

EX NO 1

MATRIX MULTIPLICATION

Aim:

To develop the test cases to perform matrix multiplication using Java

Algorithm:

Step 1: Check the compatibility of the matrix by checking that the number of columns in the 1st matrix equals the number of rows in the 2nd matrix.

Step 2: Multiply the elements in the first row of the first matrix with the elements in the first column of the matrix and find the sum of all the products. Then multiply the element in the first row of the first matrix with the elements of the second column in the second matrix. Repeat this process till elements of all the positions are not obtained.

Step 3: Substitute all the elements obtained in Step 2 in their respective position to find the required product matrix.

Possible TestCases:

- 1.Number of Columns in First Matrix equals the number of rows in Second Matrix
- 2.Number of Columns in First Matrix doesn't match with the number of rows in the Second Matrix
- 3.Missing Values or Non-numeric values entered as Matrix Values.

Program:

```
import java.util.Scanner;
public class MatrixMultiplicationExample {
public static void main(String args[]) {
    int row1, col1, row2, col2;
    Scanner s = new Scanner(System.in);
    // Input dimensions of First Matrix: A
    System.out.print("Enter number of rows in first matrix: ");
    row1 = s.nextInt();
    System.out.print("Enter number of columns in first matrix: ");
    col1 = s.nextInt();
    // Input dimensions of second matrix: B
    System.out.print("Enter number of rows in second matrix: ");
    row2 = s.nextInt();
    System.out.print("Enter number of columns in second matrix: ");
    col2 = s.nextInt();
    // Requirement check for matrix multiplication
    if (col1 != row2) {
        System.out.println("Matrix multiplication is not possible");
        return;
    }
    int a[][] = new int[row1][col1];
    int b[][] = new int[row2][col2];
    int c[][] = new int[row1][col2];
```

```

// Input the values of matrices
System.out.println("\nEnter values for matrix A : ");
for (int i = 0; i < row1; i++)
{
    for (int j = 0; j < col1; j++)
        a[i][j] = s.nextInt();
}
System.out.println("\nEnter values for matrix B : ");
for (int i = 0; i < row2; i++)
{
    for (int j = 0; j < col2; j++)
        b[i][j] = s.nextInt();
}
// Perform matrix multiplication
// Using for loop
System.out.println("\nMatrix multiplication is : ");
for (int i = 0; i < row1; i++)
{
    for (int j = 0; j < col2; j++)
    {
        // Initialize the element C(i,j) with zero
        c[i][j] = 0;
        // Dot product calculation
        for (int k = 0; k < col1; k++)
        {
            c[i][j] += a[i][k] * b[k][j];
        }
        System.out.print(c[i][j] + " ");
    }
    System.out.println();
}
}
}

```

Output:

```

Enter number of rows in first matrix: 3
Enter number of columns in first matrix: 2
Enter number of rows in second matrix: 2
Enter number of columns in second matrix: 4
Enter values for matrix A :
1
2
34
4
56
6
Enter values for matrix B :
2

```

1
4
6
3
7
5
8

Matrix multiplication is :

8 15 14 22
18 31 32 50
28 47 50 78

Result:

Test cases are developed to perform matrix multiplication and the matrix multiplication using Java is executed successfully.

EX NO 2

TEST PLAN FOR E-COMMERCE APPLICATION

Aim

To develop the tests plan for testing an e-commerce web/mobile application (www.amazon.in).

