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## 1) Test plan for Console

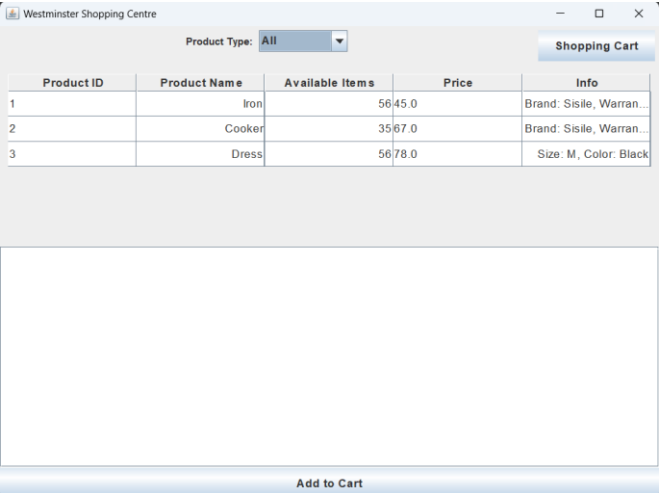
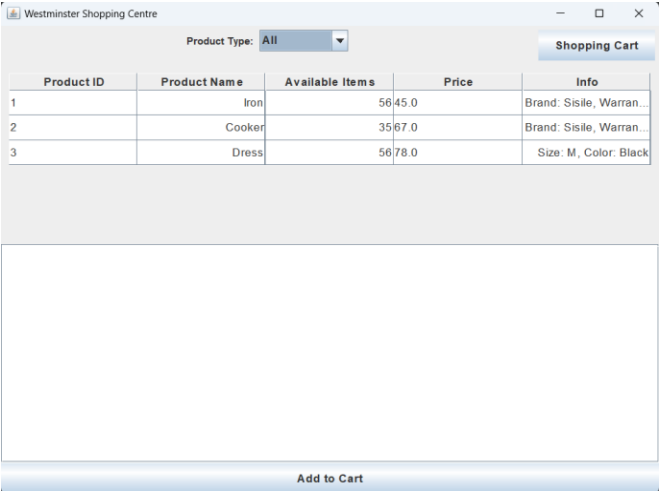
#	Test Case Description	Expected Outcome	Screenshot of the code	Status (Pass/Fail)
1.1	Add a new Electronics product	Product added successfully	<pre>===== Westminster Shopping Manager Menu ===== 1. Add a new product 2. Delete a product 3. Print the list of products 4. Save products to a file 5. Load products from a file 0. Exit Enter your choice: 1 Enter the product type (1 for Electronics, 2 for Clothing): 1 Enter the product ID: 1 Enter the product name: Laptop Enter the number of available items: 1 Enter the price: 99 Enter the brand: Apple Enter the warranty period: 12 months Product added successfully.</pre>	Pass
1.2	Add a new Clothing product	Product added successfully	<pre>===== Westminster Shopping Manager Menu ===== 1. Add a new product 2. Delete a product 3. Print the list of products 4. Save products to a file 5. Load products from a file 0. Exit Enter your choice: 1 Enter the product type (1 for Electronics, 2 for Clothing): 2 Enter the product ID: 1 Enter the product name: Dress Enter the number of available items: 1 Enter the price: 29 Enter the size: M Enter the color: Black Product added successfully.</pre>	Pass
1.3	Attempt to add more products than the maximum	Cannot add more products. Maximum limit reached.	<pre>void addProduct(Product product) {     Check the maximum products     if (productList.size() &lt; MAX_PRODUCTS) {         productList.add(product);         System.out.println("Product added successfully.");     } else {         System.out.println("Cannot add more products. Maximum limit reached.");     } }</pre>	Pass

2.1	Delete an existing product	Product deleted successfully. Shows the number of Remaining products	<pre> Product ID: 1 Product Type: Electronics Product deleted successfully. Remaining Total Number of Products: 2 </pre>	Pass
2.2	Attempt to delete a non-existing product	Shows an error message, Product with the relevant ID Not found.	<pre> Enter the product ID to delete: 1 Product with ID 1 not found. </pre>	Pass
3.1	Print list of products with alphabetical order	Display product details for each product type with alphabetical order	<pre> Product ID: 2 Product Name: Gents Tshirt Available Items: 12 Price: 78.0 Size: L Color: Black ----- Product ID: 3 Product Name: Iron Available Items: 23 Price: 80.0 Brand: Grand Warranty Period: 24 ----- </pre>	Pass
3.2	Print when no products are available	No products available.	<pre> Enter your choice: 3 No products available. </pre>	Pass
4.1	Save products to a file	Products saved to 'products.dat' successfully!	<pre> Enter your choice: 4 Products saved to 'products.dat' successfully! </pre>	Pass
4.2	Save products with an empty product list	Products saved to 'products.dat' successfully!	<pre> Enter your choice: 4 Products saved to 'products.dat' successfully! </pre>	Pass
5.1	Load products from an existing file	Products loaded from file successfully.	<pre> Enter your choice: 5 Products loaded from file successfully. </pre>	Pass
6.1	Add Electronics product from the console	Product added successfully.	<pre> Enter the warranty period: 24 months Product added successfully. </pre>	Pass

