Test plan

1. 1 Test Case 1: Add Electronics Product

- Description: Verify the successful addition of an electronics product.

- Input: User provides valid electronic product details.

- Expected Output: Product is added to the list.

```
Enter the Choice :
1
Enter 1 to Add Electronic
Enter 2 to Add Clothing
1
Enter ID:
01
Enter name:
do
Enter number of items: 1
Enter price: 300
Enter brand:
yo
Enter warranty: 24
Successfully added --> 01
```

1.2 Test Case 2: Add Clothing Product

- Description: Verify the successful addition of a clothing product.

- Input: User provides valid clothing product details.

- Expected Output: Product is added to the list

```
Enter the Choice :
1
Enter 1 to Add Electronic
Enter 2 to Add Clothing
2
Enter ID:
02
Enter name:
ro
Enter number of items:
2
Enter price:
450
Enter size: (S, M, L)
s
Enter color:
whitw
Successfully added --> 02
```

1.3 Test Case 3: Delete Product

- Description: Verify the successful deletion of a product.

- Input: User provides a valid product ID for deletion.

- Expected Output: Product is removed from the list.

```
Enter the Choice :
3
List of Products:
-------------------------------------------------------------------
    Product Id        Product Name    No of Available    Price      Category
-------------------------------------------------------------------
        01                do              1             300.0     Electronics
        02                ro              2             450.0        Clothing
        03               bro              3              40.0     Electronics
-------------------------------------------------------------------
Press 1 to Add a product.
Press 2 to Delete a product
Press 3 to Print products
Press 4 to Add to file
press 5 to exit
Press 6 read from a  file
press 7 to run gui


Enter the Choice :
2
Enter Product ID to delete:
03
Successfully deleted product with ID: 03
```

1.4 Test Case 4: Print Products

- Description: Verify the accurate printing of product information.

- Input: User requests to print the list of products.

- Expected Output: Product information is displayed.

```
Enter the Choice :
3
List of Products:
-------------------------------------------------------------------
    Product Id        Product Name    No of Available    Price      Category
-------------------------------------------------------------------
        01                do              1             300.0     Electronics
        02                ro              2             450.0        Clothing
-------------------------------------------------------------------
Press 1 to Add a product.
```

1. 5 Test Case 5: Save and Load Products

- Description: Verify the successful saving and loading of products from a file.

- Input: User chooses to save and load products.

- Expected Output: Products are saved to and loaded from a file without errors.

```
Enter the Choice :
4
Saved changes to the file
```
(save)

```
1    Electronics
2    Product ID: 01
3    Product Name: do
4    Available Items: 1
5    Price: 300.0
6    Brand: yo
7    Warranty: 24
8    ------------------------------------
9    Clothing
0    Product ID: 02
1    Product Name: ro
2    Available Items: 2
3    Price: 450.0
4    Size: s
5    Colour: whitw
6    ------------------------------------
7
```
(textFile)

```
Enter the Choice :
5

System Terminated!
```
(endSystem)

```
Enter the Choice :

6

Method CalledLoaded products from the file
```
(loadFile)

```
Enter the Choice :
6
Method CalledLoaded products from the file
Press 1 to Add a product.
Press 2 to Delete a product
Press 3 to Print products
Press 4 to Add to file
press 5 to exit
Press 6 read from a  file
press 7 to run gui


Enter the Choice :
3
List of Products:
-----------------------------------------------------------------------------------
     Product Id        Product Name      No of Available     Price        Category
-----------------------------------------------------------------------------------
           01                 do               1             300.0       Electronics
           02                 ro               2             450.0        Clothing
-----------------------------------------------------------------------------------
```
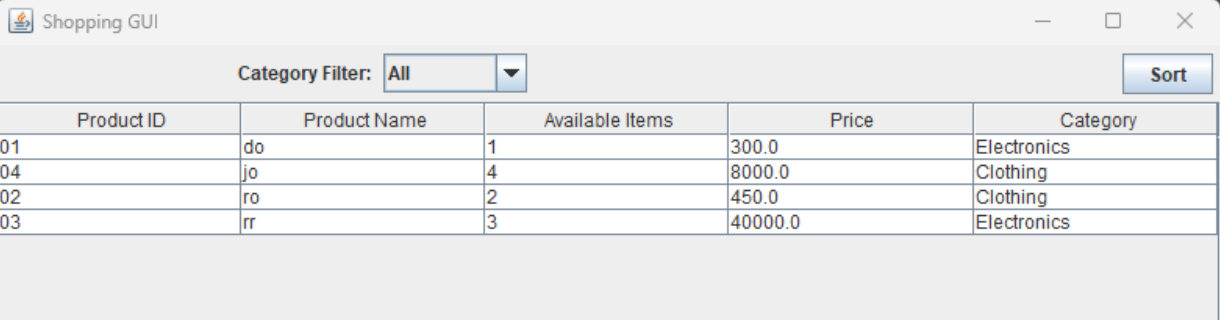(lodedItems)

