Lesson 05 Demo 02

Creating ArrayList

Objective: To implement the use of ArrayList in Java for managing the shopping cart functionality in an e-commerce application

Tools: Eclipse IDE

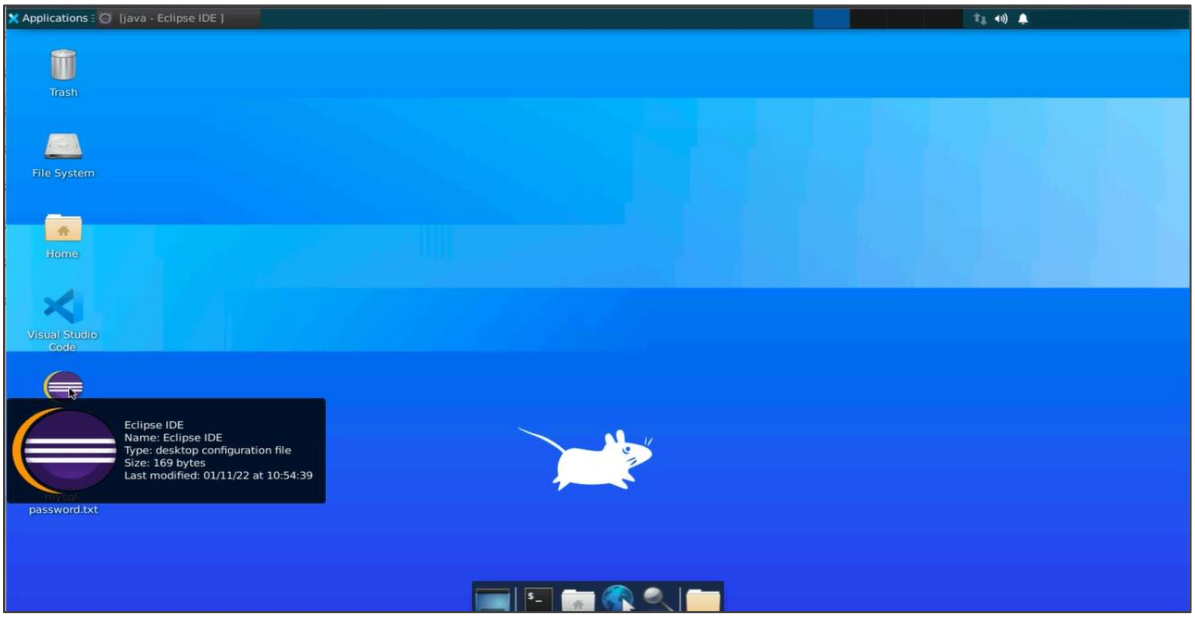
Prerequisites: None

Steps to be followed:

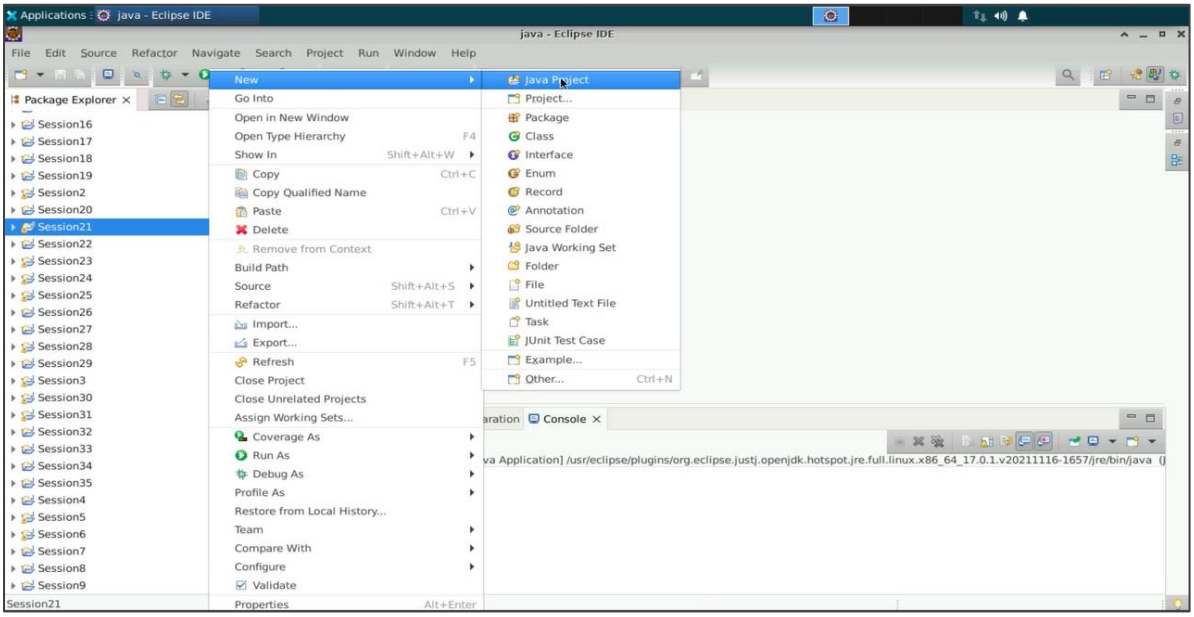
1. Open Eclipse IDE and create a new class
2. Add code for shopping cart and run the project