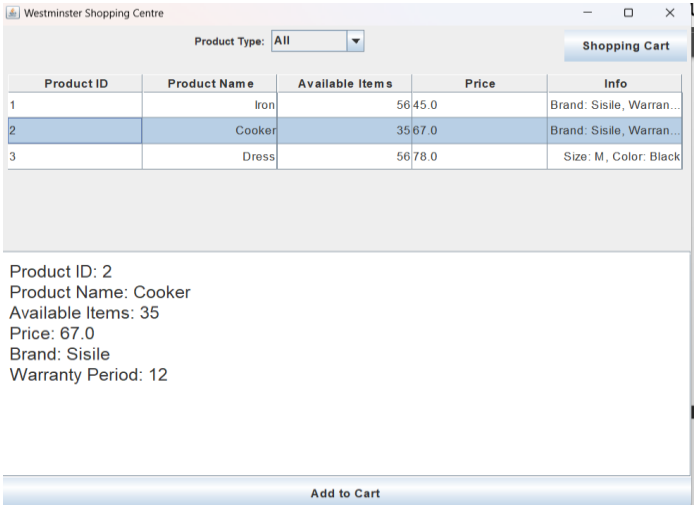
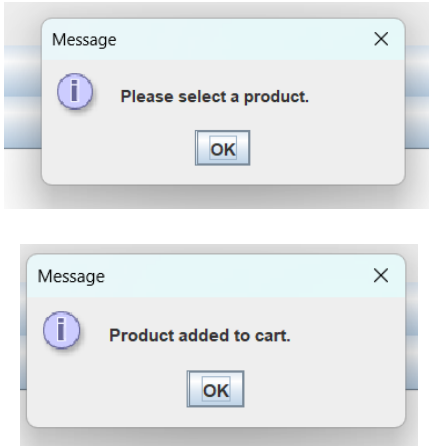
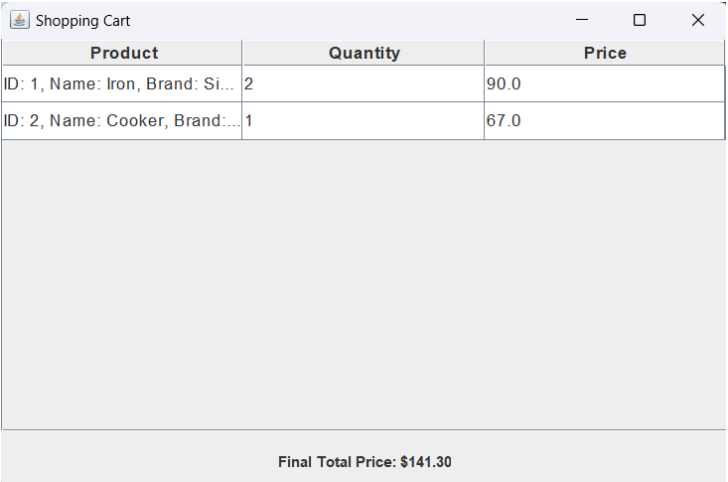
6.2	Add Clothing product from the console	Product added successfully.	<pre> Enter the color: Black Product added successfully. </pre>	Pass
6.3	Provide invalid product type for adding	Invalid product type! Please enter 1 or 2.	<pre> Enter the product type (1 for Electronics, 2 for Clothing): 3 Invalid input. Please enter a valid option. </pre>	Pass
6.4	Provide invalid product ID for adding	Error: Product ID already exists. Please enter a unique ID.	<pre> Error: Product ID already exists. Please enter a unique ID. </pre>	Pass
7.1	Delete a product with a valid product ID	Product deleted successfully. Shows the number of Remaining products	<pre> Product ID: 1 Product Type: Electronics Product deleted successfully. Remaining Total Number of Products: 2 </pre>	Pass
7.2	Delete a product with an invalid product ID	Product with ID not found.	<pre> Enter your choice: 2 Enter the product ID to delete: 1 Product with ID 1 not found. </pre>	Pass
8.2	Enter invalid choices for each menu option	Invalid choice! Please try again.	<pre> Choose an interface. Enter 1 for Console, 2 for GUI, 0 to Exit : 3 Invalid input. Please enter a valid option.    ===== Westminster Shopping Manager Menu ===== 1. Add a new product 2. Delete a product 3. Print the list of products 4. Save products to a file 5. Load products from a file 0. Exit Enter your choice: 6 Invalid choice! Please try again. </pre>	Pass

