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A
GRADE
ACCREDITED BY
NAAC

NAME : ……………………………………………………….

REGISTER NUMBER : ……………………………………………………….

DEPARTMENT : COMPUTER SCIENCE AND ENGINEERING

YEAR &SEM : III &V

SUBJECT : CCS366 – SOFTWARE TESTING AND AUTOMATION

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Name :…………………………………………………………………………………..

Year :……..……… Semester…………………………………… Branch..……………

University Register No □

Certified that this a Bonafide Record work done by the above

Student in the ………………………………………………………………….Laboratory

during the year 2023 - 2024

Signature of Lab In-charge ***Signature of Head of the Department***

Submitted for practical examination held on ………………………………………..

Internal Examiner **External Examiner**

CONTENTS

S.No	Dateof Experiment	Name of The Experiment	PageNo	Date of Submission	Remarks

NPR COLLEGE OF ENGINEERING & TECHNOLOGY, NATHAM

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

VISION

- To produce globally competent technical professionals for digitized society.

MISSION

- To establish conducive academic environment by imparting quality education and value addedtraining.
- To encourage students to develop innovative projects to optimally resolve the challenging socialproblems.

PROGRAM EDUCATIONAL OBJECTIVES

Graduates of Computer Science and Engineering Program will be able to:

- Develop into the most knowledgeable professional to pursue higher education and Research or have asuccessful carrier in industries.
- Successfully carry forward domain knowledge in computing and allied areas to solve complex and realworld engineering problems.
- Meet the technological revolution they are continuously upgraded with the technical knowledge.
- Serve the humanity with social responsibility combined with ethics

CCS366 SOFTWARE TESTING AND AUTOMATION L T P C

2 0 2 3

OBJECTIVES:

- To understand the basics of software testing .
- To learn how to do the testing and planning effectively.
- To build test cases and execute them.
- To focus on wide aspects of testing and understanding multiple facets of testing.
- To get an insight about test automation and the tools used for test automation.

LIST OF EXPERIMENTS: TOTAL:30 PERIODS

1. Develop the test plan for testing an e-commerce web/mobile application (www.amazon.in).

2. Design the test cases for testing the e-commerce application.

3. Test the e-commerce application and report the defects in it.

4. Develop the test plan and design the test cases for an inventory control system.

5. Execute the test cases against a client server or desktop application and identify the defects.

6. Test the performance of the e-commerce application.

7. Automate the testing of e-commerce applications using Selenium.

8. Integrate TestNG with the above test automation.

OUTCOMES

On Completion of the course, the students should be able to:

CO1: Understand the basic concepts of software testing and the need for software testing

CO2: Design Test planning and different activities involved in test planning

CO3: Design effective test cases that can uncover critical defects in the application

CO4: Carry out advanced types of testing

CO5: Automate the software testing using Selenium and TestNG

CCS366 SOFTWARE TESTING AND AUTOMATION

Course Outcomes

After completion of the course, Students are able to learn the listed Course Outcomes.

Cos	Course Outcomes	Knowledge Level
CO1	Understand the basic concepts of software testing and the need for software testing	K4
CO2	Design Test planning and different activities involved in test planning	K3
CO3	Design effective test cases that can uncover critical defects in the application	K3
CO4	Carry out advanced types of testing	K3
CO5	Automate the software testing using Selenium and TestNG	K3

List of Experiments with Cos, POs and SOs:

Exp.No	Name of the experiment	COs	POs	PSOs
1	Develop the test plan for testing an e-commerce web/mobile application (www.amazon.in).	CO2	PO1,2,3	PSO 1,2
2	Design the test cases for testing the e-commerce application.	CO2	PO1,2,3	PSO 1,2
3	Test the e-commerce application and report the defects in it.	CO3	PO1,2,3	PSO 1,2
4	Develop the test plan and design the test cases for an inventory control system.	CO3	PO1,2,3	PSO 1,2
5	Execute the test cases against a client server or desktop application and identify the defects.	CO4	PO1,2,3	PSO 1,2
6	Test the performance of the e-commerce application.	CO4	PO1,2,3	PSO 1,2
7	Automate the testing of e-commerce applications using Selenium.	CO5	PO1,2,3	PSO 1,2
8	Integrate TestNG with the above test automation..	C05	PO1,2,3	PSO 1,2

Program Outcomes

1. Engineering Knowledge
2. Problem Analysis
3. Design/Development of Solutions
4. Conduct Investigations of Complex Problems
5. Modern Tool Usage
6. The Engineer and Society
7. Environment and Sustainability
8. Ethics
9. Individual and Team Work
10. Communication
11. Project Management and Finance
12. Life long Learning

EX.NO:1 DATE:	**Test Plan: E-commerce Web/Mobile Application Testing for www.amazon.in**

Aim:

Develop the test plan for testing an e-commerce web/mobile application (www.amazon.in).

Procedure:

1. Introduction

This test plan outlines the testing approach and methodologies to ensure the quality and reliability of the e-commerce web/mobile application, www.amazon.in. The goal is to identify and mitigate any defects or issues that could impact the user experience, security, and functionality of the application.

2. Scope

The scope of this test plan covers testing activities for the www.amazon.in e-commerce application across both web and mobile platforms. It includes testing of functional, performance, security, and usability aspects.

3. Test Objectives

- Validate the functionality of the application across different devices and browsers.
- Ensure that the application meets user requirements and expectations.
- Verify the application's performance, scalability, and responsiveness.
- Identify and address security vulnerabilities.
- Validate the user experience and usability of the application.

4. Test Environment

- Web Browsers: Chrome, Firefox, Safari, Edge.
- Mobile Devices: iOS and Android devices (various models and OS versions).
- Test Management Tool: JIRA or any preferred tool.
- Automation Tools: Selenium, Appium for web and mobile testing.
- Load Testing Tool: Apache JMeter.
- Security Testing Tool: OWASP ZAP.

5. Test Cases:

5.1 Functional Testing

- User registration and login.
- Product search and browsing.
- Adding/removing items from the cart.
- Placing orders and order confirmation.
- Payment processing and order history.
- Account management and settings.

5.2 Performance Testing:

- Load testing to simulate concurrent user activity.
- Stress testing to determine application stability under extreme load.
- Performance metrics measurement (response time, page load time).
- Scalability testing to assess the application's ability to handle increased load.

5.3 Security Testing

- Authentication and authorization testing.
- Data encryption and privacy validation.
- Vulnerability scanning using OWASP ZAP.
- Payment security and transaction validation.

5.4 Usability Testing

- User interface (UI) and user experience (UX) assessment.
- Navigation and ease of use.
- Mobile responsiveness and cross-device consistency.
- Accessibility testing for users with disabilities.

6. Test Execution

- Test cases will be executed manually and using automation tools.

- Functional and usability tests will be executed on various browsers and devices.

- Performance tests will be conducted with a variety of load scenarios using Apache JMeter.

- Security tests will involve vulnerability scanning and penetration testing.

7. Test Reporting

- Defects will be reported in JIRA or the chosen test management tool.

- Test progress and results will be communicated regularly to the stakeholders.

- Test summary report will be generated at the end of the testing phase.

8. Risks and Mitigation

- Risk: High traffic during a sale event could lead to website crashes.

  Mitigation: Conduct load testing in advance and implement necessary optimizations.

- Risk: Payment data breach.

  Mitigation: Rigorous security testing, encryption, and compliance with security standards.

9. Exit Criteria

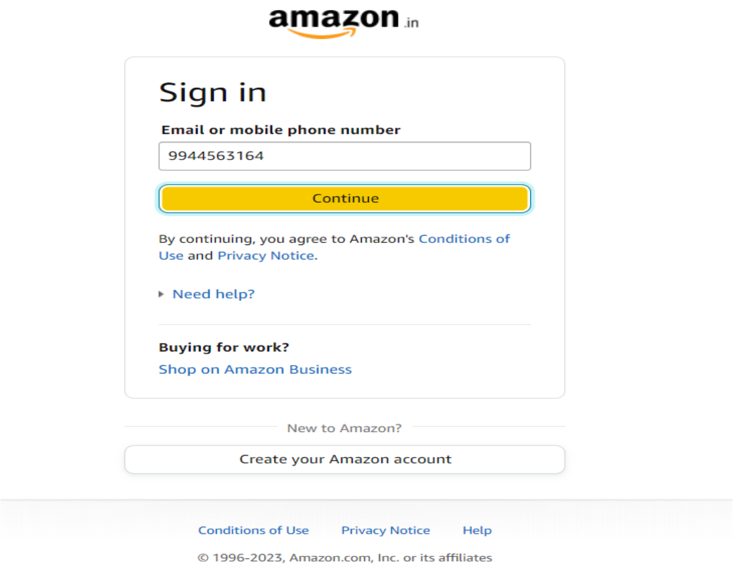
- All critical defects are resolved and retested.
- Performance benchmarks meet predefined standards.
- Security vulnerabilities are addressed or mitigated.
- User experience and usability criteria are met.

10. Conclusion

This test plan outlines a comprehensive approach to test the e-commerce web/mobile application, www.amazon.in. By conducting thorough testing, the aim is to ensure a seamless user experience, robust functionality, optimal performance, and a secure environment for users to shop online.

Remember that this is a high-level template and should be adapted to fit your specific testing needs and requirements. Additionally, ensure that you involve relevant stakeholders and subject matter experts in the testing process to achieve the best results.

OUTPUT:



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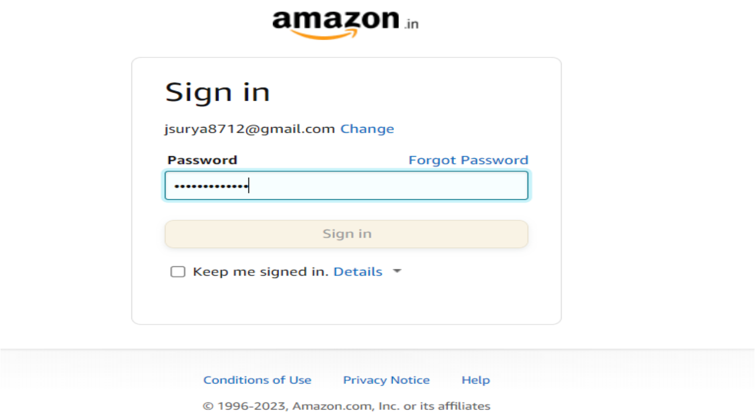

