Collections Assignment

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College: SRM UNIVERSITY AP

Shopping Cart

Product.java

```
package com.collection.shoppingcart;

import java.util.Objects;

public class Product {
private int productId;
private String productName;
private int productQuantity;
private double productPrice;

public int getProductId() {
	return productId;
}
public void setProductId(int productId) {
	this.productId = productId;
}
public String getProductName() {
	return productName;
}
public void setProductName(String productName) {
	this.productName = productName;
}
public int getProductQuantity() {
	return productQuantity;
}
public void setProductQuantity(int productQuantity) {
	this.productQuantity = productQuantity;
}
public double getProductPrice() {
	return productPrice;
}
public void setProductPrice(double productPrice) {
	this.productPrice = productPrice;
}
public Product(int productId, String productName, int productQuantity, double productPrice)
{
	super();
	this.productId = productId;
	this.productName = productName;
	this.productQuantity = productQuantity;
	this.productPrice = productPrice;
}
```

```
@Override
public int hashCode() {
	return Objects.hash(productId, productName, productPrice, productQuantity);
}
@Override
public boolean equals(Object obj) {
	if (this == obj)
		return true;
	if (obj == null)
		return false;
	if (getClass() != obj.getClass())
		return false;
	Product other = (Product) obj;
	return productId == other.productId && Objects.equals(productName,
other.productName)
			&& Double.doubleToLongBits(productPrice) ==
Double.doubleToLongBits(other.productPrice)
			&& productQuantity == other.productQuantity;
}
@Override
public String toString() {
	return  productId + ", " + productName + "," + productQuantity
			+ "," + productPrice;
}



}
```

Products.java

```
package com.collection.shoppingcart;

import java.util.ArrayList;
import java.util.List;

public class Products {
private final List<Product> products=new ArrayList<Product>();

public void initStoreItems() {
	String[] productName= {"Apple","Carrot","Soap","Choclates","Rice","Dals"};
	Double[] productPrice= {45d,25d,65d,45d,1000d,500d};
	Integer[] productQuantity= {10,20,30,5,1,2};

	for(int i=0;i<productName.length;i++) {
		this.products.add(new
Product(i+1,productName[i],productQuantity[i],productPrice[i]));

	}
}
```

```
public Products() {
	this.initStoreItems();
}
public List<Product> getProducts(){
	return products;
}
}
```

Cart.java

```
package com.collection.shoppingcart;

import java.util.ArrayList;
import java.util.List;

public class Cart {
	List<Product> cartItems=new ArrayList<Product>();

	public void addToCartById(int productId) {
		Product product=getProductById(productId);
		addToCart(product);

}

	private void addToCart(Product product) {
		// TODO Auto-generated method stub
		cartItems.add(product);

	}

	private Product getProductById(int productId) {
		// TODO Auto-generated method stub
		Product product=null;
		List<Product> products=new Products().getProducts();
		for(Product productdata: products) {
			if(productdata.getProductId()==productId) {
				product=productdata;
				break;
			}
		}
		return product;

	}

	public void removeFromCart(int productId) {
		Product productdata=getProductById(productId);
		cartItems.remove(productdata);
	}
	void displayCartItems() {
		for(Product productdata:cartItems) {
```

```
                    System.out.println(productdata.getProductName());
                }
            }
}
```

