Project Summary: Shopping App Backend Using Python

Objective:

To develop a backend-only e-commerce (shopping) application using Python, which includes features like user and admin login, product catalog, shopping cart management, and payment options. No frontend UI or database connectivity is required.

Key Features:

1. **Welcome Message**:
   - The application should display a welcome message like: "Welcome to the Demo Marketplace".

2. **User and Admin Logins**:
   - **Admin Login**: Admins can log in with demo credentials to manage the catalog (add, update, or remove products and categories).
   - **User Login**: Users can log in with demo credentials to browse products, add/remove items from their cart, and proceed to payment.

3. **Product Categories**:
   - There should be 3-4 predefined categories (e.g., Footwear, Clothing, Electronics).
   - Admins should be able to add or remove categories dynamically.
   - Users can view available categories.

4. **Product Catalog**:
   - A catalog that contains products with attributes like id, name, category_id, and price.
   - Users and Admins can view the product catalog.
   - Admins can add, update, or remove products from the catalog.

5. **Shopping Cart**:
   - Users can add items to their cart by specifying the product ID and quantity.
   - Users can view and manage (add/remove) their cart items.
   - The cart is session-based, so each user can have their own cart.

6. **Payment Options**:
   - Demo payment options like UPI, Net Banking, and PayPal are supported.

- After selecting a payment method, the system confirms the order with a message such as:
    - "Your order is successfully placed" or
    - "You will be redirected to the payment portal for UPI."

7. **Session Management**:

- A session-based system is used to differentiate between logged-in users and admins.
- Admin privileges are limited to catalog management, while users can manage only their own cart and make payments.

Admin Features:

- **Add Category**: Admins can add new product categories to the catalog.
- **Add Product**: Admins can add new products to the catalog by specifying product details (name, category, price).
- **Update Product**: Admins can update product details.
- **Remove Product**: Admins can remove products from the catalog.
- **Remove Category**: Admins can delete an entire product category.

User Features:

- **View Products**: Users can browse through the product catalog.
- **Add to Cart**: Users can add products to their cart.
- **Remove from Cart**: Users can remove items from their cart.
- **View Cart**: Users can view all items in their cart.
- **Payment**: Users can select from a range of payment methods and complete their order.

Workflow:

1. **Login**:

- Users and Admins log in using demo credentials.
- Based on their role, they can either view products (users) or manage the catalog (admins).

2. **Catalog Management** (Admin):

- Admins add/update/delete categories and products.

3. **Shopping** (User):

- Users browse the catalog, add products to their cart, view their cart, and make payments.

4. **Checkout**:
    - Users select a payment method and proceed with the order placement, receiving a confirmation message.