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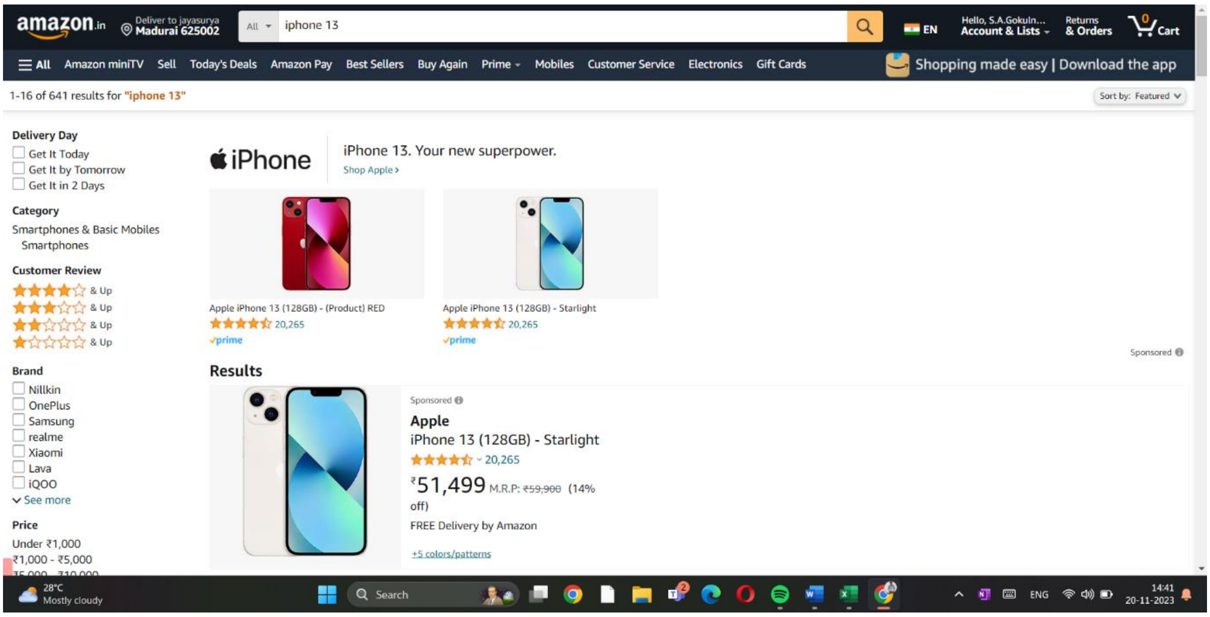

amazon.in Deliver to jayasurya Madurai 625002 | All | iphone 13 | EN | Hello, S.A.Gokuln... Account & Lists | Returns & Orders | 0 Cart

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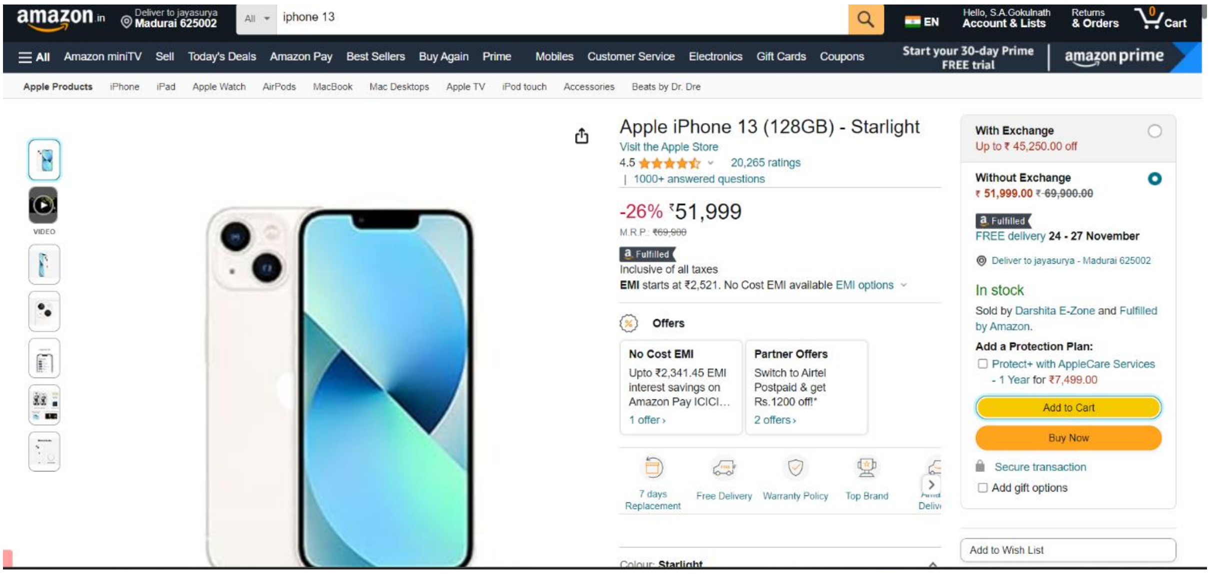

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VIDEO

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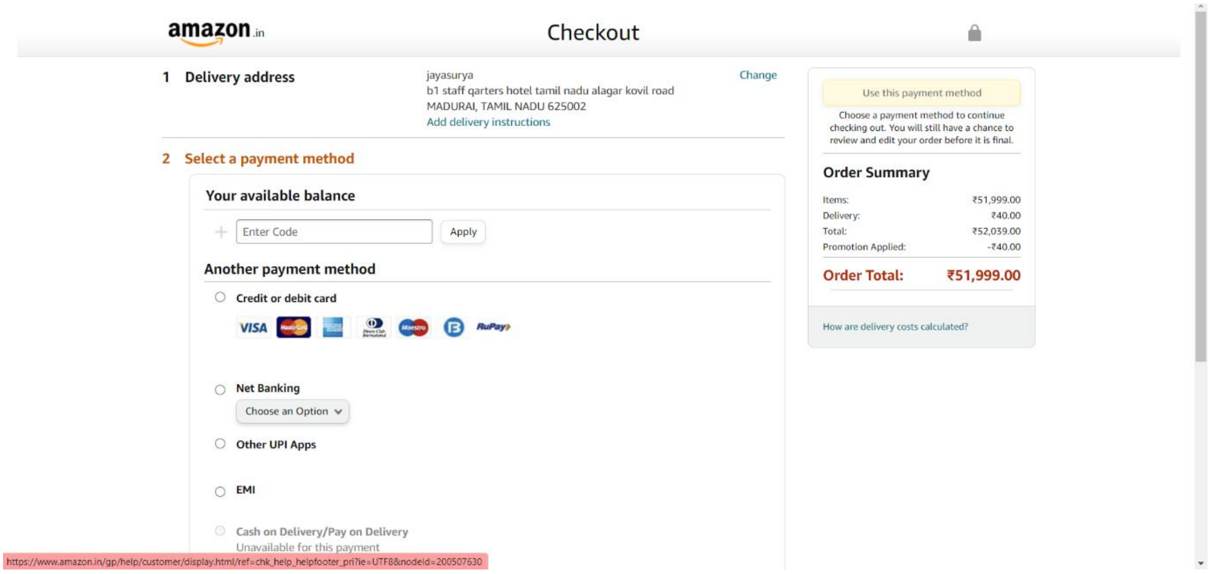


Checkout

1 Delivery address

jayasurya
b1 staff qarters hotel tamil nadu alagar kovil road
MADURAI, TAMIL NADU 625002
Add delivery instructions

Change

2 Select a payment method

Your available balance

+ Enter Code | Apply

Another payment method

○ Credit or debit card

○ Net Banking
Choose an Option

○ Other UPI Apps

○ EMI

○ Cash on Delivery/Pay on Delivery
Unavailable for this payment

https://www.amazon.in/gp/help/customer/display.html/ref=chk_help_helpfooter_pri?ie=UTF8&nodeId=200507630

Use this payment method

Choose a payment method to continue checking out. You will still have a chance to review and edit your order before it is final.

Order Summary

Items:	₹51,999.00
Delivery:	₹40.00
Total:	₹52,039.00
Promotion Applied:	-₹40.00
Order Total:	**₹51,999.00**

How are delivery costs calculated?

RESULT:

Thuse are the Test Plan for E-commerce Web/Mobile Application Testing for www.amazon.in

EX.NO:2 DATE:	**Design the test cases for testing the e-commerce application**

Aim :

Design the test cases for testing the e-commerce application

Procedure

Testing an e-commerce application involves a comprehensive approach to ensure that all aspects of the application are functioning correctly. Below, I've outlined a variety of test cases covering different areas of the application:

1. User Registration and Authentication:

- Verify successful user registration with valid details.
- Verify registration failure with incomplete or invalid details.
- Test user login with correct credentials.
- Test user login with incorrect credentials.
- Check password recovery/reset functionality.

2. Product Management:

- Verify that products are displayed correctly in the catalog.
- Test sorting and filtering options for products.
- Check if product details (name, price, description) are accurate.
- Test adding products to the cart from the product detail page and catalog.
- Verify that out-of-stock products are labeled appropriately.
- Test product search functionality.

3. Shopping Cart:

- Verify adding/removing items to/from the cart.
- Check if cart reflects accurate product quantities and prices.
- Test updating item quantities in the cart.
- Test cart behavior when items are out of stock.
- Verify that total price calculation is correct.

4. Checkout and Payment:

- Test the checkout process with a registered user.
- Test the checkout process as a guest user.
- Verify that shipping and billing information is accurately displayed.
- Test applying valid and invalid coupon codes.
- Test various payment methods (credit card, PayPal, etc.).
- Verify successful order placement.
- Test order placement failure scenarios.

5. Order Management:

- Verify that users can view their order history.
- Check that order details are accurate on the order history page.
- Test order status updates (e.g., processing, shipped, delivered).
- Verify the cancellation/refund process for orders.

6.User Account Management:

- Test updating user profile information.
- Verify changing passwords and security details.
- Test subscription or newsletter sign-up functionality.
- Verify account deletion functionality.

7.Responsive Design and Compatibility:

- Test the application's compatibility on different browsers (Chrome, Firefox, Safari, Edge).
- Verify responsive design on various devices (desktop, tablet, mobile).
- Check for layout issues and inconsistencies.

8.Security and Privacy:

- Test input validation to prevent XSS and SQL injection attacks.
- Verify that sensitive data (like passwords) are stored securely.
- Test proper encryption of user data during transmission.
- Verify proper handling of user sessions and authentication tokens.

9.Performance and Load Testing:

- Test application response time under normal load.
- Perform load testing to simulate high user traffic.
- Verify application performance during peak hours.
- Test the application's behavior under stress conditions.

10. Localization and Internationalization:

- Test the application with different languages and character sets.
- Verify that currency and date formats adapt correctly to the user's locale.

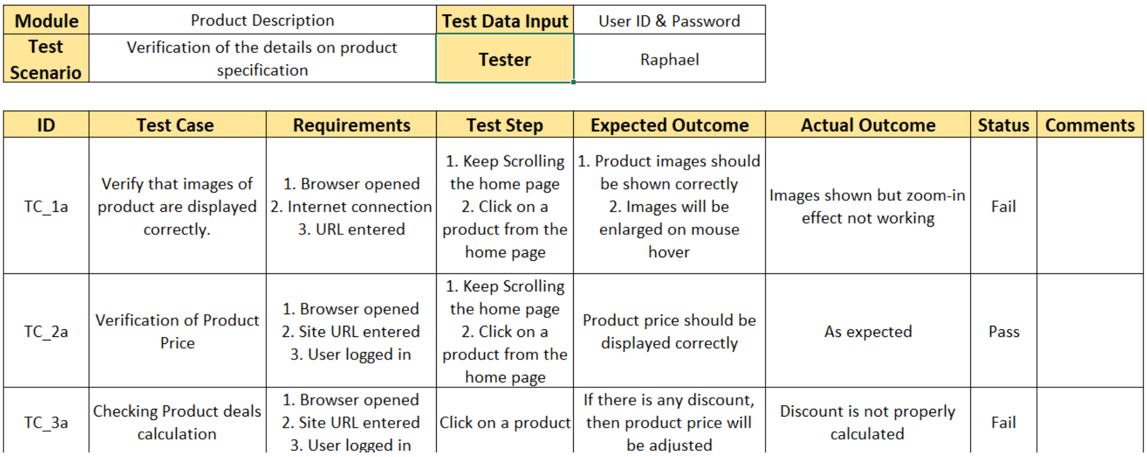
11.Accessibility Testing:

- Test the application for accessibility using screen readers and keyboard navigation.
- Verify that all user interface components are accessible to users with disabilities.