Step 1: Open Eclipse IDE and create a new class

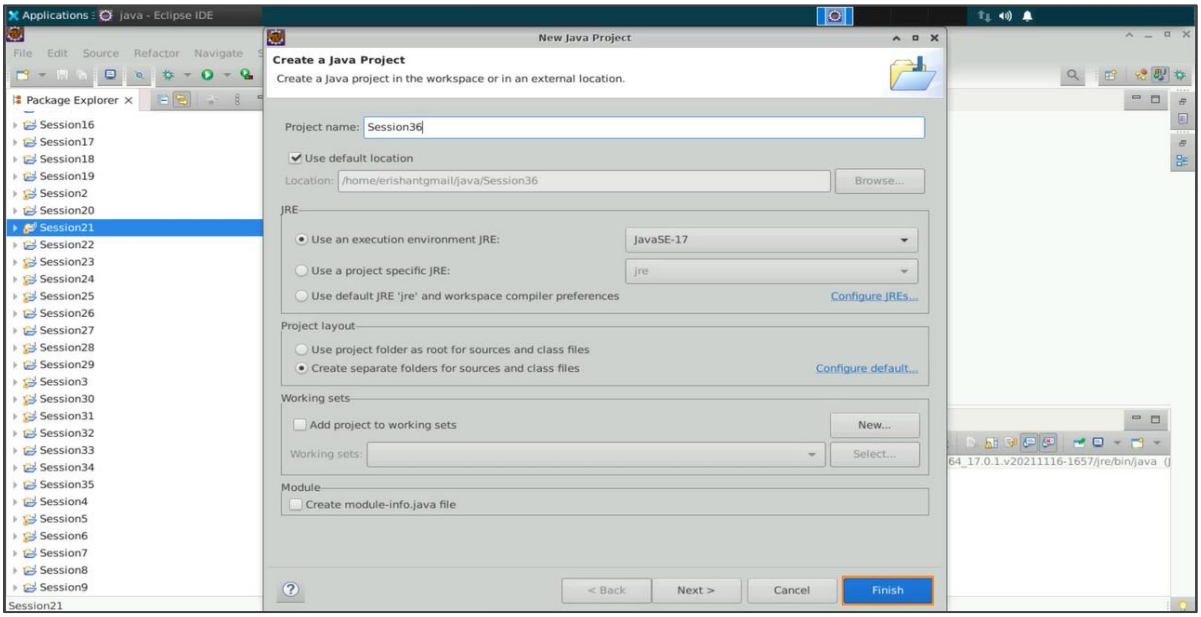
1.1 Open the **Eclipse IDE**



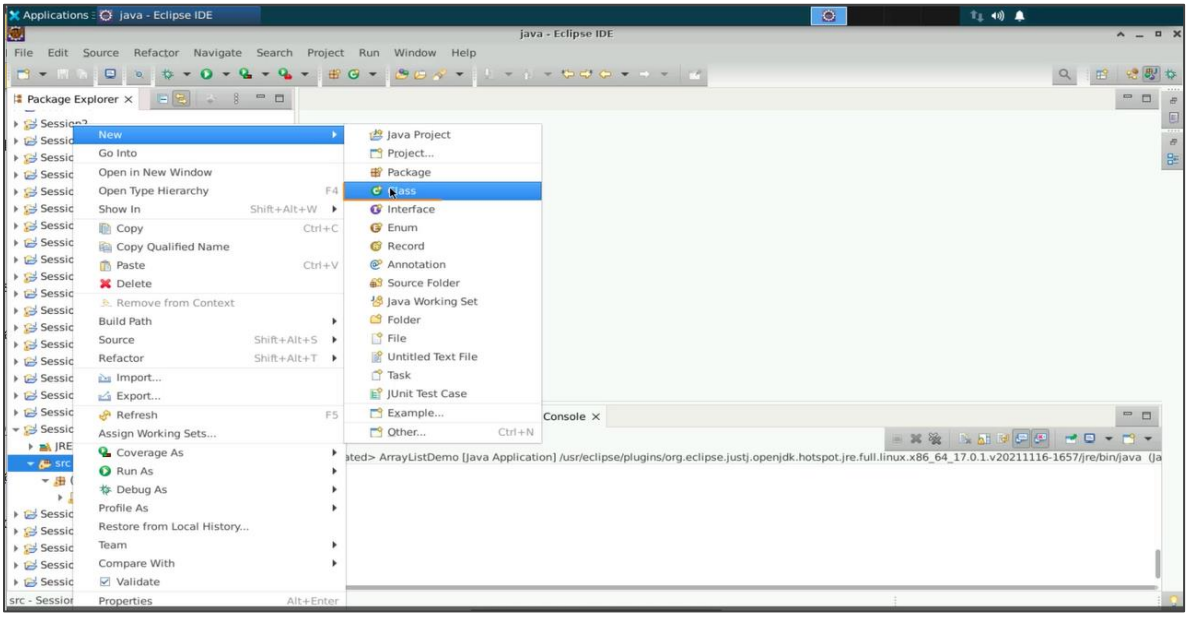
1.2 Right-click, select **New**, and create a new **java project**



