



Fawry Rise Journey

Full Stack Development Internship Challenge

Design an e-commerce system that has these features:

- Define products with name, price and quantity.
- Some products may expire like Cheese and Biscuits while others may not expire like TV and Mobile.
- Some products may require shipping like Cheese and TV, other products like Mobile scratch cards may not require so. every shippable item should provide its weight.
- Customers should be able to add a product to cart with specific quantity not more than the available product quantity.
- Customers are able to do checkout with items in the cart.
 - Print in the console checkout details like
 - order subtotal (sum of all items' prices)
 - shipping fees
 - paid amount (subtotal + shipping fees)
 - customer current balance after payment
 - Give an error if
 - Cart is empty
 - Customer's balance is insufficient.
 - one product is out of stock or expired.
 - If applicable, collect all items that need to be shipped and send them to ShippingService which accepts a list of objects implementing an interface containing only `String getName()` and `double getWeight()` methods.

Notes:

- The solution is to be submitted with any programming language (Java is recommended).
- Cover corner cases, Provide assumptions when needed.
- Solutions based on AI-generated content are not permitted.
- Provide code examples that prove your code is working as expected covering all use cases, for example:

```
cart.add(cheese, 2);  
cart.add(tv, 3);  
cart.add(scratchCard, 1);  
checkout(customer, cart);
```

CONSOLE OUTPUT

```
** Shipment notice **  
2x Cheese          400g  
1x Biscuits        700g  
Total package weight 1.1kg  
  
** Checkout receipt **  
2x Cheese          200  
1x Biscuits        150  
-----  
Subtotal           350  
Shipping           30  
Amount             380
```

END.