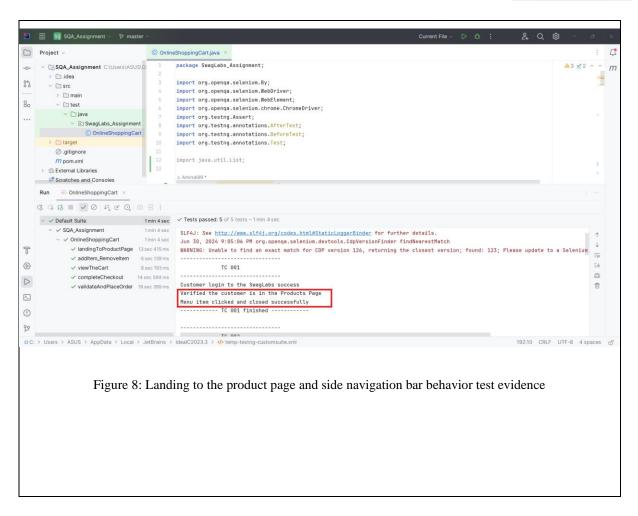


Table 4: Landing on the product page and open/close the side navigation menu



# 4.3 Add/ remove items and manage the shopping cart

Module: Add/ remove items and manage the shopping cart		
Test Case No:	TC003	
Priority:	High	
Test Case Description:	Ensure that, customers are able to add items to the cart as well as remove items from the cart.	
Sub-test cases:	<ul> <li>Check directing to the "Your cart" page</li> <li>Check users are able to add items to the cart</li> <li>Check users are able to remove items from the cart</li> <li>Check the view cart</li> <li>Check the added item count (Qty)</li> <li>Check the currency type</li> <li>Check the "Checkout" button clickable</li> </ul>	
Pre-Condition:	Navigating to the products page	
Test Steps:	<ol> <li>Click on "Add to cart" button</li> <li>Click on the "Remove" button on the same product</li> <li>Again, click on the "Add to cart" button</li> <li>Click on the cart icon in the right corner → Directs to Your cart page</li> <li>View the item quantity</li> <li>View the currency type</li> <li>Click on the "Checkout" button</li> </ol>	
Test Data:	-	
Expected Output:	Able to add and remove items from the cart and view the cart. And display the valid item quantity with the correct currency type. Finally, the user is directed to the checkout page.	
Actual output:	Successfully worked as expected	
Status (Pass / Fail) :	Pass	
Test evidence:		



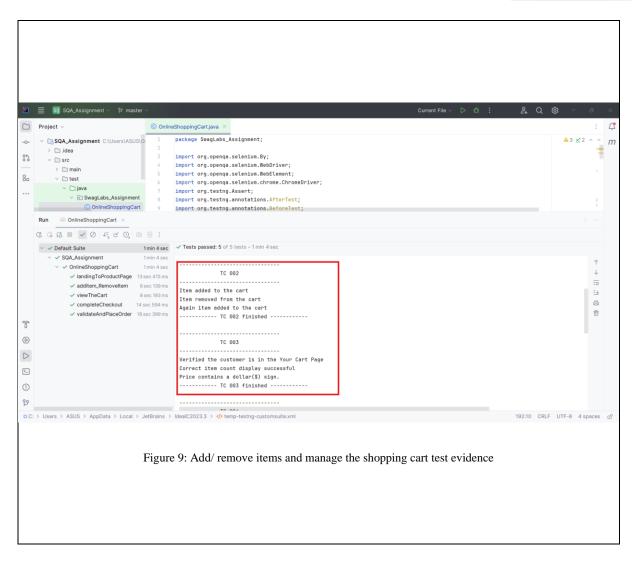


Table 5: Add/remove items and manage the shopping cart



# 4.4 Add user details to place the order

Module: Add user details to place the order		
Test Case No:	TC004	
Priority:	High	
Test Case Description:	Validate that, the customer able to add user details to place the order.	
Sub-test cases:	<ul> <li>Check the first name field validation</li> <li>Check the last name field validation</li> <li>Check the zip/ postal code field validation</li> <li>Check the continue button validation and button clickable.</li> </ul>	
Pre-Condition:	Directing to the "Checkout: your information" page	
Test Steps:	<ul> <li>Enter the first name</li> <li>Click on the "Continue" button</li> <li>Enter the last name</li> <li>Click on the "Continue" button</li> <li>Enter the zip/ postal code</li> <li>Click on the "Continue" button</li> </ul>	
Test Data:	First name: Amindi Last name: Perera Zip/ postal code: 11010	
Expected Output:	Validate the all fields and direct to the checkout page successfully.	
Actual output:	Successfully worked as expected	
Status (Pass / Fail) :	Pass	
Test evidence:		