12.Integration Testing:

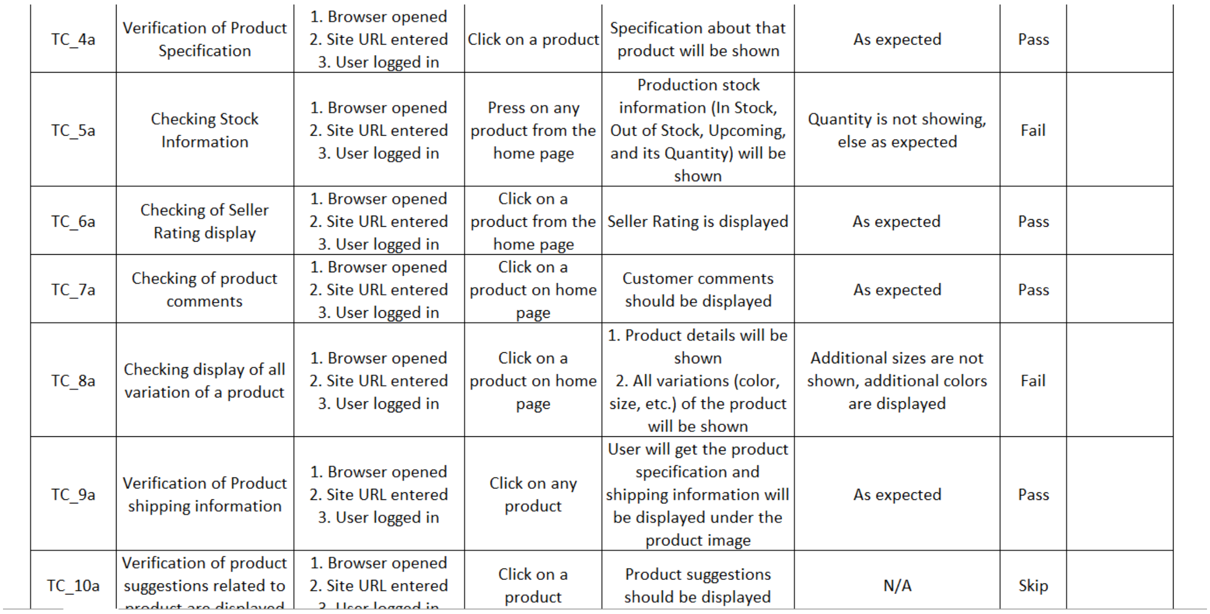
- Test integration with third-party services (payment gateways, shipping providers).
- Verify proper data exchange with inventory and order management systems.

OUTPUT:

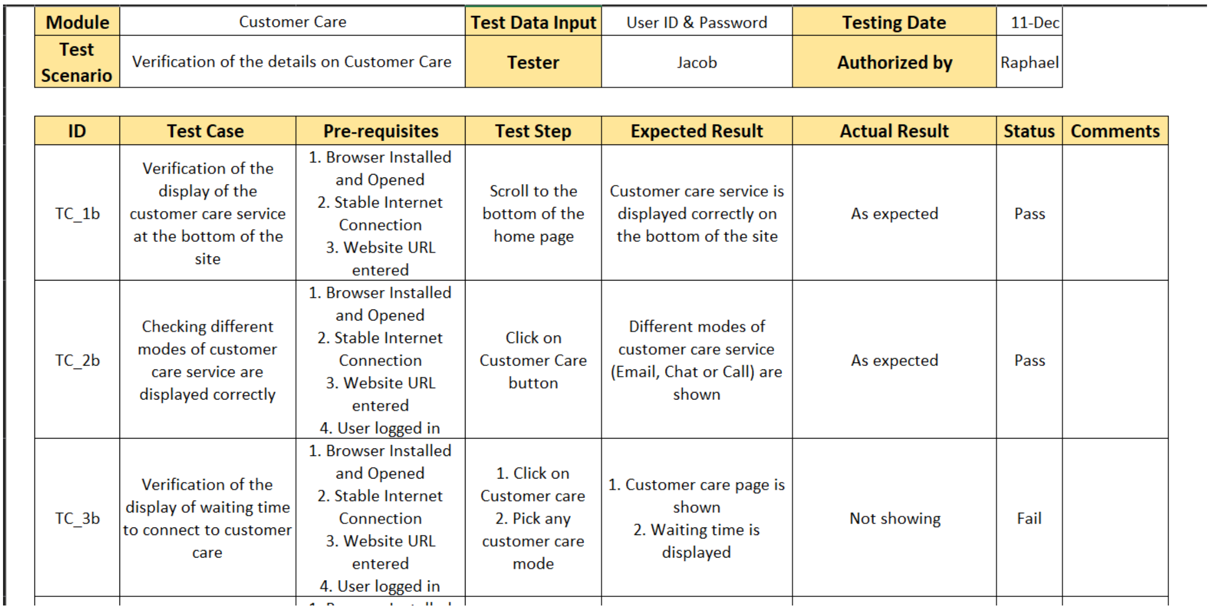


Module	Product Description	**Test Data Input**	User ID & Password
Test Scenario	Verification of the details on product specification	**Tester**	Raphael

ID	Test Case	Requirements	Test Step	Expected Outcome	Actual Outcome	Status	Comments
TC_1a	Verify that images of product are displayed correctly.	1. Browser opened 2. Internet connection 3. URL entered	1. Keep Scrolling the home page 2. Click on a product from the home page	1. Product images should be shown correctly 2. Images will be enlarged on mouse hover	Images shown but zoom-in effect not working	Fail	
TC_2a	Verification of Product Price	1. Browser opened 2. Site URL entered 3. User logged in	1. Keep Scrolling the home page 2. Click on a product from the home page	Product price should be displayed correctly	As expected	Pass	
TC_3a	Checking Product deals calculation	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product	If there is any discount, then product price will be adjusted	Discount is not properly calculated	Fail	

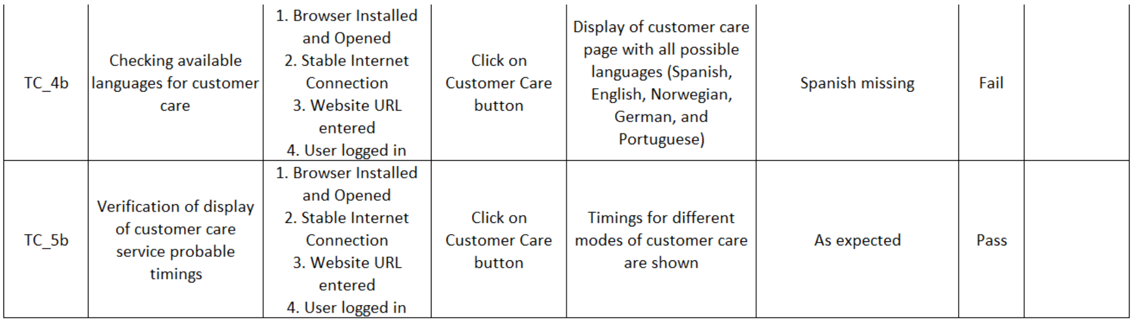


TC_4a	Verification of Product Specification	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product	Specification about that product will be shown	As expected	Pass	
TC_5a	Checking Stock Information	1. Browser opened 2. Site URL entered 3. User logged in	Press on any product from the home page	Production stock information (In Stock, Out of Stock, Upcoming, and its Quantity) will be shown	Quantity is not showing, else as expected	Fail	
TC_6a	Checking of Seller Rating display	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product from the home page	Seller Rating is displayed	As expected	Pass	
TC_7a	Checking of product comments	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product on home page	Customer comments should be displayed	As expected	Pass	
TC_8a	Checking display of all variation of a product	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product on home page	1. Product details will be shown 2. All variations (color, size, etc.) of the product will be shown	Additional sizes are not shown, additional colors are displayed	Fail	
TC_9a	Verification of Product shipping information	1. Browser opened 2. Site URL entered 3. User logged in	Click on any product	User will get the product specification and shipping information will be displayed under the product image	As expected	Pass	
TC_10a	Verification of product suggestions related to product are displayed	1. Browser opened 2. Site URL entered 3. User logged in	Click on a product	Product suggestions should be displayed	N/A	Skip	



Module	Customer Care	**Test Data Input**	User ID & Password	**Testing Date**	11-Dec
Test Scenario	Verification of the details on Customer Care	**Tester**	Jacob	**Authorized by**	Raphael

ID	Test Case	Pre-requisites	Test Step	Expected Result	Actual Result	Status	Comments
TC_1b	Verification of the display of the customer care service at the bottom of the site	1. Browser Installed and Opened 2. Stable Internet Connection 3. Website URL entered	Scroll to the bottom of the home page	Customer care service is displayed correctly on the bottom of the site	As expected	Pass	
TC_2b	Checking different modes of customer care service are displayed correctly	1. Browser Installed and Opened 2. Stable Internet Connection 3. Website URL entered 4. User logged in	Click on Customer Care button	Different modes of customer care service (Email, Chat or Call) are shown	As expected	Pass	
TC_3b	Verification of the display of waiting time to connect to customer care	1. Browser Installed and Opened 2. Stable Internet Connection 3. Website URL entered 4. User logged in	1. Click on Customer care 2. Pick any customer care mode	1. Customer care page is shown 2. Waiting time is displayed	Not showing	Fail	



TC_4b	Checking available languages for customer care	1. Browser Installed and Opened 2. Stable Internet Connection 3. Website URL entered 4. User logged in	Click on Customer Care button	Display of customer care page with all possible languages (Spanish, English, Norwegian, German, and Portuguese)	Spanish missing	Fail	
TC_5b	Verification of display of customer care service probable timings	1. Browser Installed and Opened 2. Stable Internet Connection 3. Website URL entered 4. User logged in	Click on Customer Care button	Timings for different modes of customer care are shown	As expected	Pass	

RESULT:

Thus the test cases for testing the E-commerces application was designed.

EX.NO:3 DATE:	Test the E-commerce application and report the defects in it

Aim:

Test the e-commerce application and report the defects in it.

1. Functionality Testing

- Registration and Login
- Test if users can successfully register and log in with valid credentials.
- Test for error handling when users provide incorrect login credentials.
- Check for password reset functionality.

i)Product Listing

- Verify that products are displayed correctly with accurate information (name, price, description, images).
- Test sorting and filtering options to ensure they work as expected.
- Check for any missing or broken product images or links.

ii)Shopping Cart

- Test adding and removing products from the cart.
- Ensure the cart updates correctly when quantities are changed.
- Verify that the total price is calculated accurately.

iii)Checkout Process

- Test the different payment methods (credit card, PayPal, etc.).
- Check for any issues with applying discounts or coupons.
- Verify that users receive confirmation emails after making a purchase.

2. Usability and User Interface Testing

- Ensure that the user interface is intuitive and easy to navigate.
- Test the responsiveness of the application on various devices and screen sizes.
- Check for consistency in design elements and layout across different pages.