TEST PLAN

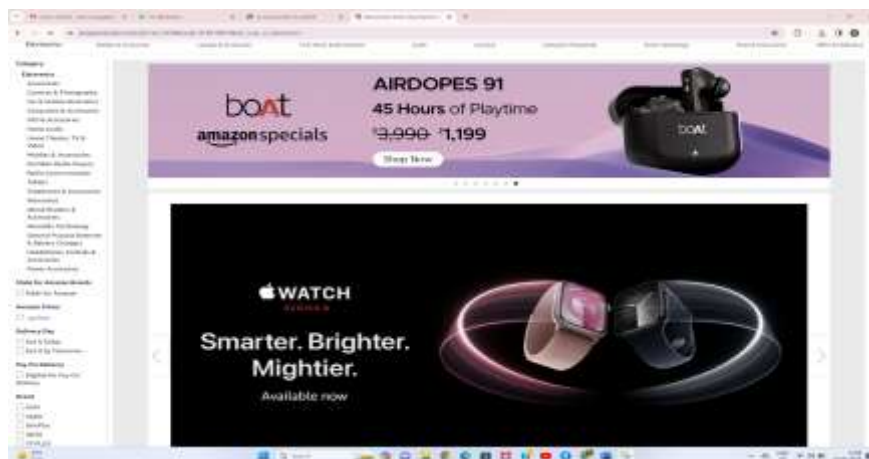
1. Testing Homepage of an ecommerce Site
2. Testing the Master page of an Online Shopping Website
3. Testing the Login & Registration flow of an eCommerce Site
4. Testing the My Account of an Online Web Store
5. Testing the Search feature of an eCommerce Site
6. Testing the Categories or Product Listing Page (PLP) of an Online ShoppingStore
7. Testing the Product Details Page (PDP) of an eCommerce Site
8. Testing the Shopping Cart of an Online Shopping Platform
9. Testing the Checkout Flow of an ecommerce Site
10. Testing the Order Confirmation Page of an Online Shopping Portal

OUTPUT:

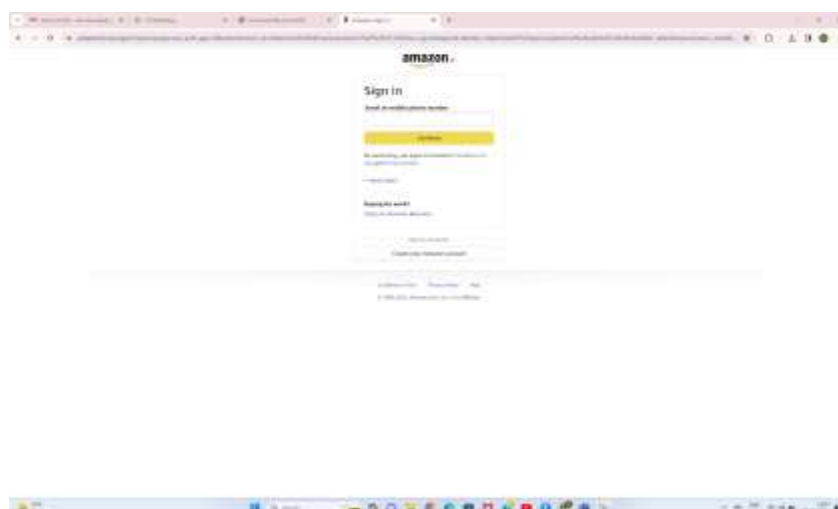
HOMEPAGE



MASTER PAGE



LOGIN & REGISTRATION FLOW



SEARCH FUNCTIONALITY & PRODUCT LISTING PAGE



PRODUCT DETAILS PAGE



CHECKOUT FLOW



Result:

The tests plan are developed for testing an e-commerce web/mobile application. (www.amazon.in).

EX NO :3

DEVELOP TEST CASES FOR E -COMMERCEAPPLICATION

Aim:

To develop Test Cases For E -CommerceApplication

Test Cases:

HOME PAGE

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Home Page	Verify the details on Home page	Verify that home page is displayed after login or not.
TC002	Home Page	Verify the details on Home page	Verify that user name is displayed on home page or not
TC003	Home Page	Verify the details on Home page	Verify that featured products are displayed on home page
TC004	Home Page	Verify the details on Home page	Verify that Search Functionality is present on home page.
TC005	Home Page	Verify the details on Home page	Verify the home page of application on different browsers.
TC006	Home Page	Verify the details on Home page	Verify the alignment on the home page
TC007	Home Page	Verify the details on Home page	Verify that products displayed on homepage are clickable.
TC008	Home Page	Verify the details on Home page	Verify that when user clicks on a product, user should be redirected to product specification page.
TC009	Home Page	Verify the details on Home page	Verify that user profile section is present on home page.
TC0010	Home Page	Verify the details on Home page	Verify that products displayed on homepage are categorised.