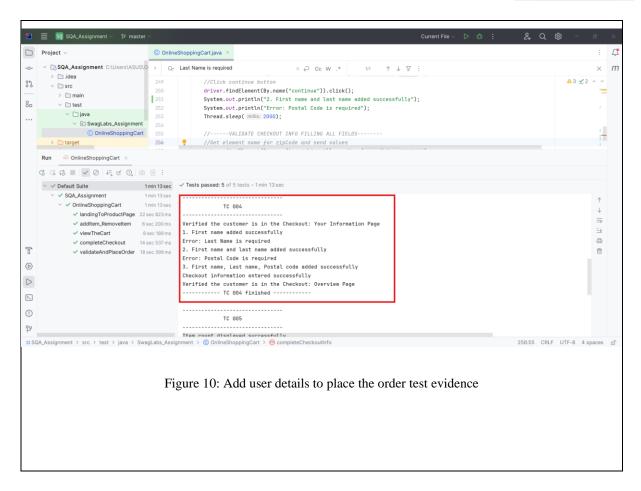


Table 6: Add user details to place the order



# 4.4 Checkout and place the order

Module: Checkout and place the order		
Test Case No:	TC005	
Priority:	High	
Test Case Description:	Ensure that the user able to place an order	
Sub-test cases:	<ul> <li>Verify that the user is on the Checkout: Overview page</li> <li>Check the no of items(Qty) in the cart</li> <li>Validate the currency type</li> <li>Check the payment info is correct</li> <li>Check the Shipping info is correct</li> <li>Check the total price = item total + tax</li> <li>Check the "Finish" button is clickable and directed to the payment success page</li> <li>Check the "Back home" button is clickable and navigate again to home page</li> </ul>	
Pre-Condition:	Directing to the "Checkout: Overview" page	
Test Steps:	<ol> <li>Landing on "Checkout: Overview" page</li> <li>Click the "Finish" button</li> <li>Landing on the "Checkout: Complete!" page</li> <li>Click on the "Back home" button</li> </ol>	
Test Data:	-	
Expected Output:	The user able to successfully purchase the order and display "Thank you for your order!"	
Actual output:	Successfully displayed as expected	
Status (Pass / Fail) :	Pass	
Test evidence:		



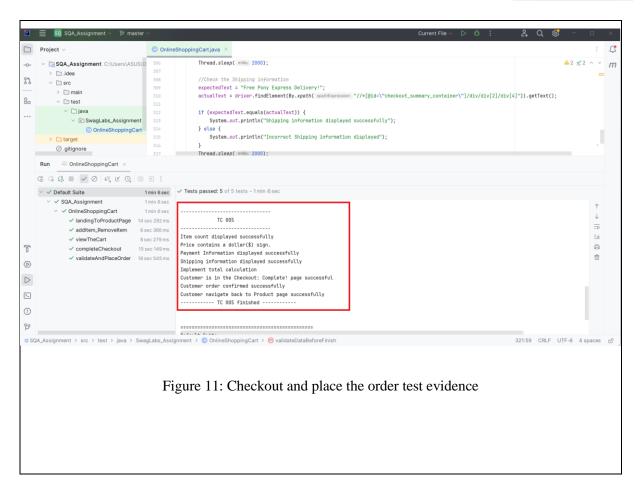


Table 7: Checkout and place the order



### 5. Issues

Issues	Mitigation
Identify the scenario properly	Refer to the lecture recording that describes the assignment.
Diagram drawing	Use an online tool (Neat and easy to identify)
Time management	Schedule the free time separately for codebase implementation and report creation.
Gettings errors while continuing the implementation	Refer to YouTube videos and lecture recordings

Table 8: Issues

### 6. References

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- 3. "Automation Testing Tutorial: Getting Started," BrowserStack. https://www.browserstack.com/guide/automation-testing-tutorial
- 4. "The Selenium Browser Automation Project," Selenium. <a href="https://www.selenium.dev/documentation/">https://www.selenium.dev/documentation/</a>
- 5. [1] "Selenium Tutorial javatpoint," www.javatpoint.com. https://www.javatpoint.com/selenium-tutorial