3. Security Testing

- Test for SQL injection vulnerabilities by attempting to input malicious SQL queries.
- Verify that sensitive information (such as passwords and payment details) are encrypted and stored securely.
- Test session management to prevent unauthorized access.

4. Performance Testing

- Test the application's response time by simulating different user loads.
- Check for any slow-loading pages or excessive server requests.

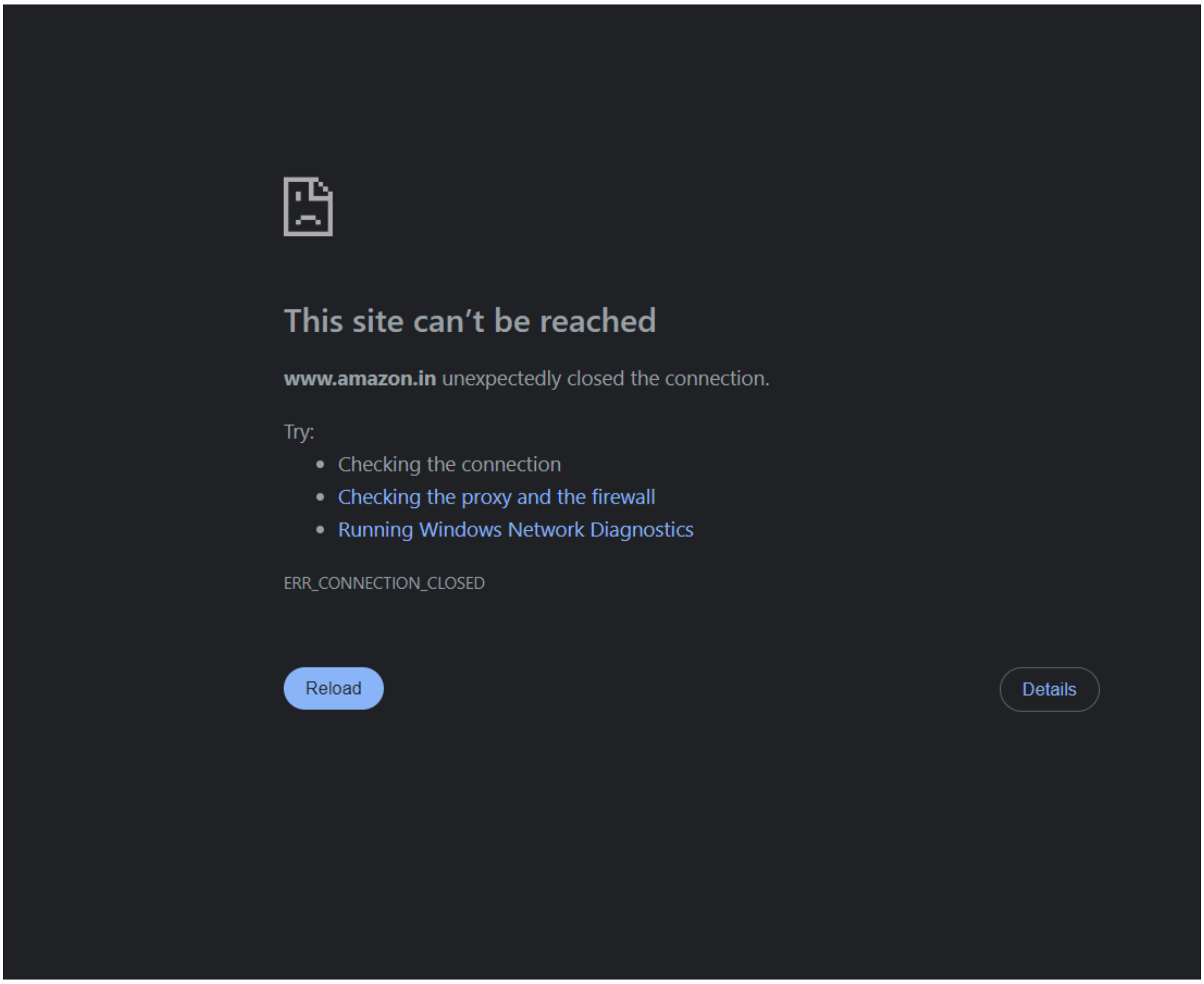
5. Compatibility Testing

- Test the application on various web browsers (Chrome, Firefox, Safari, etc.).
- Check compatibility with different operating systems (Windows, macOS, Linux).

6. Defect Examples

- Broken links or missing images on product pages.
- Incorrect product information (price, description, etc.).
- Errors during registration or login processes.
- Issues with adding or removing items from the shopping cart.
- Incorrect calculations in the checkout process.
- Broken or missing functionality in mobile or tablet views.
- Inconsistent design elements across different pages.
- Security vulnerabilities like SQL injection or unauthorized access.

OUTPUT



This site can’t be reached

www.amazon.in unexpectedly closed the connection.

Try:

- Checking the connection
- Checking the proxy and the firewall
- Running Windows Network Diagnostics

ERR_CONNECTION_CLOSED

RESULT:

Thus the testing the E-commerces application and reporting the defects was done and verified successfully.

EX.NO:4 **DATE:**	**Develop the test plan and design the test case for an inventory control system**

AIM:

To develop the test plan and design the test case for an inventory control system.

PROCEDURE:

1. Introduction

1.1 Purpose of the Test Plan

- Define the purpose of testing the inventory control system.

1.2 Scope

- Specify the features and functionalities covered by the test plan.

1.3 Objectives

- List the goals and objectives of testing the inventory control system.

2. Test Items

- Specify the components or modules of the inventory control system to be tested.

3. Features to be Tested

- List the key features and functionalities to be tested.

4. Testing Approach

4.1 Manual Testing

- Describe how manual testing will be performed.

4.2 Automated Testing

- Specify the tools and frameworks for automated testing, if applicable.

5. Test Deliverables

- List the documents and reports to be delivered as part of the testing process.

6. Testing Schedule

- Provide a timeline for the testing activities, including milestones and deadlines.

7. Test Environment

7.1 Hardware

- Specify the hardware requirements for testing.

7.2 Software

- List the software and tools needed for testing.

8. Entry and Exit Criteria

- Define the conditions that must be met before testing can begin and the criteria for ending testing.

9. Test Cases

Include detailed test cases covering various scenarios. Each test case should have:

9.1 Test Case ID

9.2 Test Description

9.3 Test Steps

9.4 Expected Results

9.5 Actual Results

9.6 Status (Pass/Fail)

10. Test Data

- Specify the data to be used during testing, including valid and invalid inputs.

11. Risks and Assumptions

- Identify potential risks and assumptions that could impact testing.

12. Issues Tracking

- Define a process for tracking and managing issues identified during testing.

13. Approvals

- List the stakeholders who need to approve the test plan.

Test Case Design

Example Test Case:

Test Case ID: INV-TC-001

Test Description: Verify that the system can add a new item to the inventory.

Test Steps:

1. Log in to the inventory control system.
2. Navigate to the "Add Item" section.
3. Enter valid details for a new item (e.g., name, quantity, category).
4. Click on the "Add" button.
5. Navigate to the "View Inventory" section.
6. Verify that the new item is displayed in the inventory.

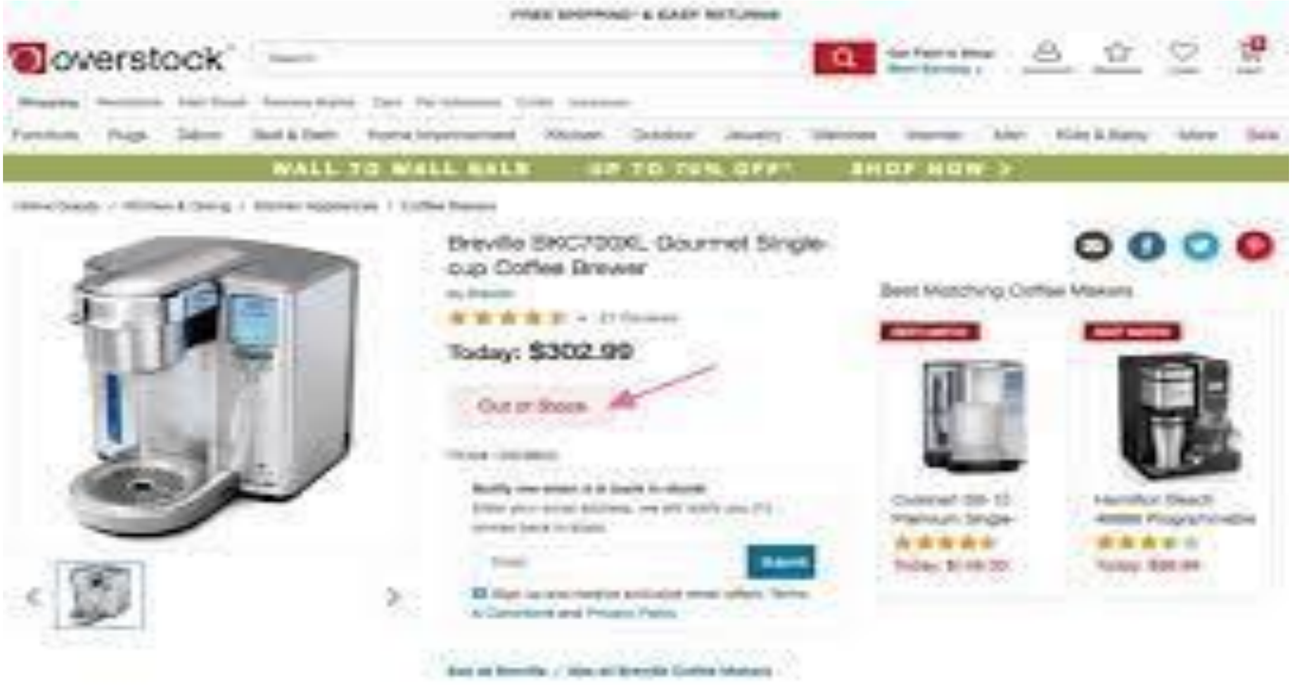
Expected Results:

- ➢ The system should successfully add the new item.
- ➢ The new item should be visible in the inventory.

OUTPUT:

Actual Results

[Pass/Fail]


FREE SHIPPING* & EASY RETURNS
overstock
WALL TO WALL SALE
UP TO 70% OFF*
SHOP NOW >
Breville BKC700XL Gourmet Single-cup Coffee Brewer
Today: $302.99
Out of Stock
Best Matching Coffee Makers

RESULT:

Develop the test plan and design the test case for an inventory control system was successful and output is noted.

EX.NO:5 DATE:	Execute the test cases against a client server or desktop applicatio and identify the defects

AIM:

To execute the test cases against a client server and identify the defects.

TEST CASES:

1. Connection and Authentication:

- Test that the client can establish a connection with the server.
- Verify that authentication mechanisms work correctly (e.g., username/password validation, token authentication).

2. Data Transmission:

- Check the data integrity during transmission between client and server.
- Test how the application handles large volumes of data.
- Verify the encryption and decryption of sensitive data during transmission.

3. Functionality:

- Test each functionality provided by the client and server.
- Example: If it's a file-sharing application, test uploading, downloading, and deleting files.