UI.java

```
package com.collection.shoppingcart;

import java.util.List;
import java.util.Scanner;

public class UI {

    Cart cartData = new Cart();
    private int choice = 0;

    public UI () {
        menu();
    }

    public void startScreen () {
            System.out.println("Welcome to the Shopping.....");
        System.out.println("\n1. Display All Products");
        System.out.println("\n2. Display Cart");
        System.out.println("\n0. Exit");
        System.out.println("Enter your choice...");
    }

    public void storeProductsMenu() {
            System.out.println("Welcome to cart.....");
        System.out.println("\n1. Add to Cart");
```

```
    System.out.println("\n2. Remove From Cart");
    System.out.println("\n0. Exit");
    System.out.println("Enter your choice...");
}

public void menu () {
    do {
        startScreen();
        getUserInput();

        switch (choice) {
            case 1:

                displayStoreProducts();
                storeProductsMenu();
                getUserInput();
                System.out.println("Add products to carts what you need...");
                innerChoice1();

                break;
            case 2:
                showCart();
                break;
            case 0:
                    System.out.println("Thank you customer");
                System.exit(0);
                break;
            default:
                    System.out.println("Invalid choice....Please check");
                break;
```

```
        }
    } while (choice != 0);
}

private void innerChoice1() {
    switch (choice) {
        case 1:

            addProductToCart();
            showCart();
            break;
        case 2:
            removeProductFromCart();
            break;
        case 0:
                System.out.println("Thank you customer");
            System.exit(0);
            break;
        default:
            System.out.println("Invalid choice....Please check");
            break;
    }
}

private int getUserInput() throws NumberFormatException {
    Scanner in = new Scanner (System.in);
    choice = Integer.parseInt(in.nextLine());
    return choice;
}
```

```
    private void displayStoreProducts() {
        List<Product> products = new Products().getProducts();
        for (Product prod: products) {
            System.out.println(
                    prod.getProductId() + "- " +
                            prod.getProductName() + " " +
                            prod.getProductPrice() + " " +
                            prod.getProductQuantity()
            );
        }
    }

    private void addProductToCart() {
        int productId = getUserInput();
        cartData.addToCartById(productId);
    }

    private void showCart() {
       System.out.println("Items added to cart is.....");
       cartData.displayCartItems();
    }

    private void removeProductFromCart() {
        int productId = getUserInput();
        cartData.removeFromCart(productId);
    }
}
```

