

Java Fundamentals

```
package inventory;
import java.util.InputMismatchException;
import java.util.Scanner;
/**
 * The ProductTester class handles the creation, input, and display of Product objects.
 */
public class ProductTester {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int maxSize = -1;
        // Input validation for number of products
        do {
            try {
                System.out.println("Enter the number of products you would like to add");
                System.out.println("Enter 0 (zero) if you do not wish to add products");
                maxSize = in.nextInt();
                if (maxSize < 0) {
                    System.out.println("Incorrect Value entered");
                }
            } catch (InputMismatchException e) { System.out.println("Incorrect data type entered!");
            in.nextLine(); // Clear the input buffer
            } catch (Exception e) {
                System.out.println("An error occurred: " + e.getMessage());
                in.nextLine(); // Clear the input buffer
            }
        } while (maxSize < 0);
        // Handling zero products case
        if (maxSize == 0) {
            System.out.println("No products required!");
        } else {
            // Creating an array to store Product objects
            Product[] products = new Product[maxSize];
            // Loop to get product details from the user
            for (int i = 0; i < maxSize; i++) {
                in.nextLine(); // Clear the input buffer
                System.out.println("Enter details for product " + (i + 1) + ":");
                // Getting product details
                System.out.print("Enter item number: ");
                int itemNumber = in.nextInt();
                in.nextLine(); // Clear the input buffer
                System.out.print("Enter product name: ");
                String name = in.nextLine();
                System.out.print("Enter quantity in stock: ");
                int quantity = in.nextInt(); System.out.print("Enter price: ");
                double price = in.nextDouble();
                // Create a new Product object and add it to the array
                products[i] = new Product(itemNumber, name, quantity, price);
            }
        }
    }
}
```

```

}
// Displaying product details using a for-each loop
System.out.println("\nProduct Details:");
for (Product product : products) {
    System.out.println(product);
    System.out.println();
}
}
// Close the scanner
in.close();
}
}

```

OUTPUT

```

Enter the number of products you would like to add
Enter 0 (zero) if you do not wish to add products
5

Enter details for product 1:
Enter item number: 101
Enter product name: Laptop
Enter quantity in stock: 10
Enter price: 999.99

Enter details for product 2:
Enter item number: 102
Enter product name: Mouse
Enter quantity in stock: 50
Enter price: 25.75

Enter details for product 3:
Enter item number: 103
Enter product name: Keyboard
Enter quantity in stock: 30
Enter price: 75.50

Enter details for product 4:
Enter item number: 104
Enter product name: Monitor
Enter quantity in stock: 15
Enter price: 199.99

```