		<pre>===== Westminster Shopping Manager Menu ===== 1. Add a new product 2. Delete a product 3. Print the list of products 4. Save products to a file 5. Load products from a file 0. Exit Enter your choice: 1 Enter the product type (1 for Electronics, 2 for Clothing): 3 Invalid input. Please enter a valid option.  Enter the product name:  Invalid input. Please enter a non-empty string.  Enter the product ID: 1 Error: Product ID already exists. Please enter a unique ID.  Enter your choice: 2 Enter the product ID to delete: 3 Product with ID 3 not found.  3. Print the list of products 4. Save products to a file 5. Load products from a file 0. Exit Enter your choice: 3 No products available.</pre>	
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## 2) Test plan for GUI

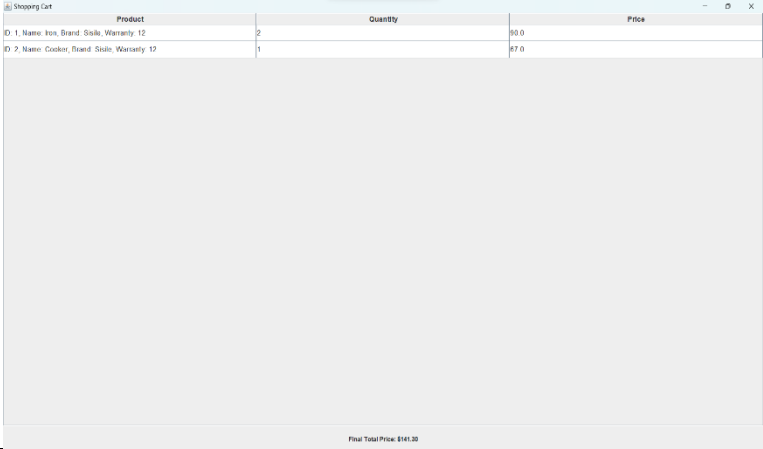
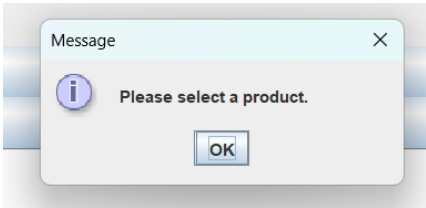
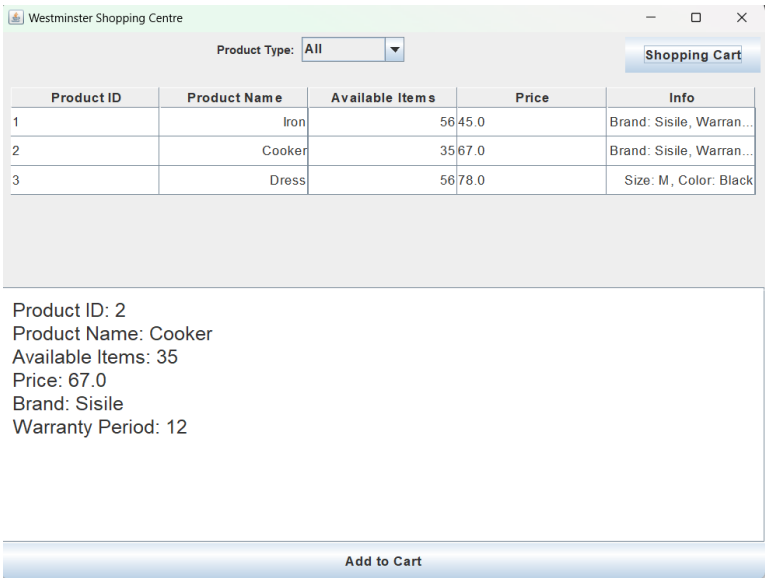
#	Test Case Description	Expected Outcome	Screenshot	Status (Pass/Fail)
GUI Components Initialization	1. Starting the application. 2. Check the title of the main frame. 3. Verify the visibility of components.	1. Application initializes without errors. 2. Correct title is displayed. 3. All components are visible.		Pass
Functionality of the combo box	1. Select "All" 2. Select "Electronics". 3. Select "Clothes" .	1. Product table shows all products. 2. Product table shows only electronics products. 3. Product table shows only clothing products.		Pass