### 7. Appendix

#### 7.1 Source code

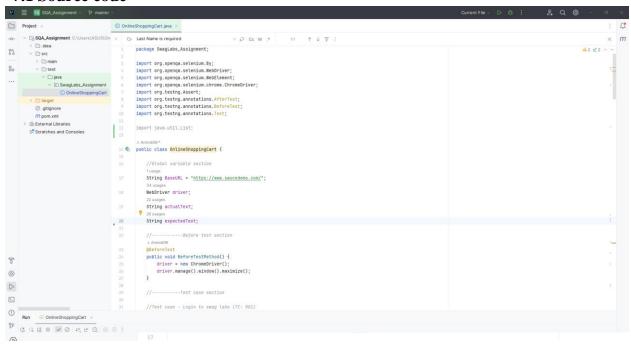
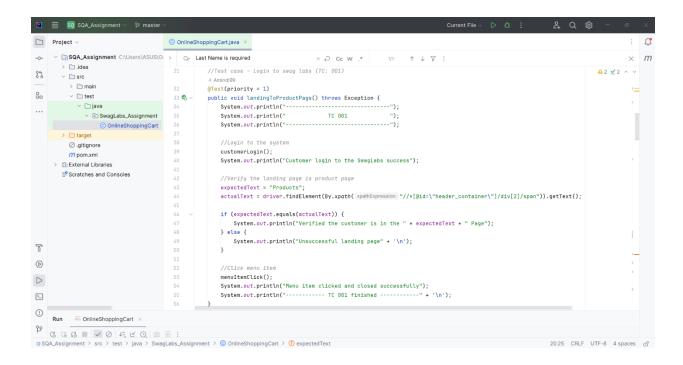
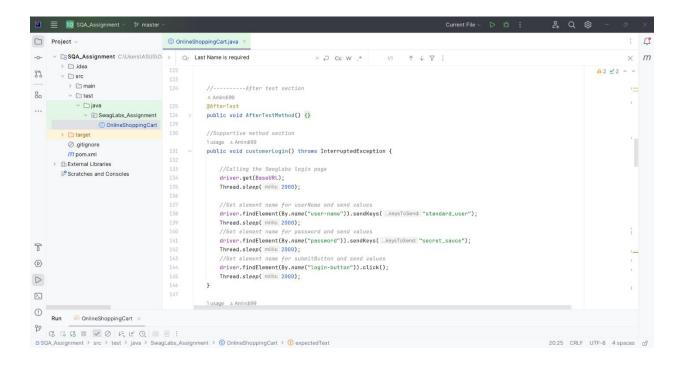


Figure 12: Global variables and before test section



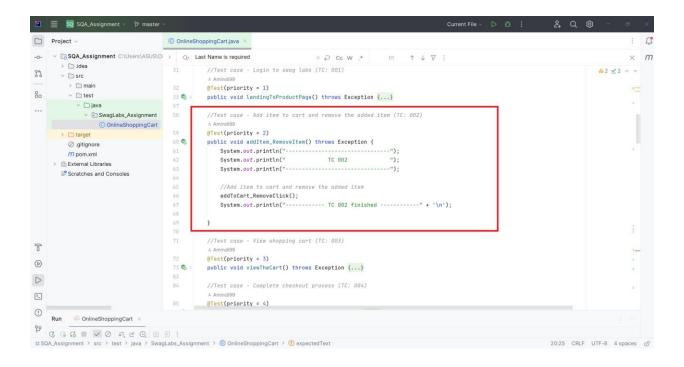
#### 7.1.1 Test case - Login to swag labs (TC: 001)

