

مکتب شریف

اولین بوتکمپ آموزشی - استخدامی ایران



هفته ششم

مکتب ۱۲۶





این تمرین مربوط به مبحث OOP می‌باشد و تمامی مازول های اصلی باید بر پایه کلاس پیاده‌سازی گردند فقط در **utils package** می‌توانید از پارادایم **functional** استفاده نمایید.

Advanced OOP Challenge: E-commerce Platform with User Management and Shipping

Project Structure: You are tasked with building an E-commerce platform that supports user management, product browsing, and complex shipping logistics. The structure should enforce a clear modular approach, using packages and sub-packages effectively.

Requirements:

1. User Management:

- a. Implement a robust user authentication system in the account module, using classes for user roles, credentials, and session management.
- b. Use JSON or CSV files stored in the database/data directory to store user data securely, ensuring data is read and written effectively with encapsulation.

2. Product and Order Handling:

- a. In the shop module, manage inventory and order processing using JSON or CSV stored in database/data to track product details and order histories.

- b. Utilize inheritance to create various product types and manage them through file-based systems.
- 3. Shipping Logistics:
 - a. Develop an abstract base class for shipments which outlines common attributes like cost, delivery time, and tracking id.
 - b. Create a way to handle the creation of shipment objects based on delivery type, integrating file-based logging to track shipment details.
- 4. Utility Functions:
 - a. Implement logging functionality that records user actions and system errors into a .log file stored in database/data/logs .
 - b. Include decorators to measure performance and log method execution times.
- 5. Integration and Testing:
 - a. Ensure all components are well-integrated and interact seamlessly.

Submission Guidelines:

- . Document the purpose and functionality of each module and class.
- . Provide a guide on how to run the system and ant necessary setup instructions.
- . The project should be submitted in a clean, organized manner by the due date.



Directory Structure:

```

1  ecommerce-platform/
2  |
3  ├── main.py          # Main driver script for the platform interface.
4  |
5  ├── apps/            # Main package for all application modules.
6  |   ├── __init__.py  # Makes apps a Python package.
7  |   ├── database/    # Sub-package for file-based database handling.
8  |   |   ├── __init__.py
9  |   |   ├── file_handler.py # Handles operations on JSON, CSV, text files.
10 |   |   ├── data/     # Folder containing all data files.
11 |   |   |   ├── csv/   # CSV files.
12 |   |   |   ├── json/  # JSON files.
13 |   |   |   ├── txt/   # Text files for notes or logs.
14 |   |   |   └── logs/  # Log files.
15 |   |
16 |   ├── account/      # Sub-package for user account management.
17 |   |   ├── __init__.py
18 |   |   ├── user.py    # Defines the User class.
19 |   |   └── auth.py    # Handles authentication processes.
20 |   |
21 |   ├── shop/         # Sub-package for handling product and orders.
22 |   |   ├── __init__.py
23 |   |   ├── product.py # Product class and related functionality.
24 |   |   └── order.py   # Manages orders and inventory.
25 |   |
26 |   ├── shipment/     # Sub-package for shipping logistics.
27 |   |   ├── __init__.py
28 |   |   ├── base_shipment.py # Abstract base class for shipment methods.
29 |   |   ├── shipment_factory.py # Factory class to create shipment instances.
30 |   |   ├── express.py  # Express shipping class.
31 |   |   ├── standard.py # Standard shipping class.
32 |   |   └── international.py # International shipping class.
33 |   |
34 |   └── utils/         # Utility package for additional functionalities.
35 |       ├── __init__.py
36 |       ├── logger.py  # Implements logging across the platform.
37 |       └── decorators.py # Contains decorators for timing and more.
38 |
39 |

```




نکات

- مهلت ارسال تمرین تا پایان روز چهارشنبه ۱۴۰۳/۱۱/۰۳ می باشد.
- نام **فایل** ارسالی خود را به این صورت قرار دهید: Name_hw6_maktab126 به عنوان مثال
Fardin_Moghaddam_Pour_hw6_maktab126
- در صورت لزوم یک فایل word به عنوان توضیح در کنار کدهای خود قرار دهید.
- در صورتی که تمرین شامل چند فایل و فولدر می باشد حتماً آن ها را در قالب یک فایل فشرده شده تجميع کنید.
- پاسخ تمرین ها را در مودل ارسال نمایید و حتما در گیت هاب قرار دهید.
- در صورتی که سوالی دارید در **گروه تلگرامی** بپرسید.