

Java Bootcamp

CAPSTONE 1

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5 Extra Endpoints :

- 1 Add product to cart
- 2 Checkout products in cart
- 3 add rating to products
- 4 Discount all the product under a merchant
- 5 GenerateSimilarProducts



Pseudo Code for addToCart ()

Function addToCart(userId: string, productId: string, merchantId: string)

Check if user exists:

- Iterate through the user list to find the user.
- If user is not found, return "User does not exist".

Check if the merchant has the product:

- Iterate through the merchant stock list to find the product under the merchant.
- If product is not found under the merchant, return "Merchant does not have stock".

Check if the product exists:

- Iterate through the product list to find the product.
- If product is not found, return "Product does not exist".

Check if the product is in stock:

- If stock is 0, return "Product is out of stock".

If all checks pass:

- Add the product to the user's cart.
- Return "Added to cart successfully".

Pseudo Code for checkout ()

Function checkout(userId: string)

Check if the user exists:

- If user is not found, return "User does not exist".

Check if the cart is empty:

- If yes, return "Cart is empty".

Process the cart: - For each product:

Check stock and try to purchase.

- If purchase succeeds, add to purchase history.
- If purchase fails, add to a list of failed purchases.

Clear the cart after processing.

Return results:

- If no purchases succeeded, return "No items were purchased successfully".
- If some purchases failed, return "Some items were not purchased successfully".
- Otherwise, return "Checkout completed successfully".

Pseudo Code for addRating ()

Function addRating(userId: string, productId: string, rating: double)

Validate inputs:

- Check if the rating is between 1 and 5.
- Check if the user exists.
- Check if the product exists.
- Ensure the user is not an admin.

Calculate new average rating:

- Multiply current average by rating count.
- Add the new rating.
- Divide by the updated rating count and round to one decimal.

Update product ratings:

- Set the new average rating

Return "Rating added successfully".

Pseudo Code for generateSimilarProducts ()

Function generateSimilarProducts(userId: string)

Check if the user exists:

- If not, return "User does not exist".

Check purchase history:

- If history is empty, return "No purchase history found".

Identify most purchased category:

- Count purchases by category and find the one with the highest count.

Fetch similar products:

- Find all products in the most purchased category.

Return the list of similar products.

Pseudo Code for discountProductByMerch ()

Function discountProductsByMerch(merchantId: string, percentage: int)

Validate the discount percentage:

- If percentage is less than 1 or greater than 100, return "Invalid discount percentage".

Check if the merchant exists:

- Iterate through the merchant stock list to find products under the merchant.
- If no products are found, return "Merchant does not have any products in stock".

Apply the discount to all products under the merchant:

- For each product in the merchant's stock:
 - Find the product in the product list.
 - Calculate the discounted price:
 - original price - (original price * discount percentage / 100).
 - Update the product's price with the discounted price.

Return "Discount applied successfully to all products".