4. Error Handling:

- Verify the system's response to incorrect input or unexpected situations.
- Test how the client-server application handles network disruptions or server unavailability.

5. Concurrency and Load Handling:

- Test how the system performs under multiple concurrent users.
- Check how the application handles a large number of simultaneous requests.

6. Compatibility:

- Ensure the client works correctly with different versions of the server and vice versa.
- Check compatibility with different operating systems and browsers (if applicable).

7. Security:

- Test for common security vulnerabilities, such as SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF).
- Verify that sensitive information is properly encrypted and protected.

8. Usability:

- Evaluate the overall user experience, including interface responsiveness and ease of use.

9. Scalability:

- Test the application's scalability by increasing the load gradually and ensuring it can handle additional users.

10. Performance:

- Measure response times for various operations to ensure they meet acceptable performance standards.

11. Logging and Auditing:

- Verify that the application logs relevant information for troubleshooting and auditing purposes.

12. Recovery and Redundancy:

- Test the system's ability to recover from failures and check redundancy mechanisms.

13. Integration:

- If the client-server application interacts with other systems or services, test those interactions.

14. Documentation:

- Ensure that documentation is accurate and up-to-date

DEFECTS ARE:-

1.Connection Issues:

- Defect: The client cannot establish a connection with the server.

- Identification: Test the connection process with valid and invalid credentials. If the client cannot connect or experiences delays, there may be a defect in the connection handling.

2.Authentication Failures:

- Defect: Users with valid credentials are unable to log in.
- Identification: Perform login tests with correct and incorrect credentials. If valid users cannot authenticate or invalid users are granted access, there may be an authentication defect.

3.Data Corruption During Transmission:

- Defect: Uploaded/downloaded files are corrupted.
- Identification: Perform file upload and download tests, comparing the original and downloaded files. If there are differences or corruption, it indicates a defect in the data transmission process.

4.Error Handling Issues:

- Defect: Unclear or missing error messages.
- Identification: Intentionally trigger errors (e.g., entering invalid data) and check the system's response. If error messages are unclear or absent, it's a defect in error handling.

5.Performance Problems Under Load:

- Defect: System becomes slow or unresponsive under heavy load.
- Identification: Simulate a high load on the system and observe its performance. If the response time increases significantly or the system becomes unresponsive, it suggests a defect in performance handling.

6.Security Vulnerabilities:

- Defect: Presence of security vulnerabilities like SQL injection.
- Identification: Attempt security testing, such as injecting SQL commands. If the system is vulnerable, it indicates a defect in security measures.

7.Functionality Failures:

- Defect: Specific functionalities do not work as expected.
- Identification: Test each functionality of the client-server application. If any expected functionality is not working correctly, it's a functional defect.

8.Concurrency Issues:

- Defect: System does not handle multiple users simultaneously.

- Identification: Simulate concurrent user activities and check for any issues. If the system fails to handle concurrency, it indicates a defect.

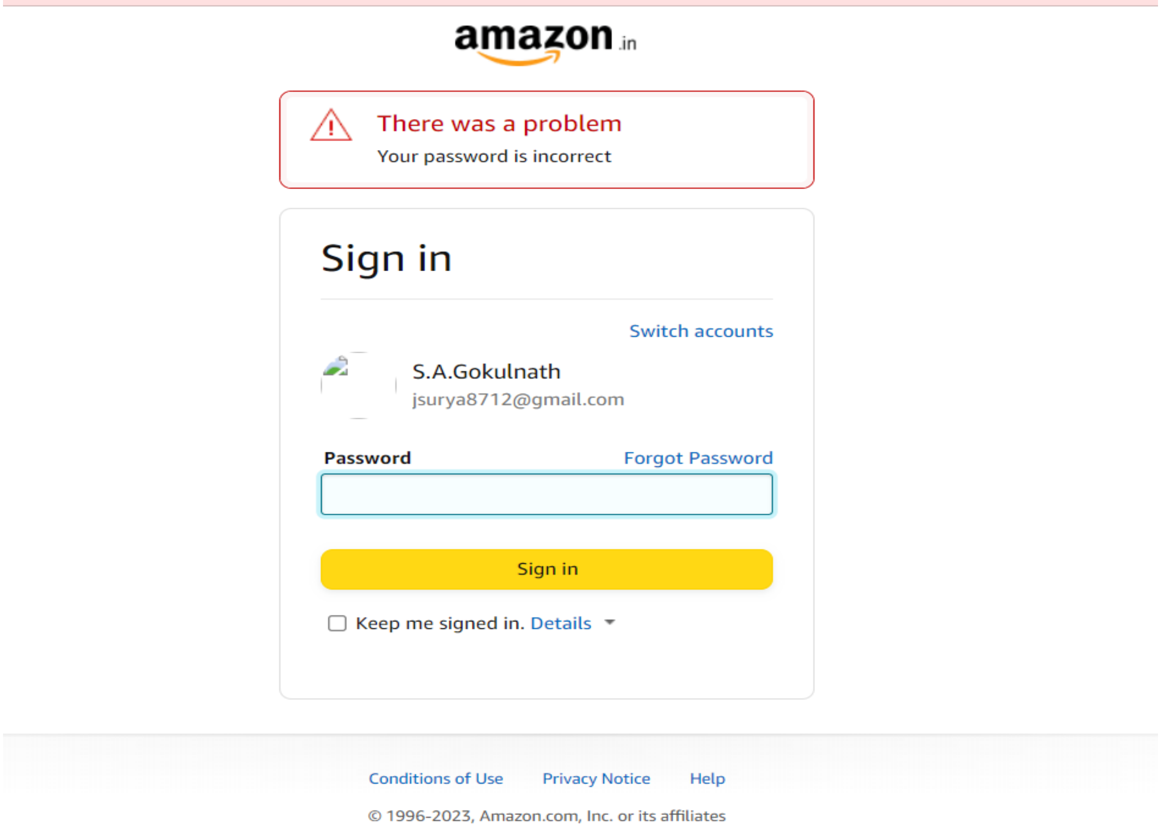
9.Compatibility Problems:

- Defect: The client or server is not compatible with certain operating systems or browsers.
- Identification: Test the application on different operating systems and browsers. If compatibility issues arise, there may be a defect.

10.Usability Problems:

- Defect: Poor user experience, confusing interface.
- Identification: Observe user interactions and collect feedback. If users find the interface confusing or experience difficulties, it may indicate a usability defect

OUTPUT:



amazon.in

There was a problem

Your password is incorrect

Sign in

S.A.Gokulnath
jsurya8712@gmail.com

Password

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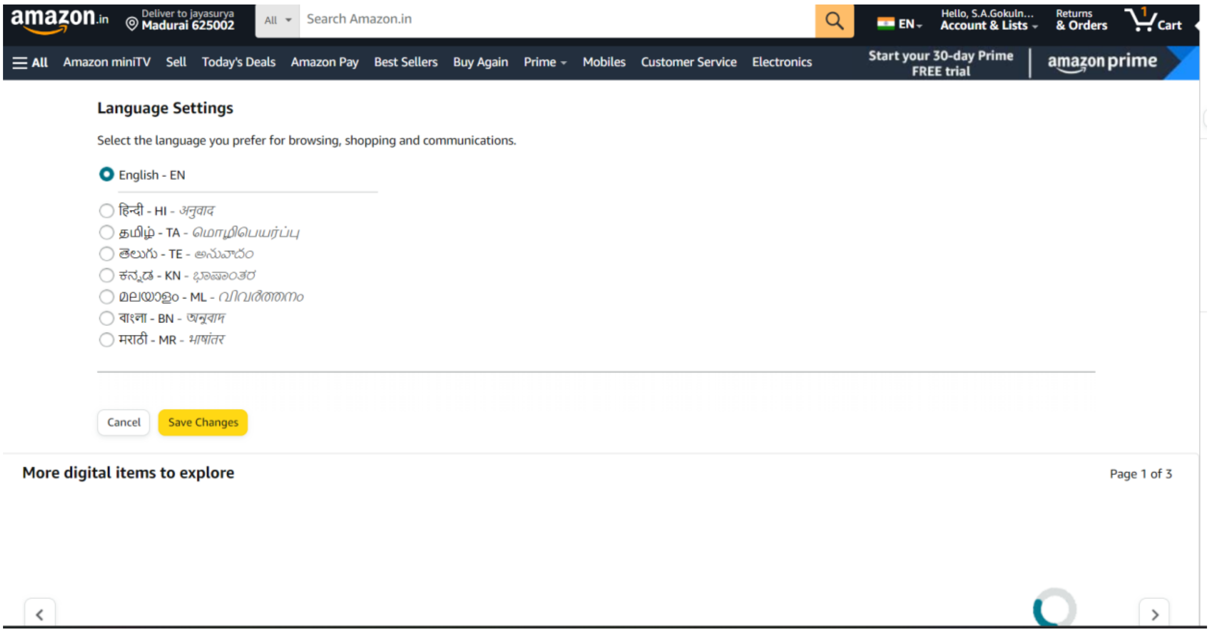

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○ తెలుగు - TE - అనువాదం
○ ಕನ್ನಡ - KN - ಭಾಷಾಂತರ
○ മലയാളം - ML - വിവർത്തനം
○ বাংলা - BN - অনুবাদ
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More digital items to explore

Page 1 of 3

RESULT:

Thus test cases against the clent server was created and defect was identified for these test cases

EX.NO:6 **DATE:**	**Test the performance of the e-commerce application**

AIM:

To test the performance of the E-commerce application.

1.Load Testing:

- Scenario: Simulate a realistic load on the application by gradually increasing the number of concurrent users.
- Objective: Verify that the application can handle the expected number of users without performance degradation.

2.Stress Testing:

- Scenario: Exceed the application's capacity by subjecting it to a load beyond the expected maximum.
- Objective: Identify the breaking point of the system and understand how it behaves under extreme conditions.

3.Endurance Testing:

- Scenario: Run the application under a sustained load for an extended period (e.g., 24 hours).
- Objective: Identify any memory leaks, performance degradation over time, or other issues that may occur during prolonged usage.

4.Scalability Testing:

- Scenario: Test the application's ability to scale horizontally or vertically by adding more resources or servers.
- Objective: Determine how well the system can handle increased load through additional hardware or infrastructure.

5.Response Time Testing:

- Scenario: Measure the time it takes for the application to respond to user actions (e.g., page loads, form submissions).
- Objective: Ensure that response times meet acceptable standards and provide a smooth user experience.

6.Concurrency Testing:

- Scenario: Simulate multiple users performing different actions simultaneously.
- Objective: Evaluate how well the application handles concurrent transactions without performance bottlenecks.

7.Database Performance Testing:

- Scenario: Evaluate the performance of database queries, indexing, and data retrieval.
- Objective: Identify and optimize any database-related performance issues that could impact the overall application.

8.Network Latency Testing:

- Scenario: Introduce network delays to simulate real-world network conditions.
- Objective: Assess how the application performs under varying network speeds and latencies.

9.Caching Mechanism Testing:

- Scenario: Test the effectiveness of caching mechanisms for static and dynamic content.
- Objective: Improve response times by ensuring that caching mechanisms are working correctly.

10.Mobile Performance Testing:

- Scenario: Test the application's performance on different mobile devices and network conditions.
- Objective: Ensure a smooth experience for users accessing the e-commerce site from mobile devices.