SEARCH FUNCTIONALTY

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Product Search	Verify the product search functionality	Verify that search field accepts alphabets, numbers or symbols.
TC002	Product Search	Verify the product search functionality	Verify that after entering search text and clicking on search icon, the search should be performed.
TC003	Product Search	Verify the product search functionality	Verify that the search results should be as per the search query.
TC004	Product Search	Verify the product search functionality	Verify that user should be able to search based on product name, brand name or product specification.
TC005	Product Search	Verify the product search functionality	Verify that filter should be present for filtering the search results based on Brand, Price, Reviews or

			Ratings.
TC006	Product Search	Verify the product search functionality	Verify that sorting options should be present on search results page.
TC007	Product Search	Verify the product search functionality	Verify that the number of search results displayed on one page.

PRODUCT DETAILS

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Product Details	Verify the details on Product Specification page	Verify that images of product are displayed correctly.
TC002	Product Details	Verify the details on Product Specification page	Verify that price of product is displayed.
TC003	Product Details	Verify the details on Product Specification page	Verify that product reviews are mentioned.
TC004	Product Details	Verify the details on Product Specification page	Verify that product specifications are displayed.
TC005	Product Details	Verify the details on Product Specification page	Verify that information about IN-Stock/Out-Stock are displayed.
TC006	Product Details	Verify the details on Product Specification page	Verify that seller ratings should be displayed.

CART PAGE

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Cart Page	Verify the details on Cart Page	Verify that when user clicks on add to cart, the product should be added to cart.
TC002	Cart Page	Verify the details on Cart Page	Verify that user should be able to continue shopping after adding items to cart.
TC003	Cart Page	Verify the details on Cart Page	Verify that item quantity should be increased if user adds same item in cart again.
TC004	Cart Page	Verify the details on Cart Page	Verify that total amount of all items should be displayed to user.
TC005	Cart Page	Verify the details on Cart Page	Verify that the amount displayed to user

CHECK OUT, PAYMENT PAGE

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Checkout, Payments Page	Verify the details on Checkout, Payments Page	Verify that payments options applicable for the order should be displayed at checkout.

Test Case ID	Module Name	Test Scenario	Test Case
TC002	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that delivery details of items should be displayed at checkout.
TC003	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that user should get order details by message or email.
TC004	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that user should be directed to home page after checkout.
TC005	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that user should be displayed payment options such as Credit Card, Debit Card, Net Banking etc.
TC006	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that if user is not registered then payment should be done as Guest user.
TC007	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that user should be provided with an option to save the payment method.
TC008	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that session should be timed out if payment is not done for a certain time.
TC009	Checkout,Payments Page	Verify the details on Checkout,Payments Page	Verify that user details should be displayed on payment page for

MY ORDER PAGE

Test Case ID	Module Name	Test Scenario	Test Case
TC001	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to track the order on My orders page.
TC002	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to change the delivery date and time.
TC003	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to cancel the order
TC004	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to return the order after delivery of order.
TC005	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to exchange the order from My orders page.
C006	My OrdersPage	Verify the details on Orders Page	Verify that user should be able to provide feed back and reviews aboutthe item delivered.

CUSTOMER SERVICE PAGE

Test Case ID	Module Name	Test Scenario	Test Case
TC001	Customer Service Page	Verify the details on Customer Service Page	Verify that customer service options should be present on the website.
TC002	Customer Service Page	Verify the details on Customer Service Page	Verify that different modes of customer service such as Email, Chat or Call should be mentioned.
TC003	Customer Service Page	Verify the details on Customer Service Page	Verify that waiting time to connect to customer service should be displayed to user.
TC004	Customer Service Page	Verify the details on Customer Service Page	Verify that customer service should be available in different languages.
TC005	Customer Service Page	Verify the details on Customer Service Page	Verify that the timings of customer service option should be displayed to user.

RESULT:

Test Cases are developed for E-Commerce Application

EX.NO:4 TEST THE E-COMMERCE APPLICATION AND REPORT DEFECTS IN IT

AIM:

To Test The E-Commerce Application And Report Defects in it

TESTING & BUG REPORTING

HOME PAGE

Test Scenario: Verify the details on Homepage

Test Case: Verify that home page is displayed after login or not.

Pre-requisites : Browser should be installed Internet connection should be present

Test Data: Username,- / Username,Password /-, - / -,Password

Expected Result: Home page should be displayed after login and user name should be displayed on home page.