1.6 Test Case 6: Print Empty Product List

- Description: Verify the system's response when attempting to print an empty product list.

- Input: Print product list when no products are available.

- Expected Output: Message indicating there are no products available.


```
Enter the Choice :
3
No products available.
```

1.7 Test Case 7: Display Products

- Description: Verify that the GUI displays the list of products correctly.

- Input: Launch the application.

- Expected Output: The main window displays a table with columns: "Product ID," "Product Name," "Available Items," "Price," and "Category." The table should be populated with the product information.
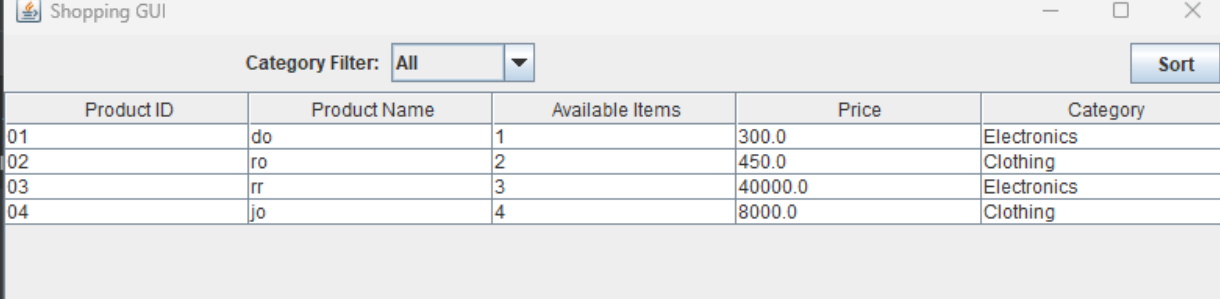

Product ID	Product Name	Available Items	Price	Category
01	do	1	300.0	Electronics
04	jo	4	8000.0	Clothing
02	ro	2	450.0	Clothing
03	rr	3	40000.0	Electronics

Category Filter: All — Sort

1.8 Test Case 8: Sorting

- Description: Check if sorting functionality works for each category and for the "All" category.

- Input: Click on the "Sort" button after selecting different categories.