11.Third-Party Integration Testing:

- Scenario: Evaluate the performance impact of third-party integrations (payment gateways, analytics tools, etc.).
- Objective: Ensure that third-party services do not significantly degrade the overall performance.

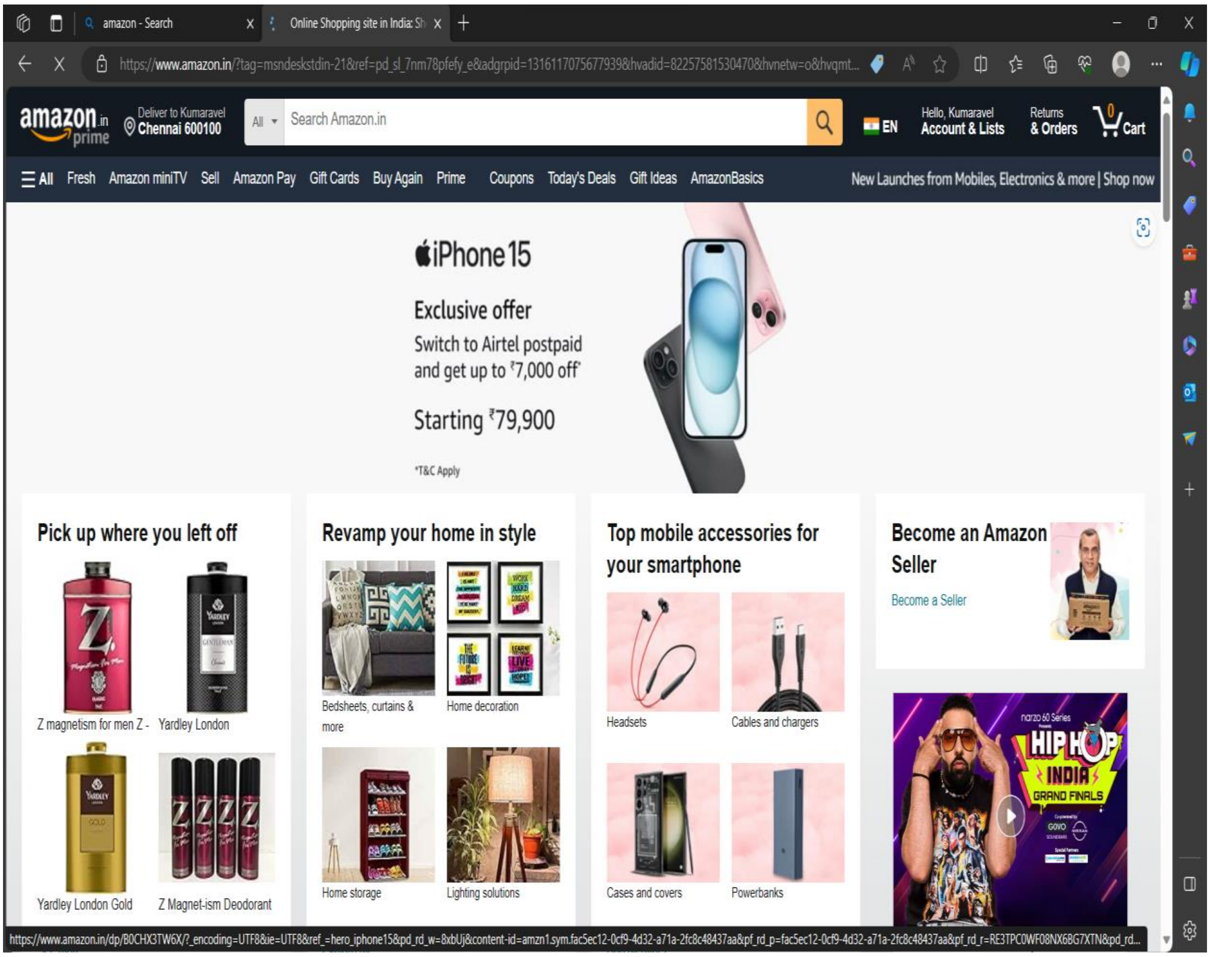
12.Cross-Browser Testing:

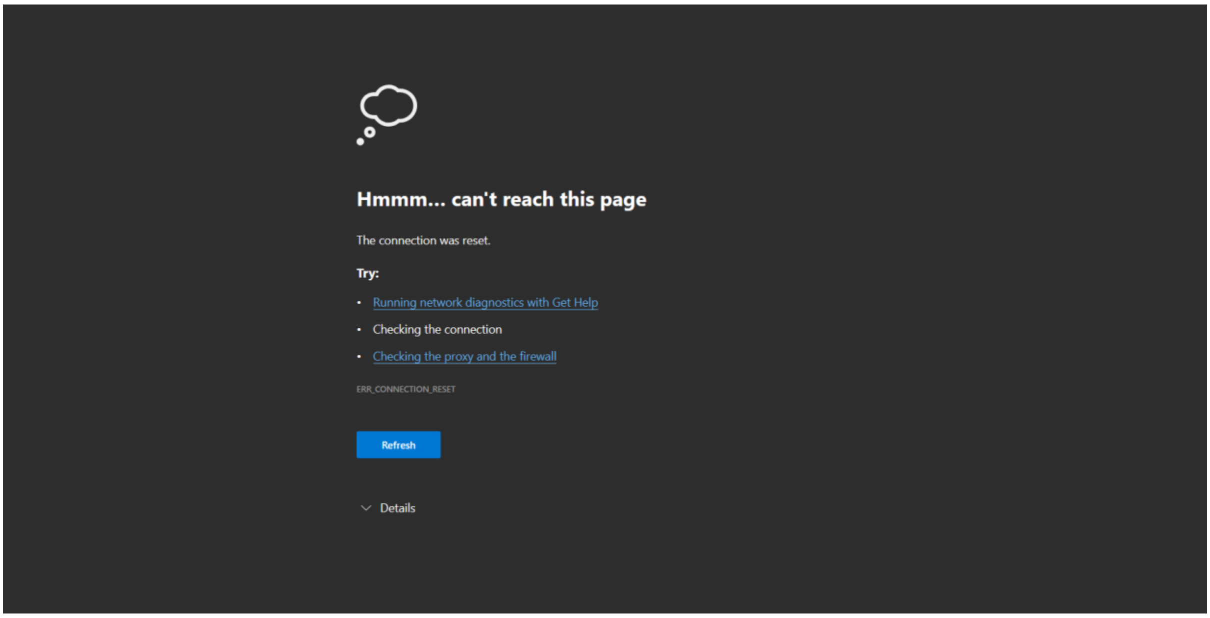
- Scenario: Test the application's performance on various web browsers.
- Objective: Ensure consistent performance across different browsers commonly used by your target audience.

13.Page Load Testing:

- Scenario: Analyze the time it takes to load key pages, especially the homepage and product pages.
- Objective: Optimize page load times for a better user experience and search engine ranking.

OUTPUT:


amazon - Search
Online Shopping site in India: Sh
https://www.amazon.in/?tag=msndeskstdin-21&ref=pd_sl_7nm78pfefy_e&adgrpid=1316117075677939&hvadid=82257581530470&hvnetw=o&hvqmt...
amazon.in prime
Deliver to Kumaravel
Chennai 600100
All
Search Amazon.in
EN
Hello, Kumaravel
Account & Lists
Returns
& Orders
0
Cart
All
Fresh
Amazon miniTV
Sell
Amazon Pay
Gift Cards
Buy Again
Prime
Coupons
Today's Deals
Gift Ideas
AmazonBasics
New Launches from Mobiles, Electronics & more | Shop now
iPhone 15
Exclusive offer
Switch to Airtel postpaid and get up to ₹7,000 off*
Starting ₹79,900
*T&C Apply
Pick up where you left off
Z magnetism for men Z -
Yardley London
Yardley London Gold
Z Magnet-ism Deodorant
Revamp your home in style
Bedsheets, curtains & more
Home decoration
Home storage
Lighting solutions
Top mobile accessories for your smartphone
Headsets
Cables and chargers
Cases and covers
Powerbanks
Become an Amazon Seller
Become a Seller
narzo 60 Series
HIP HOP INDIA GRAND FINALS
https://www.amazon.in/dp/B0CHX3TW6X/?_encoding=UTF8&ie=UTF8&ref_=hero_iphone15&pd_rd_w=8xbUj&content-id=amzn1.sym.fac5ec12-0cf9-4d32-a71a-2fc8c48437aa&pf_rd_p=fac5ec12-0cf9-4d32-a71a-2fc8c48437aa&pf_rd_r=RE3TPCOWF08NX6BG7XTN&pd_rd...



Hmmm... can't reach this page

The connection was reset.

Try:

- Running network diagnostics with Get Help
- Checking the connection
- Checking the proxy and the firewall

ERR_CONNECTION_RESET

RESULT:

Thus the performance of the E-commerce application tested .

EX.NO:7 **DATE:**	**Automate the testing of e-commerce applications using Selenium**

AIM:

To Automate the test the E-commerce application using selenium.

PROCEDURE:

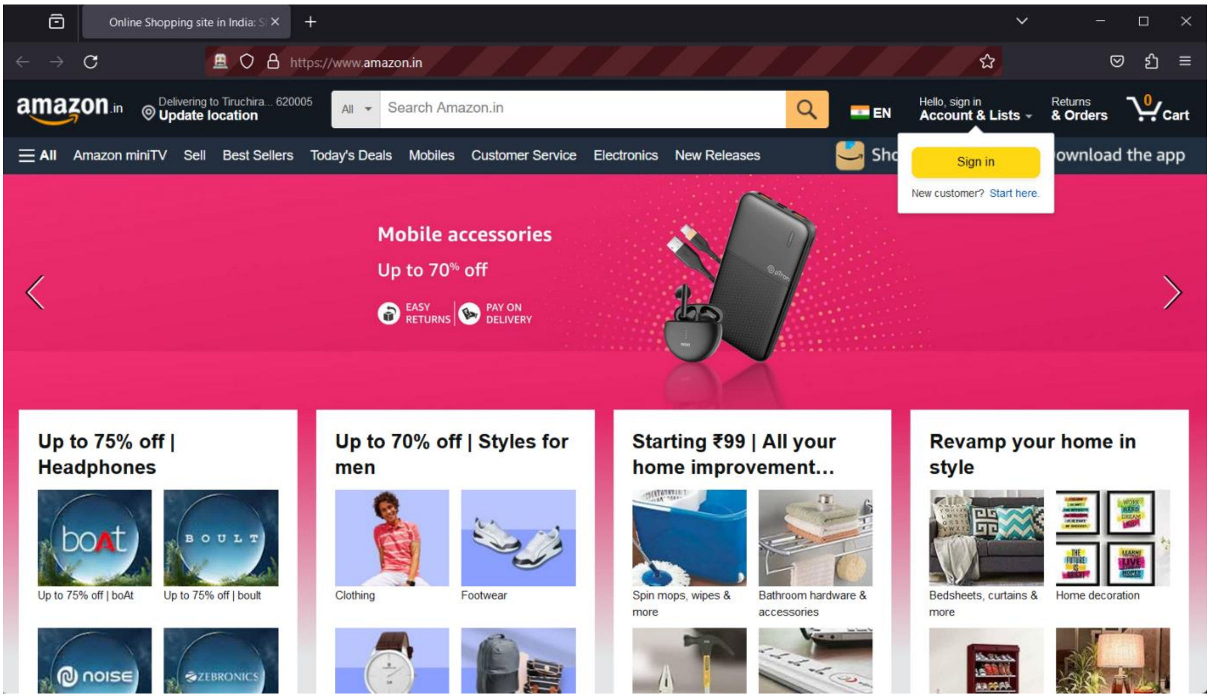
- Install the selenium zip file from the official website and extract it.
- Install the firefox developer version
- Install jdk from the official website
- Install the eclipse ide and create the java project and class.
- In the class create the new folder.
- Copy the jar files in the selenium library folder and paste it in the created file
- Select all the jar files in folder and Right click and select the add path.
- Now import all the required files for testing.
- According to the test plan write the code.
- Run the java application it will redirect to website and automatically execute all the test case in the program.
- This case is used to add the item in the add-to-cart.