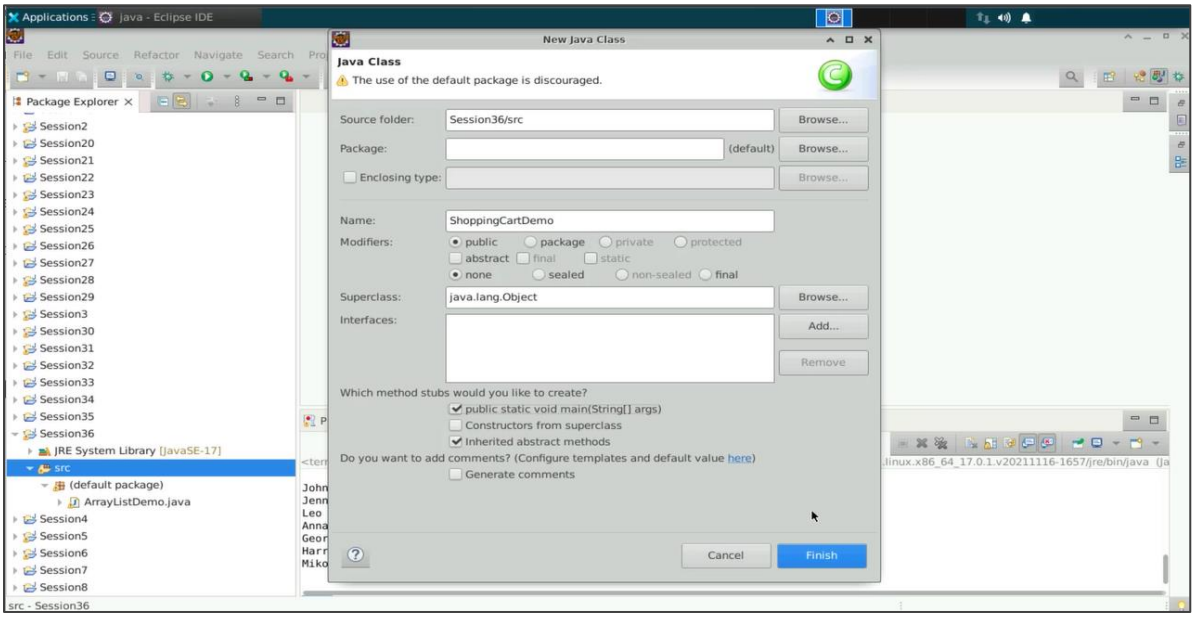
1.3 Name the new Java project **Session36**



