Opened: Thursday, 8 February 2024, 12:05 AM
Due: Thursday, 15 February 2024, 11:55 PM

Assignment Title: Creating a Simple E-commerce System

Through this assignment, students will gain knowledge and skills in several important areas of Java programming, software design, and best practices like organization of code.

Assignment Instructions:

In this assignment, you will create a simple e-commerce system for an online store using Java. The system allows customers to browse products, add them to a shopping cart, and place orders. The focus is on organizing the code using Java packages and the import statement for better encapsulation.

Scenario: You are tasked with building a simple e-commerce system for an online store. This system should allow customers to browse products, add them to a shopping cart, and place orders. To ensure proper organization and encapsulation, you will be using Java packages and the **import** statement.

Requirements:

1. Create a Java package named **com.ecommerce** to encapsulate all classes related to the e-commerce system.

2. Inside the **com.ecommerce** package, create the following classes:

   a. **Product** class: This class should represent a product available for purchase. Include attributes like **productID**, **name**, **price**, and any other relevant fields. Implement the necessary constructors, getters, setters, and any other methods for product-related operations.

   b. **Customer** class: This class should represent a customer with attributes like **customerID**, **name**, and a shopping cart. Implement methods to add and remove products from the shopping cart, calculate the total cost, and place orders.

3. Create a package named **com.ecommerce.orders** for managing orders.

4. Inside the **com.ecommerce.orders** package, create the following classes:

   a. **Order** class: This class should represent an order placed by a customer. Include attributes like **orderID**, **customer**, **products**, and the order total. Implement methods to generate order summaries, update order status, and manage order information.

5. In the main program (outside of packages), demonstrate the use of packages and the import statement by:

   a. Creating instances of products, customers, and orders.

   b. Allowing customers to browse products, add them to their shopping cart, and place orders.

   c. Displaying information about products, customers, and orders.

6. Make sure to import the necessary classes from the **com.ecommerce** and **com.ecommerce.orders** packages into the main program.

7. Use appropriate access modifiers to ensure proper encapsulation and data hiding.

Guidelines

- Use meaningful variables and method names to make your code more readable.
- Implement proper error handling to deal with exceptions, especially for order placement and management.
- Ensure that your code is well-structured and organized within packages.

Deliverables

1. Java program source code organized into the **com.ecommerce** and **com.ecommerce.orders** packages.
2. A main program that demonstrates the functionality of the e-commerce system.

Grading Criteria

Your assignment will be evaluated based on the following criteria:

1. Correct implementation of the **com.ecommerce** and **com.ecommerce.orders** packages.

2. Validation of Inputs and classes inside packages.

3. Logic and computation of all the operations listed in the ecommerce package.

4. Overall flow and structure of the program.

5. Output of the program and demonstration of the functionality in the main program.

6. Overall coding style and readability.

Submission Instructions

- Read the rubric on how you are going to be graded before you start to work on this assignment.
- Remember to use appropriate variable names and follow best practices of coding. Please provide a screenshot of the outputs. Submit the assignment in MS Word or PDF file.

This assignment will be assessed by your instructor using the rubric below.

Submission status

Attempt number	This is attempt 1.
Submission status	Submitted for grading
Grading status	Graded
Time remaining	Assignment was submitted 3 days 3 hours early
Last modified	Monday, 12 February 2024, 7:55 PM
File submissions	Programming Assignment Unit 2.pdf 12 February 2024, 7:55 PM

Submission comments	
	▶ [Comments (0)](#)

Grading criteria

Correct Implementation	The program compiles without any errors or warnings. The package and all the classes have been implemented correctly. **20 points**	The program compiles without any errors or warnings. All the classes and packages are not implemented correctly. **16 points**	The program has compilation error but includes the necessary classes and packages. **10 points**	The program does not include the necessary classes, packages and has compilation errors. **0 points**
Input Validation	The program validates user inputs to ensure they are of the correct data type and within the specified range. All the classes perform functions as expected. **20 points**	The program code contains incorrect data type but has valid inputs. Classes do not perform functions as expected. **10 points**	Both the inputs and the data types included are incorrect. Classes do not perform functions as expected. **0 points**	
Logic and Computation	The program accurately allows customers to browse products, add them to a shopping cart, and place orders. The result is displayed correct for all of the operations. **20 points**	The program does not perform all the operations. However, the Outputs are partially correct. **10 points**	None of the operations have been performed correctly. Also, the results displayed are incorrect. **0 points**	
Program Flow and Structure	The program follows a logical flow and is well-structured. Proper variable declaration and initialization are done. Meaningful variable names and appropriate data types are used. **20 points**	The program follows a logical flow and is structured. Variable names and data types used are not correct. **10 points**	Variables are not declared, no proper logical flow and inappropriate data types declared. **0 points**	
Output	The program displays the expected output to the user. The output is formatted appropriately for clarity and a screenshot is provided. **10 points**	The program does not give any output. Neither any screen shots have been shared. **0 points**		
Code Style and Readability	The code follows consistent indentation and formatting conventions. The code is easy to read and understand. The program does not contain any unnecessary or redundant code. **10 points**	The code does not have proper indentation and formatting. **8 points**	Unnecessary code and no proper indentation are followed. **5 points**	Redundant code. **0 points**

Feedback

Grade	8.00 / 10.00
Graded on	Tuesday, 13 February 2024, 8:00 PM
Graded by	Vikas Thada (Instructor)

Feedback comments

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Dear Godfrey

Good Work ! You have attempted all parts correctly. From your work it seems you have good practical

knowledge of java. You ...

Grade breakdown

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