			<div><div>Westminster Shopping Centre</div><div>Product Type: <b>Electronics</b> <span>▼</span> <span>Shopping Cart</span></div><table><thead><tr><th>Product ID</th><th>Product Name</th><th>Available Items</th><th>Price</th><th>Info</th></tr></thead><tbody><tr><td>1</td><td>Iron</td><td>56</td><td>45.0</td><td>Brand: Sisile, Warran...</td></tr><tr><td>2</td><td>Cooker</td><td>35</td><td>67.0</td><td>Brand: Sisile, Warran...</td></tr></tbody></table><div></div><div></div><div>Add to Cart</div></div> <div><div>Westminster Shopping Centre</div><div>Product Type: <b>Clothes</b> <span>▼</span> <span>Shopping Cart</span></div><table><thead><tr><th>Product ID</th><th>Product Name</th><th>Available Items</th><th>Price</th><th>Info</th></tr></thead><tbody><tr><td>3</td><td>Dress</td><td>56</td><td>78.0</td><td>Size: M, Color: Black</td></tr></tbody></table><div></div><div></div><div>Add to Cart</div></div>	Product ID	Product Name	Available Items	Price	Info	1	Iron	56	45.0	Brand: Sisile, Warran...	2	Cooker	35	67.0	Brand: Sisile, Warran...	Product ID	Product Name	Available Items	Price	Info	3	Dress	56	78.0	Size: M, Color: Black	
Product ID	Product Name	Available Items	Price	Info																									
1	Iron	56	45.0	Brand: Sisile, Warran...																									
2	Cooker	35	67.0	Brand: Sisile, Warran...																									
Product ID	Product Name	Available Items	Price	Info																									
3	Dress	56	78.0	Size: M, Color: Black																									
Functionality of the table	1. Click on product table rows	Product details Text Area updates with selected product information.	<div><div>Westminster Shopping Centre</div><div>Product Type: <b>All</b> <span>▼</span> <span>Shopping Cart</span></div><table><thead><tr><th>Product ID</th><th>Product Name</th><th>Available Items</th><th>Price</th><th>Info</th></tr></thead><tbody><tr><td>1</td><td>Iron</td><td>56</td><td>45.0</td><td>Brand: Sisile, Warran...</td></tr><tr><td>2</td><td>Cooker</td><td>35</td><td>67.0</td><td>Brand: Sisile, Warran...</td></tr><tr><td>3</td><td>Dress</td><td>56</td><td>78.0</td><td>Size: M, Color: Black</td></tr></tbody></table><div></div><div>Product ID: 1 Product Name: Iron Available Items: 56 Price: 45.0 Brand: Sisile Warranty Period: 12</div><div></div><div>Add to Cart</div></div>	Product ID	Product Name	Available Items	Price	Info	1	Iron	56	45.0	Brand: Sisile, Warran...	2	Cooker	35	67.0	Brand: Sisile, Warran...	3	Dress	56	78.0	Size: M, Color: Black	Pass					
Product ID	Product Name	Available Items	Price	Info																									
1	Iron	56	45.0	Brand: Sisile, Warran...																									
2	Cooker	35	67.0	Brand: Sisile, Warran...																									
3	Dress	56	78.0	Size: M, Color: Black																									