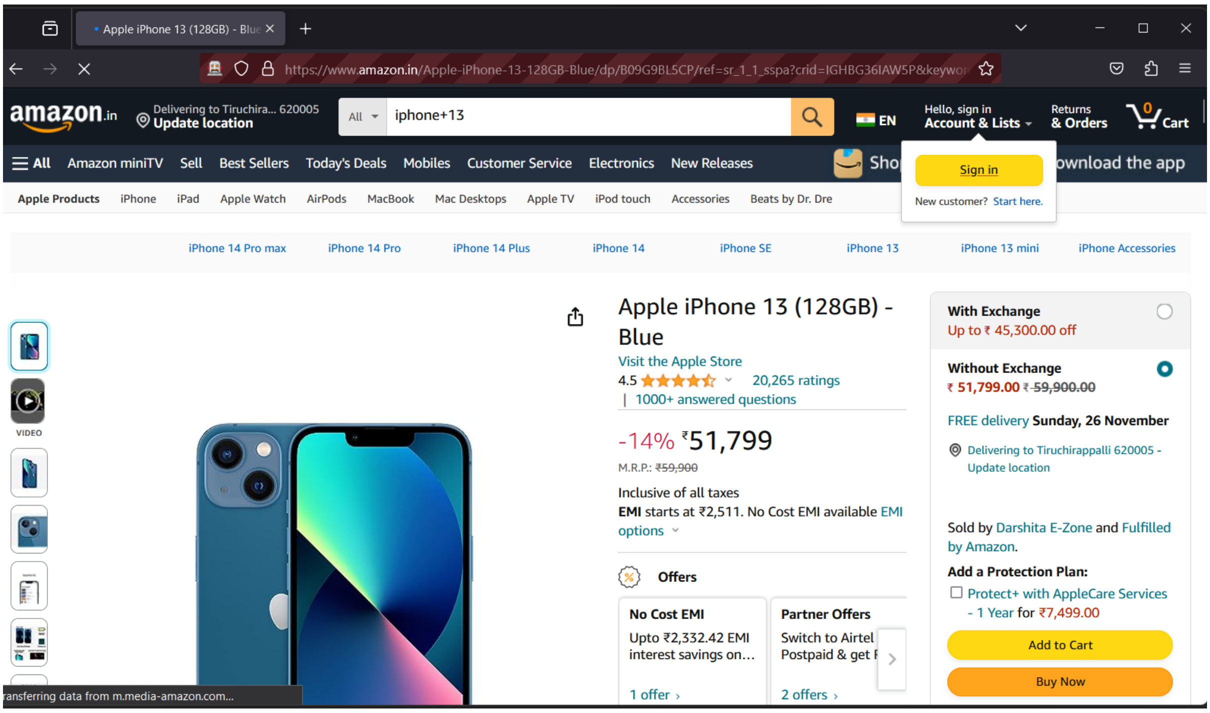
PROGRAME:

```
import java.util.List;
import java.util.concurrent.TimeUnit;
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.Select;

public class test {

 public static void main(String[] args) {
```

```
 WebDriver driver=new FirefoxDriver();
 driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);
 driver.get("https://www.amazon.in");
  WebElement searchbox = driver.findElement(By.id("twotabsearchtextbox"));
  searchbox.sendKeys("Iphone 13");
  searchbox.submit();
  driver.get("https://www.amazon.in/Apple-iPhone-13-128GB-
          Blue/dp/B09G9BL5CP/ref=sr_1_1_sspa?crid=IGHBG36IAW5P&keywords=i
          phone%2B13&nsdOptOutParam=true&qid=1699854700&sprefix=iphone%2
          B13%2Caps%2C630&sr=8-1-
          spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1");
  WebElement addcart = driver.findElement(By.id("add-to-cart-button"));
   addcart.click();

 }
}
```

OUTPUT:





Apple iPhone 13 (128GB) - Blue

Visit the Apple Store

4.5 ★★★★☆ 20,265 ratings

| 1000+ answered questions

-14% ₹51,799

M.R.P.: ~~₹59,900~~

Inclusive of all taxes

EMI starts at ₹2,511. No Cost EMI available EMI options

Offers

No Cost EMI
Upto ₹2,332.42 EMI interest savings on…
1 offer ›

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2 offers ›

With Exchange ○
Up to ₹ 45,300.00 off

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₹ 51,799.00 ~~₹ 59,900.00~~

FREE delivery **Sunday, 26 November**

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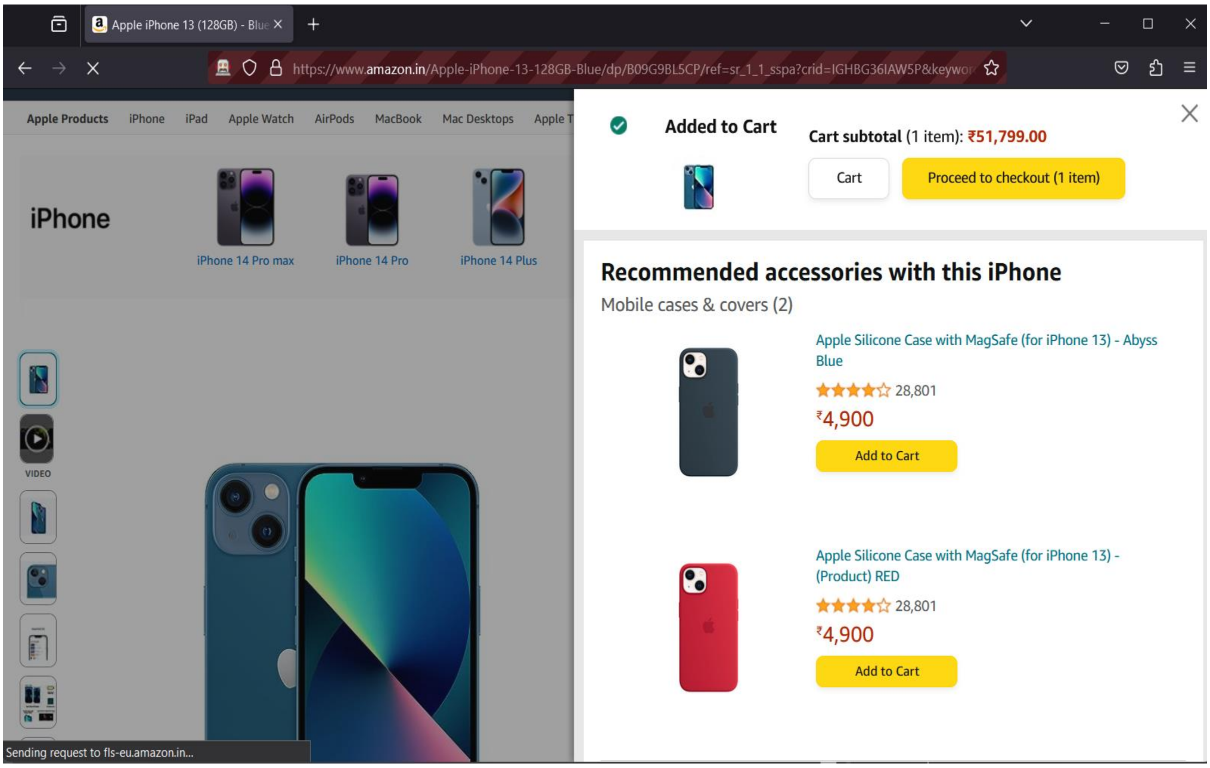
Sold by Darshita E-Zone and Fulfilled by Amazon.

Add a Protection Plan:

□ Protect+ with AppleCare Services - 1 Year for ₹7,499.00

Add to Cart

Buy Now



https://www.amazon.in/Apple-iPhone-13-128GB-Blue/dp/B09G9BL5CP/ref=sr_1_1_sspa?crid=IGHBG36IAW5P&keywor

Added to Cart

Cart subtotal (1 item): ₹51,799.00

Recommended accessories with this iPhone

Mobile cases & covers (2)

Apple Silicone Case with MagSafe (for iPhone 13) - Abyss Blue

28,801

₹4,900

Apple Silicone Case with MagSafe (for iPhone 13) - (Product) RED

28,801

₹4,900

Sending request to fls-eu.amazon.in...

RESULT:

E-commerces website was teated using the selenium.and functionallity of some cases was tested and output is verified.

EX.NO:8 DATE:	**Integrate TestNG with above test automation.**

AIM:

To integrate TestNG with above test automation.

PROCEDURE:

- Install testNG in ecliplse ide.
- Configure the testNG in run path.
- Import the TestNG package.
- Design the test cases for the E-commerce website.
- Define the methods which contains the test cases.
- Run the Program by Run as testNG.
- Verify the output.

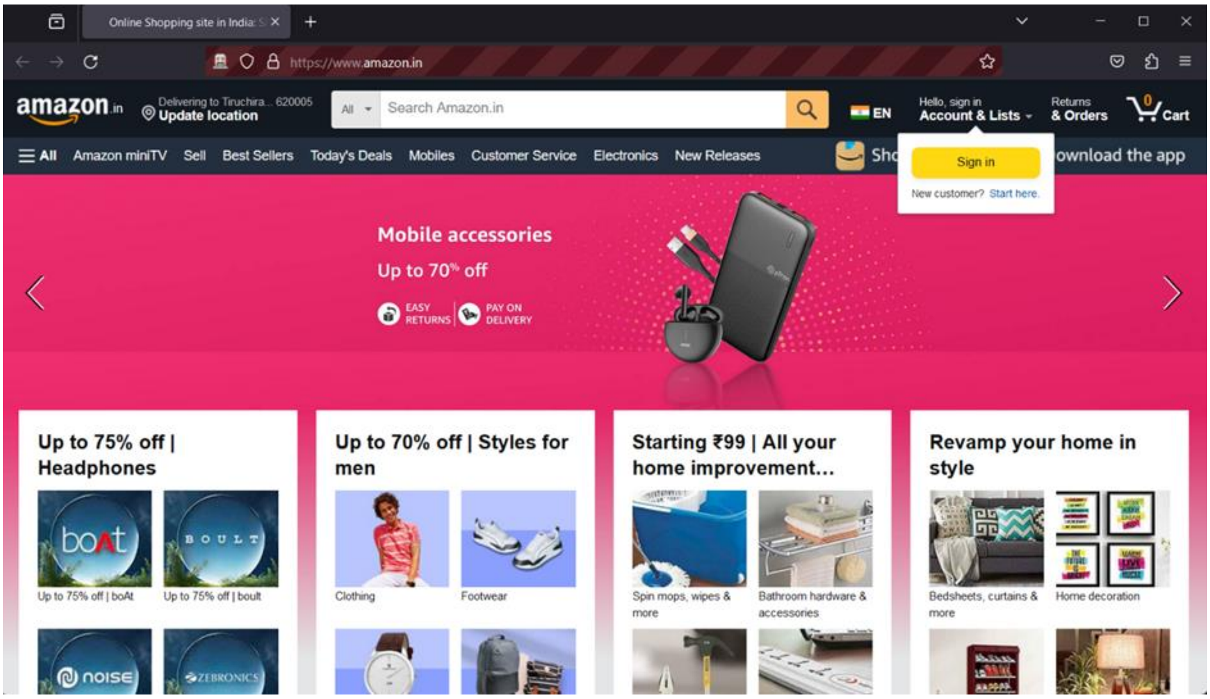
PROGRAME:

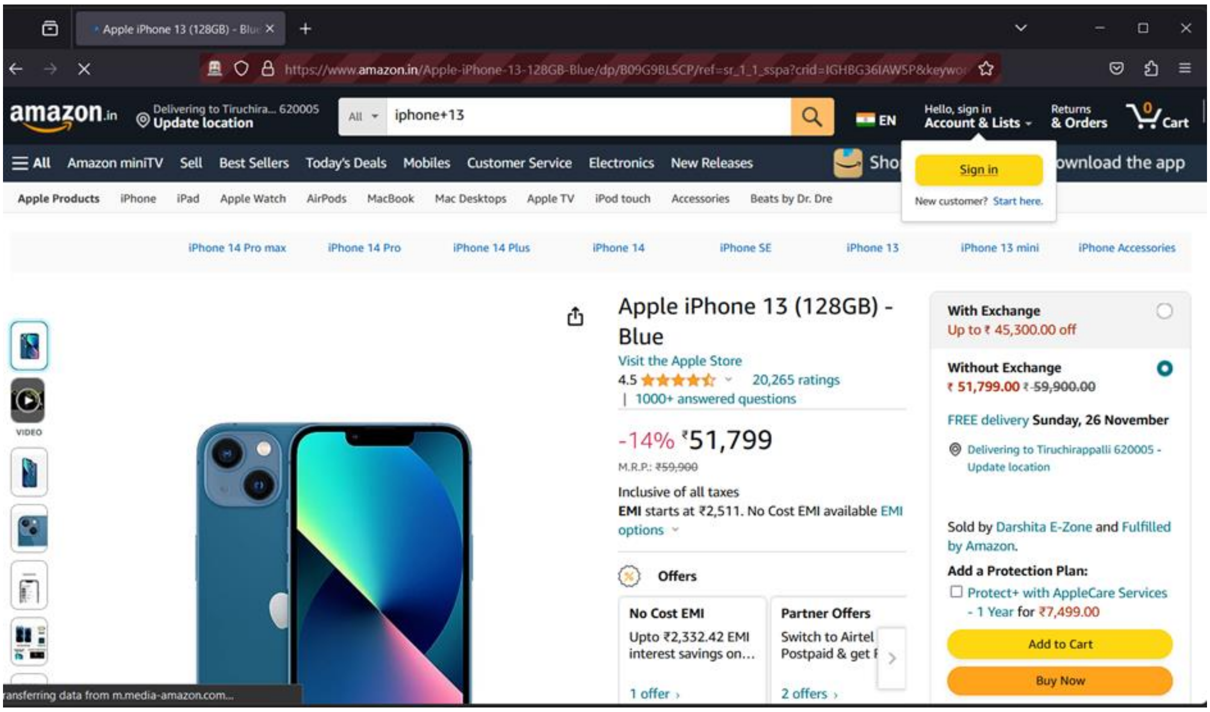
```
import java.util.concurrent.TimeUnit;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.firefox.FirefoxDriver;

import org.testng.annotations.Test;


public class test1 {


        WebDriver driver;

        @Test

        public void add_to_cart() {

                System.out.println("add to cart test");

                WebDriver driver=new FirefoxDriver();

                  driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);

                  driver.get("https://www.amazon.in");
```

```
                   WebElement searchbox =driver.findElement(By.id("twotabsearchtextbox"));
```

```
                searchbox.sendKeys("Iphone 13");
                searchbox.submit();
                driver.get("https://www.amazon.in/Apple-iPhone-13-128GB-Blue/dp/B09G9BL5CP/ref=sr_1_1_sspa?crid=IGHBG36IAW5P&keywords=iphone%2B13&nsdOptOutParam=true&qid=1699854700&sprefix=iphone%2B13%2Caps%2C630&sr=8-1-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1");
                WebElement addcart = driver.findElement(By.id("add-to-cart-button"));
                 addcart.click();
        }
}
```

OUTPUT:





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-14% ₹51,799

M.R.P.: ~~₹59,900~~

Inclusive of all taxes

EMI starts at ₹2,511. No Cost EMI available EMI options

Offers

No Cost EMI
Upto ₹2,332.42 EMI interest savings on…
1 offer ›

Partner Offers
Switch to Airtel Postpaid & get f
2 offers ›

○ With Exchange
Up to ₹ 45,300.00 off

● Without Exchange
₹ 51,799.00 ~~₹ 59,900.00~~

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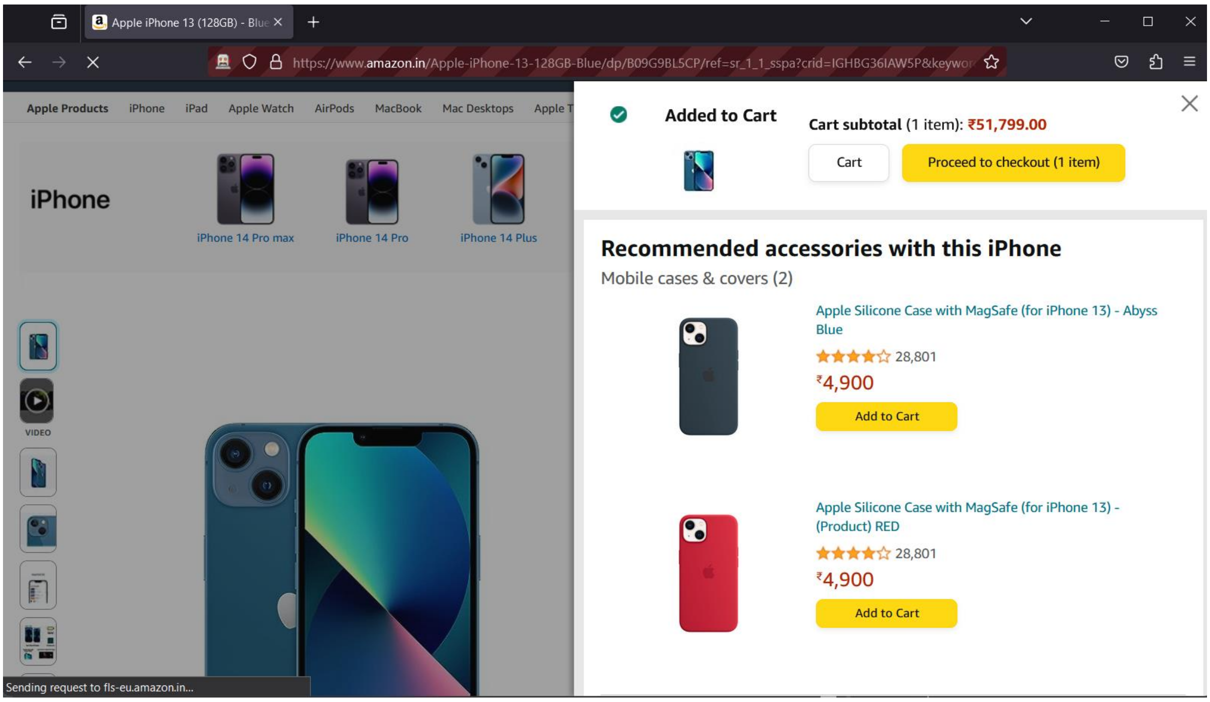
Apple iPhone 13 (128GB) - Blue
https://www.amazon.in/Apple-iPhone-13-128GB-Blue/dp/B09G9BL5CP/ref=sr_1_1_sspa?crid=IGHBG36IAW5P&keywor
Apple Products
iPhone
iPad
Apple Watch
AirPods
MacBook
Mac Desktops
Apple T
iPhone
iPhone 14 Pro max
iPhone 14 Pro
iPhone 14 Plus
VIDEO
Sending request to fls-eu.amazon.in...

Added to Cart

Cart subtotal (1 item): ₹51,799.00

Cart
Proceed to checkout (1 item)

Recommended accessories with this iPhone

Mobile cases & covers (2)

Apple Silicone Case with MagSafe (for iPhone 13) - Abyss Blue
★★★★☆ 28,801
₹4,900

Apple Silicone Case with MagSafe (for iPhone 13) - (Product) RED
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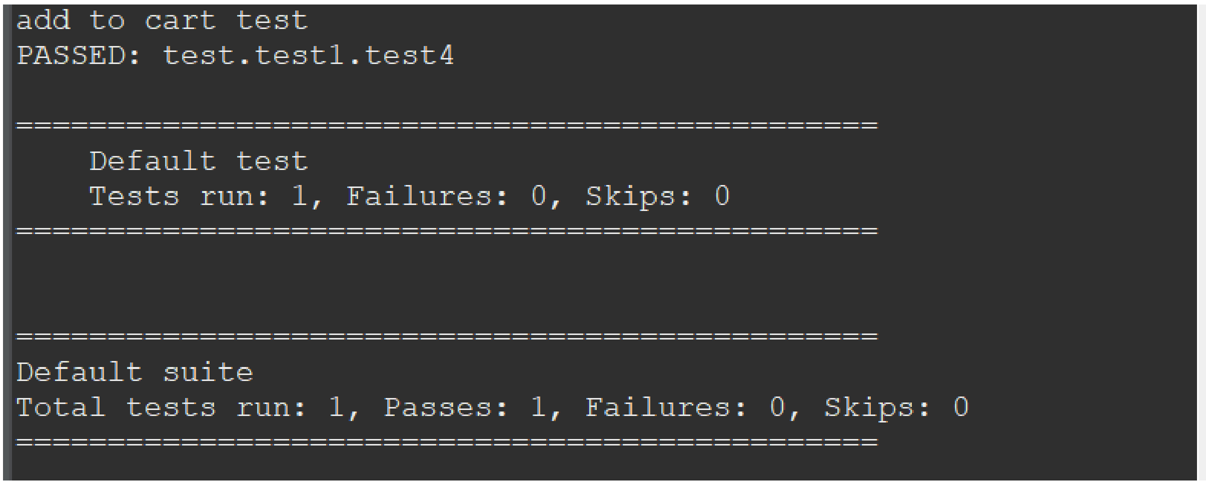

```
add to cart test
PASSED: test.test1.test4

===============================================
    Default test
    Tests run: 1, Failures: 0, Skips: 0
===============================================


===============================================
Default suite
Total tests run: 1, Passes: 1, Failures: 0, Skips: 0
===============================================
```

RESULT:

Thus the test case was automated using the TestNG and output was verified.