- Expected Output: The products should be displayed in alphabetical order based on the product name. Sorting should work for each category independently.
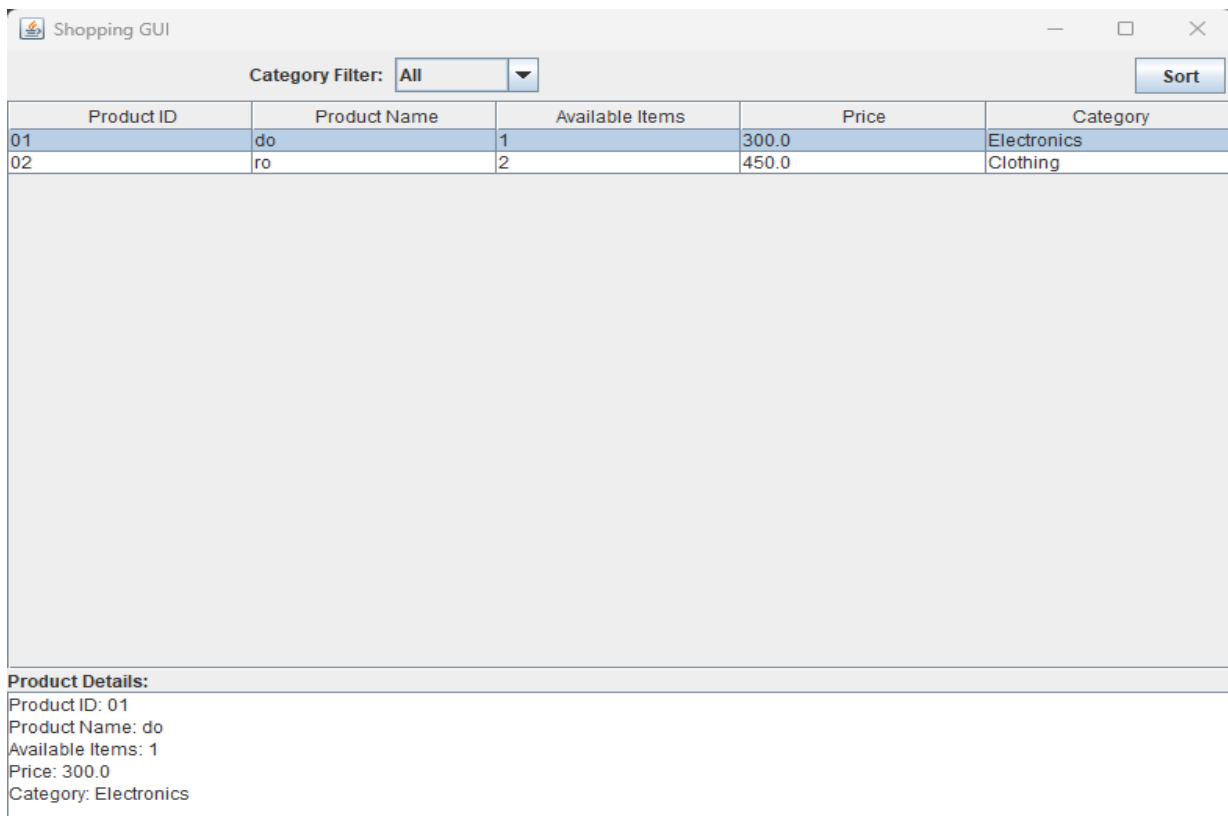

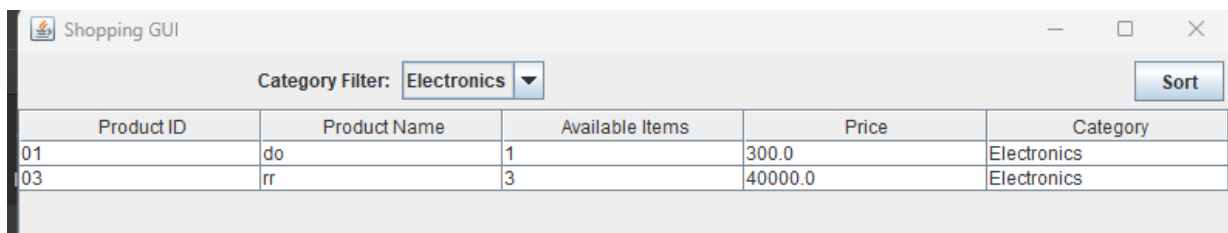| Product ID	Product Name	Available Items	Price	Category
01	do	1	300.0	Electronics
02	ro	2	450.0	Clothing
03	rr	3	40000.0	Electronics
04	jo	4	8000.0	Clothing

Category Filter: All — Sort

1.9 Test Case 9: Product Details

- Description: Select different products and ensure that their details are displayed correctly in the details panel.

- Input: Click on different rows in the product table.

- Expected Output: The details panel should update to display the selected product's details accurately.

Product ID	Product Name	Available Items	Price	Category
01	do	1	300.0	Electronics
02	ro	2	450.0	Clothing

Category Filter: All | Sort

Product Details:
Product ID: 01
Product Name: do
Available Items: 1
Price: 300.0
Category: Electronics

1.10 Test Case 10: Category Filter

- Description: Verify that the category filter works as expected.

- Input:Select different categories from the "Category Filter" dropdown.

- Expected Output: The table updates to display only products belonging to the selected category. "All" should display all products.

Category Filter: Electronics | Sort

Product ID	Product Name	Available Items	Price	Category
01	do	1	300.0	Electronics
03	rr	3	40000.0	Electronics

(Electronics)

(Clothing)