			 <p>The screenshot shows a window titled "Westminster Shopping Centre". At the top, there is a "Product Type" dropdown menu set to "All" and a "Shopping Cart" button. Below this is a table with columns: Product ID, Product Name, Available Items, Price, and Info. The table contains three rows: Product ID 1 (Iron, 56/45.0, Brand: Sisile, Warran...), Product ID 2 (Cooker, 35/67.0, Brand: Sisile, Warran...), and Product ID 3 (Dress, 56/78.0, Size: M, Color: Black). Below the table, there is a detailed view for Product ID 2: Product Name: Cooker, Available Items: 35, Price: 67.0, Brand: Sisile, and Warranty Period: 12. At the bottom, there is an "Add to Cart" button.</p>	
Functionality of the buttons	<ol style="list-style-type: none"><li>1. Click "Add to Cart" without selecting a product.</li><li>2. Click "Add to Cart" after selecting a product.</li><li>3. Click "Shopping Cart".</li></ol>	<ol style="list-style-type: none"><li>1. Error message is displayed.</li><li>2. Message displayed, indicating that the product is added.</li><li>3. Shopping cart window opens.</li></ol>	 <p>The first screenshot shows a message box titled "Message" with an information icon and the text "Please select a product." and an "OK" button. The second screenshot shows a message box titled "Message" with an information icon and the text "Product added to cart." and an "OK" button.</p>	Pass
Functionality of the shopping cart window	<ol style="list-style-type: none"><li>1. Verify the shopping cart window displays.</li><li>2. Check the products in the shopping cart are displayed in a table.</li><li>3. Check if the discounts and total price information is</li></ol>	<ol style="list-style-type: none"><li>1. Shopping cart window is displayed correctly.</li><li>2. Products are displayed in a table.</li><li>3. Total price and the discount is correct.</li></ol>	 <p>The screenshot shows a window titled "Shopping Cart". It contains a table with columns: Product, Quantity, and Price. The table has two rows: "ID: 1, Name: Iron, Brand: Si..." with Quantity 2 and Price 90.0, and "ID: 2, Name: Cooker, Brand:..." with Quantity 1 and Price 67.0. Below the table, there is a "Final Total Price: \$141.30".</p>	Pass

	calculated correctly.																																
Styling	Check if fonts and styles are applied correctly.	Fonts and styles are correctly applied.	<div><div>Westminster Shopping Centre</div><div><div>Product Type: All</div><div>Shopping Cart</div></div><table><tr><th>Product ID</th><th>Product Name</th><th>Available Items</th><th>Price</th><th>Info</th></tr><tr><td>1</td><td>Iron</td><td>56</td><td>45.0</td><td>Brand: Sisile, Warran...</td></tr><tr><td>2</td><td>Cooker</td><td>35</td><td>67.0</td><td>Brand: Sisile, Warran...</td></tr><tr><td>3</td><td>Dress</td><td>56</td><td>78.0</td><td>Size: M, Color: Black</td></tr></table><div><div>Product ID: 2 Product Name: Cooker Available Items: 35 Price: 67.0 Brand: Sisile Warranty Period: 12</div><div>Add to Cart</div></div><div><div>Shopping Cart</div><table><tr><th>Product</th><th>Quantity</th><th>Price</th></tr><tr><td>ID: 1, Name: Iron, Brand: Si...</td><td>2</td><td>90.0</td></tr><tr><td>ID: 2, Name: Cooker, Brand:...</td><td>1</td><td>67.0</td></tr></table><div>Final Total Price: \$141.30</div></div></div>	Product ID	Product Name	Available Items	Price	Info	1	Iron	56	45.0	Brand: Sisile, Warran...	2	Cooker	35	67.0	Brand: Sisile, Warran...	3	Dress	56	78.0	Size: M, Color: Black	Product	Quantity	Price	ID: 1, Name: Iron, Brand: Si...	2	90.0	ID: 2, Name: Cooker, Brand:...	1	67.0	Pass
Product ID	Product Name	Available Items	Price	Info																													
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3	Dress	56	78.0	Size: M, Color: Black																													
Product	Quantity	Price																															
ID: 1, Name: Iron, Brand: Si...	2	90.0																															
ID: 2, Name: Cooker, Brand:...	1	67.0																															



User interaction	1. Test resizing the window. 2. Check that the window closes properly.	1. Window adjusts correctly. 2. Window closes without issues.		Pass
Error handling	1. Testing the places where adding the products without selecting products	Appropriate error messages are showing		Pass
Overall	1. Add products, save/load from a file and update the cart.	Application correctly performs all operations		Pass

Shopping Cart		
Product	Quantity	Price
ID: 1, Name: Iron, Brand: Si...	2	90.0
ID: 2, Name: Cooker, Brand:...	1	67.0
ID: 3, Name: Dress, Size: M,...	1	78.0
Final Total Price: \$211.50		

Westminster Shopping Centre				
Product Type: All		Shopping Cart		
Product ID	Product Name	Available Items	Price	Info
1	Iron	56	45.0	Brand: Sisile, Warran...
2	Cooker	35	67.0	Brand: Sisile, Warran...
3	Dress	56	78.0	Size: M, Color: Black
4	Trouser	34	67.0	Size: S, Color: Denim...
Add to Cart				

Shopping Cart		
Product	Quantity	Price
D: 4, Name: Trouser, Size: ...	1	67.0
Final Total Price: \$60.30		