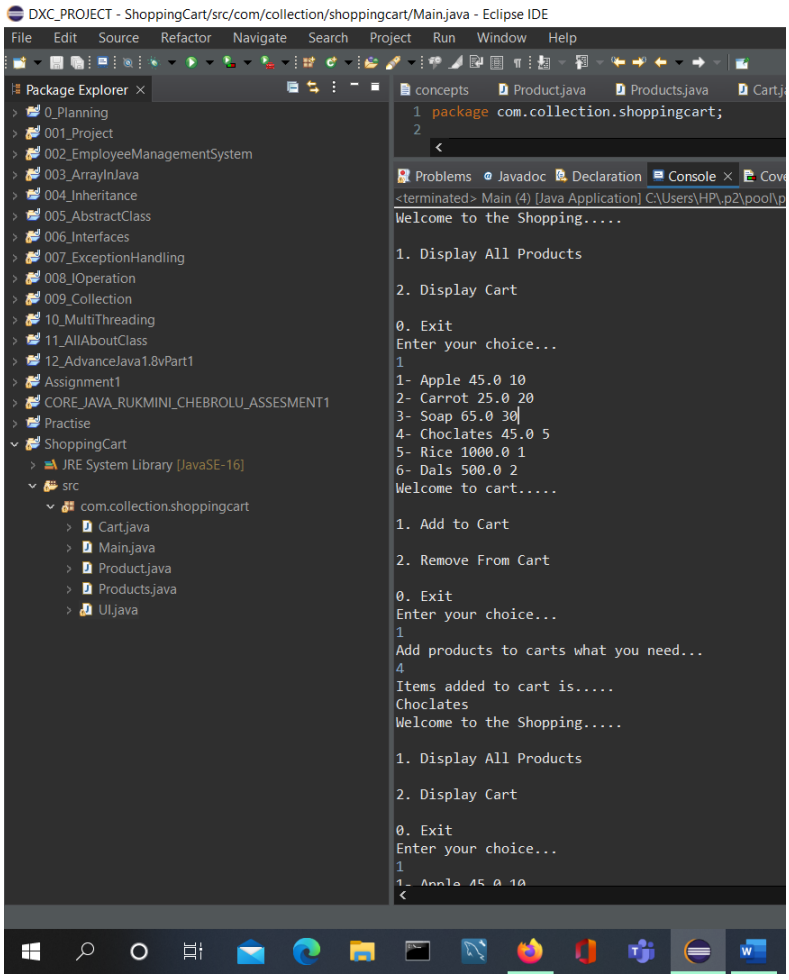
Main.java

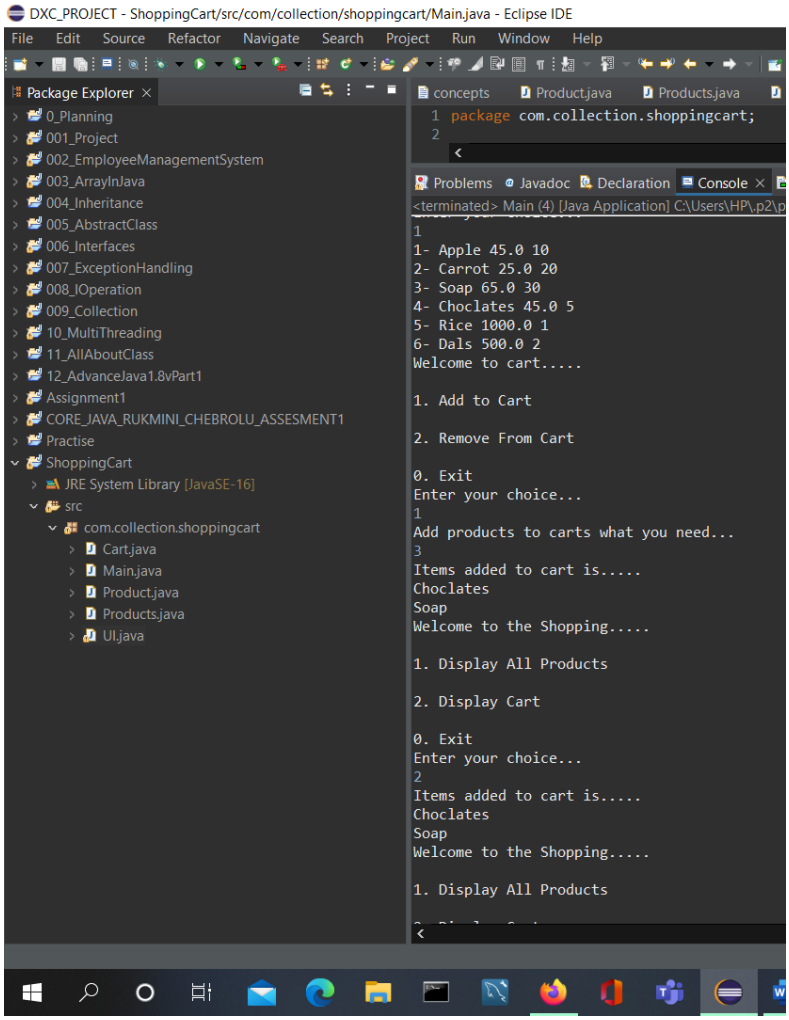
```
package com.collection.shoppingcart;

public class Main {
```

```
    public static void main (String [] args) {
        new UI();
    }
}
```

Outputs:




DXC_PROJECT - ShoppingCart/src/com/collection/shoppingcart/Main.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
0_Planning
001_Project
002_EmployeeManagementSystem
003_ArrayInJava
004_Inheritance
005_AbstractClass
006_Interfaces
007_ExceptionHandling
008_IOperation
009_Collection
10_MultiThreading
11_AllAboutClass
12_AdvanceJava1.8vPart1
Assignment1
CORE_JAVA_RUKMINI_CHEBROLU_ASSESMENT1
Practise
ShoppingCart
JRE System Library [JavaSE-16]
src
com.collection.shoppingcart
Cart.java
Main.java
Product.java
Products.java
UI.java
concepts
Product.java
Products.java
1 package com.collection.shoppingcart;
2
Problems Javadoc Declaration Console
<terminated> Main (4) [Java Application] C:\Users\HP\.p2\p
1
1- Apple 45.0 10
2- Carrot 25.0 20
3- Soap 65.0 30
4- Choclates 45.0 5
5- Rice 1000.0 1
6- Dals 500.0 2
Welcome to cart.....
1. Add to Cart
2. Remove From Cart
0. Exit
Enter your choice...
1
Add products to carts what you need...
3
Items added to cart is.....
Choclates
Soap
Welcome to the Shopping.....
1. Display All Products
2. Display Cart
0. Exit
Enter your choice...
2
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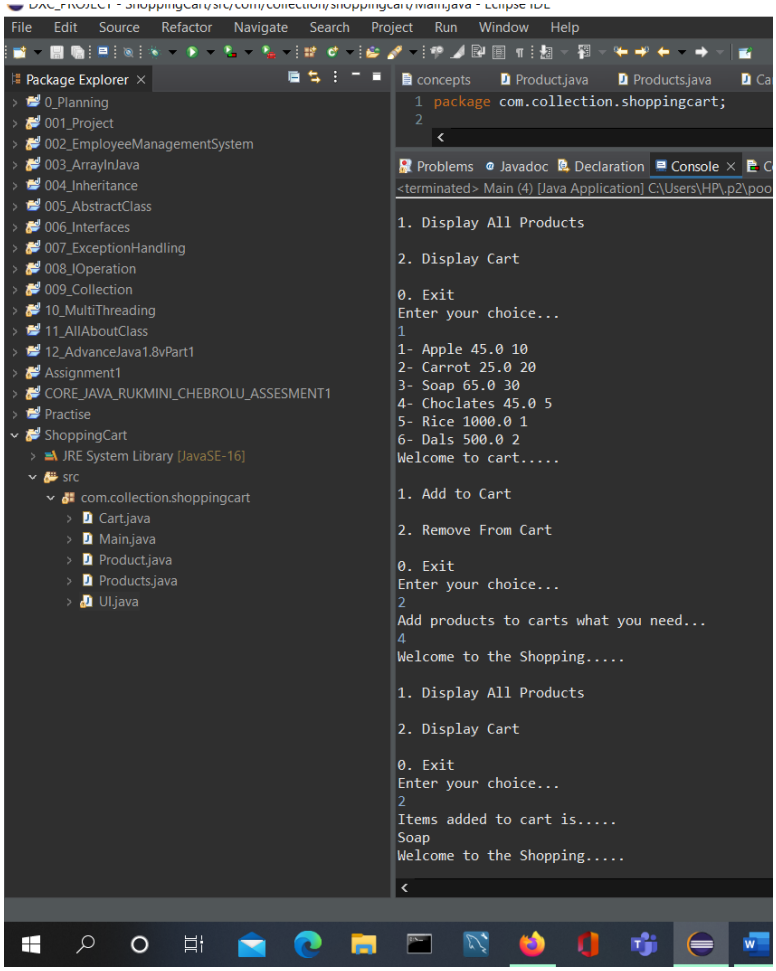
Choclates
Soap
Welcome to the Shopping.....
1. Display All Products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Welcome to cart.....
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Add products to carts what you need...
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1. Display All Products
2. Display Cart
0. Exit
Enter your choice...
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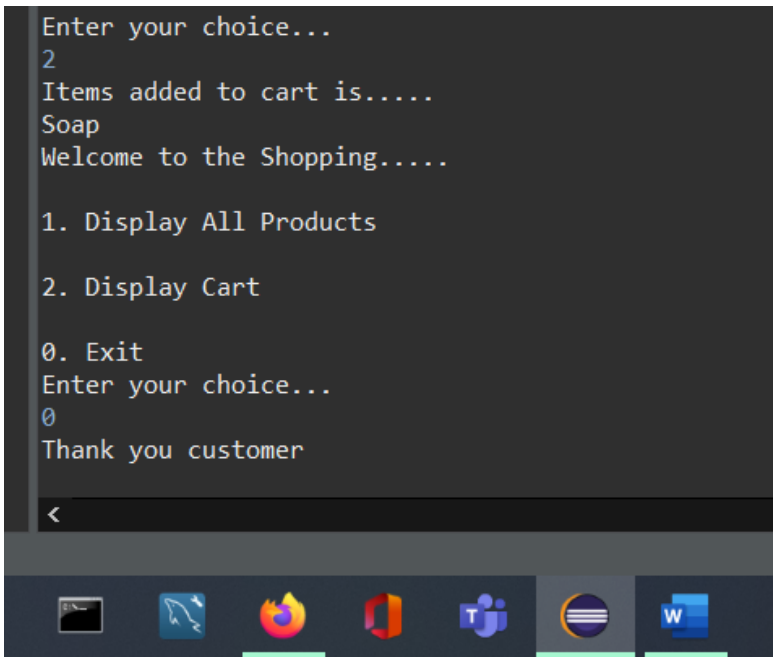
Items added to cart is.....
Soap
Welcome to the Shopping.....


Enter your choice...
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1. Display All Products
2. Display Cart
0. Exit
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0
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