IFS 354

Emerging Trends in Information Systems

Exercise 3

EMS
Where your Future is our Priority

Marks	30
Due date	8 May 2024 – 13:00
Submission	Python Script(s) CSV file OR database resources
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Department	Information Systems

Overview

Based on your performance as the Junior Python developer at an online retail store that specializes in selling apparel and accessories. You have been given an opportunity to produce more complex algorithms which the company hopes to deploy in its production online store. Your first task is to enhance the existing order management system by implementing new features and improving its functionality.

Background

The current system is largely based on Python and requires an algorithm that calculates the total cost of a customer's shopping cart, applies discounts if a valid discount code is provided, and displays the final order total to the customer. However, the company wants to keep track of all orders placed and gain insights into sales data for future analysis.

Requirements

1. **Order Tracking**: Implement a feature that allows the system to store order the details in a persistent manner, such as a CSV file or a database. Each order should have a unique identifier (order ID) assigned to it, as well as the relevant order details associated with a given order.
2. **Discount Validation**: Enhance the system so that users can supply a valid discount code which should apply a discount as a percentage of the total order.
3. **Order Summary**: Provide a summary of the order details to the customer after each successful transaction.
4. **Error Handling**: Implement error handling mechanisms to handle scenarios and other exceptions that may occur during the order process.

5. **Extensibility**: Design your solution in a modular and extensible manner, allowing for future enhancements or modifications without significant code changes.

Exercise evaluation

Criterion	Allocation (%)
Functionality: The solution meets all functional requirements and maximises the features of the envisioned system based on requirements.	10
Code Quality: The algorithm is well-structured, readable and accounts for best practices given the technology stack.	7
Error Handling: Edge cases were considered and handled throughout the execution of the algorithm.	4
Documentation: Sufficient documentation/comments have been added to allow for seamless deployment.	4
Extensibility: The algorithm is scalable and allows for developers to adapt the source code with future product evolutions in mind.	5
Total	**30**

Points to note

- Hand-written work will not be marked.
- No late submissions will be accepted for this exercise.