Bug:



SEARCH FUNCTIONALTY

Test Scenario: Verify the product search functionality

Test Case:

1. Verify that search field accepts alphabets, numbers or symbols.
2. Verify that after entering search text and clicking on search icon, search should be performed.
3. Browser should be installed Internet connection should be present User should be logged in.

Pre-requisites : Browser should be installed Internet connection should be present.

Test Data: Username,- / Username,Password /-, - / -,Password/Product to be searched.

Expected Result: Search should be performed according to search text provided by user.

Bug:



PRODUCT DETAILS

Test Scenario: Verify the details on Product Specification page

Test Case: Verify that images of product are displayed correctly
Verify that price of product is displayed.

Pre- requisites : Browser should be installed Internet connection should be present

Test Data: Product to be searched

Expected Result: Product Details and the images of product should be displayed correctly.



CART PAGE

Test Scenario: Verify the details on CartPage

Test Case: Verify that when user clicks on add to cart, the product should be added to cart.

Pre- requisites : Browser should be installed Internet connection should be present

Test Data: Username, - / Username, Password / -, - / -, Password, Products to be added to cart

Expected Result: The product should be added to cart.

BUG:



CHECK OUT ,PAYMENT

Test Scenario: Verify the details on Checkout, Payments Page

Test Case: Verify that delivery details of items should be displayed at checkout.

Pre- requisites : Browser should be installed Internet connection should be present

Test Data: Username, - / Username, Password / -, - / -, Password / Payment Credentials

Expected Result: The checkout page should be displayed with payments options.

BUG:



RESULT:

The E-Commerce Application is tested And defects in it was reported as bugs

EX NO : 5 TEST PLAN AND TEST CASES FOR AN INVENTORY CONTROL SYSTEM

AIM:

To develop Test Plan And Test Cases For An Inventory Control System

TEST PLAN FOR AN INVENTORY CONTROL SYSTEM

1. **Objective:** The primary goal is to ensure the Inventory Control System accurately records, monitors, and manages inventory levels, facilitating seamless operations for the organization.
2. **Scope:** This test plan encompasses functional, performance, security, and usability testing of the Inventory Control System. It includes testing inventory tracking, data input/output, user authentication, system response times, and user interface.
3. **Test Cases:**
 - a. Functional Testing:
 - Verify inventory addition, deletion, and modification functionalities.
 - Validate inventory search and retrieval operations.
 - b. Performance Testing:
 - Evaluate system response times under varying loads.
 - Assess system scalability to handle large volumes of inventory transactions.
 - c. Security Testing:
 - Test user authentication mechanisms to ensure secure access.
 - Verify data encryption and protection against unauthorized access.
 - d. Usability Testing:
 - Assess the intuitiveness of the user interface for easy navigation.
 - Validate the efficiency of inventory management tasks for end-users.
4. **Execution:**
 - Conduct tests in a controlled testing environment that mimics the production environment.
 - Utilize automated testing tools for repetitive tasks to enhance efficiency.
 - Involve stakeholders and domain experts for comprehensive validation.
5. **Validation:**
 - Engage end-users and stakeholders to validate system functionalities and usability.
 - Gather feedback to identify areas for improvement and refinement.
6. **Documentation:**
 - Document test cases, test results, and any issues encountered during testing.

- Provide recommendations for addressing identified issues and enhancing system performance and security.

TEST CASES FOR INVENTORY MANAGEMENT SYSTEM

Sr.No	Test Case ID	Action	Steps	Input Data	Experienced result	Actual result	status
1	TC-1	Invoiceno	Enter Invoice no	Input*1021*	It should accepted invoice no.		
2	TC-2	Bill date	Enter Bill date	Input*27/11/2021*	It should accepted bill date		
3	TC-3	Item name	select Item name	-	Item name should be automatically reflected		
4	TC-4	Availableitem stock	Click on text box	-	It should reflect automatically item stock		
5	TC-5	Quantity	Enter item quantity	Input*5000*	Item quantity should be accepted		
6	TC-6	Price	Click on text box	-	Price should be reflected automatically		
7	TC-7	Total	Click on text box	-	Total should be reflected automatically		
8	TC-8	Receivebill date	Enter receive bill date	Input*29/1/2021	Receive bill date should be accepting		
9	TC-9	Add item	Click on add item	-	It should be add item reflecting in database		

RESULT:

Test Plan And Test Cases For An Inventory Control System is developed.