1.4 Select **src**, click on **New**, and then select **Class** option



1.5 Name it **ShoppingCartDemo**, check the main string method, and click the **Finish** button



Step 2: Add code for shopping cart and run the project

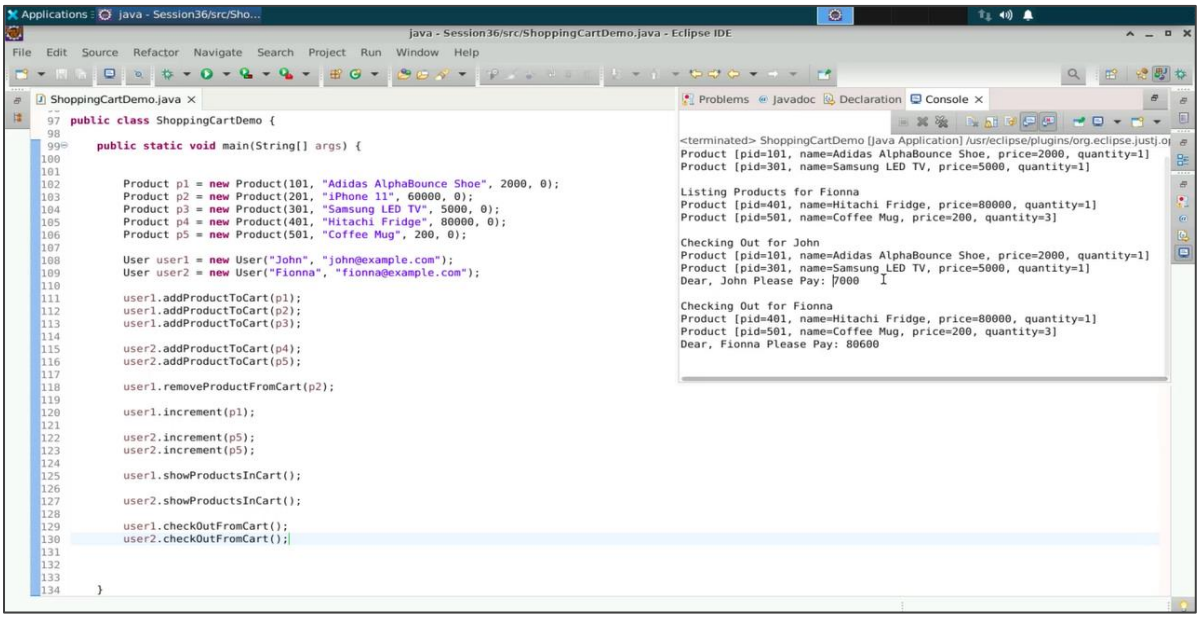
2.1 Add the code given below in **ShoppingCartDemo.java** and run the project as a Java program

```
import java.util.ArrayList;

class Product{

    int pid;
    String name;
    int price;
    int quantity;

    public Product() {
        // TODO Auto-generated constructor stub
    }


    public Product(int pid, String name, int price, int quantity) {
        this.pid = pid;
        this.name = name;
        this.price = price;
        this.quantity = quantity;
    }


    @Override
    public String toString() {
        return "Product [pid=" + pid + ", name=" + name + ", price=" + price + ",
quantity=" + quantity + "]";
    }

}

class User{
```

```
String name;
String email;

ArrayList<Product> shoppingCart;

public User() {
    // TODO Auto-generated constructor stub
}


public User(String name, String email) {
    this.name = name;
    this.email = email;
    shoppingCart = new ArrayList<Product>();
}

void addProductToCart(Product product){
    product.quantity++;
    shoppingCart.add(product);
}

void increment(Product product) {
    int idx = shoppingCart.indexOf(product);
    if(idx>0)
            shoppingCart.get(idx).quantity++;

}

void decrement() {
    // write decrement for quantity here
}

void removeProductFromCart(Product product) {
    int idx = shoppingCart.indexOf(product);
    shoppingCart.remove(idx);
}

void showProductsInCart() {
```

```
        System.out.println("Listing Products for "+name);

        for(Product product : shoppingCart) {
                System.out.println(product);
        }

        System.out.println();
    }

    void checkOutFromCart() {

        System.out.println("Checking Out for "+name);

        int total = 0;

        for(Product product : shoppingCart) {
                System.out.println(product);
                total += (product.price*product.quantity);
        }

        System.out.println("Dear, "+name+ " Please Pay: "+total);
        System.out.println();
    }


}

public class ShoppingCartDemo {

    public static void main(String[] args) {


        Product p1 = new Product(101, "Adidas AlphaBounce Shoe", 2000, 0);
        Product p2 = new Product(201, "iPhone 11", 60000, 0);
        Product p3 = new Product(301, "Samsung LED TV", 5000, 0);
        Product p4 = new Product(401, "Hitachi Fridge", 80000, 0);
        Product p5 = new Product(501, "Coffee Mug", 200, 0);
```

```
        User user1 = new User("John", "john@example.com");
        User user2 = new User("Fionna", "fionna@example.com");

        user1.addProductToCart(p1);
        user1.addProductToCart(p2);
        user1.addProductToCart(p3);

        user2.addProductToCart(p4);
        user2.addProductToCart(p5);

        user1.removeProductFromCart(p2);

        user1.increment(p1);

        user2.increment(p5);
        user2.increment(p5);

        user1.showProductsInCart();

        user2.showProductsInCart();

        user1.checkOutFromCart();
        user2.checkOutFromCart();
    }
}
```



By following these steps, you will gain hands-on experience in creating classes, managing collections of objects using ArrayLists, and implementing basic operations.