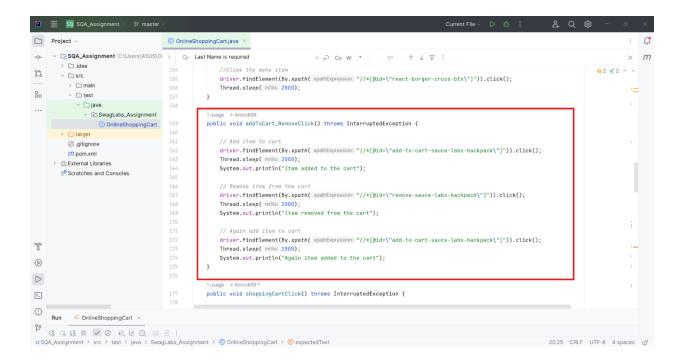






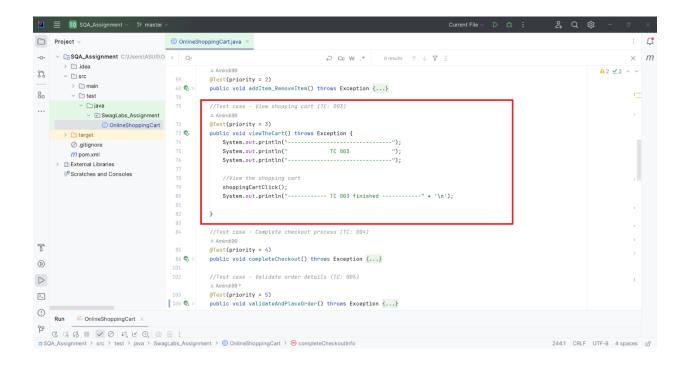
#### 7.1.2 Test case - Add item to cart and remove the added item (TC: 002)

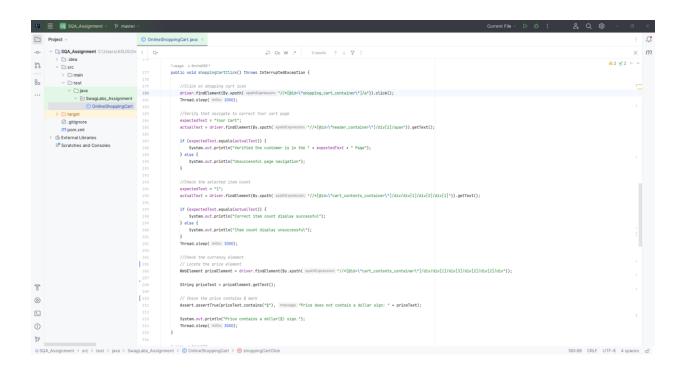






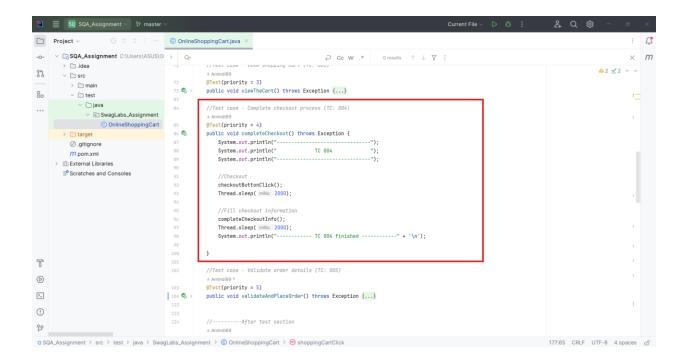
#### 7.1.3 Test case - View shopping cart (TC: 003)

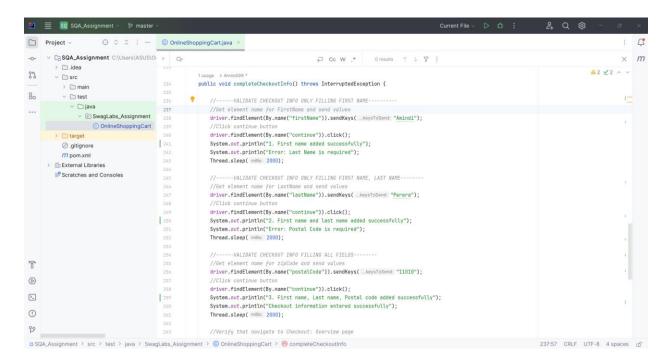




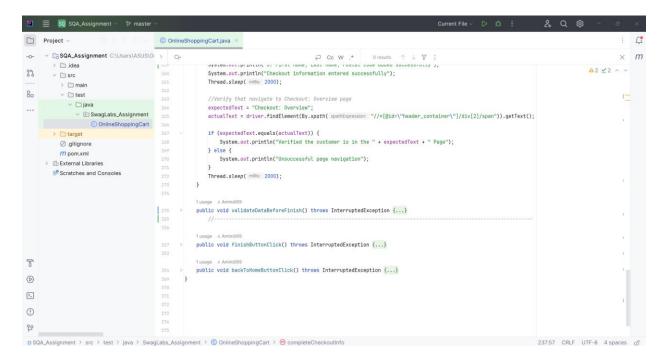


#### 7.1.4 Test case - Complete checkout process (TC: 004)









#### 7.1.5 Test case - Validate order details (TC: 005)

