

DATA STRUCTURES AND OBJECT ORIENTED PROGRAMMING

E-commerce product review system

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Description

This project simulates an online product review platform(backend) where users can browse different products. Products can belong to various categories (e.g., electronics, books, clothing), and customers can submit reviews with ratings. Admin users can manage the product list and moderate user-submitted reviews

Program features

User (superclass)

- Login
- Logout
- Search for a list of products of a specific category
- Search for a specific product
- View all the available products
- View all the reviews of a product

Admin (subclass)

- Add products
- Remove products
- Delete reviews

Customer (subclass)

- Submit reviews

Program implementations

Hierarchies & interface

Parent class #1: User
Subclasses: Admin & Customer

Parent class #2: Product
Subclasses: Book, Clothing & Electronic

Interface: Reviewable
Abstract method: submitReview()

Runtime-polymorphism & TextIO

Runtime-polymorphism method:
Product.displayBasicDetails()

TextIO I
loadProducts()

TextIO O
saveProducts()

Comparable, comparator & unit testing

Comparable
Compare products by their name alphabetically

Comparator
Compares review by:
-date (newest to oldest)
-rating (highest to lowest)
-default (length of text, longest to shortest length)

Unit testing for every non-void method (general case)

Input and output code

Input

```
Admin admin = new Admin( username: "Mark123", password: "12345*");
admin.addBook( productId: "B1", name: "Harry Potter", price: 30, description: "Once upon a time...",
author: "J. K. Rowling", isbn: "978-0-306-40615-7");
```

```
Customer customer = new Customer( username: "Edric321", password: "54321");
customer.submitReview( productId: "B1", userId: 2, Review.StarRating.FIVE, text: "SO GOOD");
```

```
customer.submitReview( productId: "B1", userId: 2, Review.StarRating.FIVE, text: "WAY TOO GOOD");
```

```
admin.deleteReview( reviewId: 1);
```

```
admin.removeProduct( productId: "B1");
```

```
customer.submitReview( productId: "B1", userId: 2, Review.StarRating.FIVE, text: "WAY TOO GOOD");
```

```
admin.removeProduct( productId: "B1");
```

Output

Product has been successfully added

Review submitted

Customer already reviewed this product

Review removed

Product has been successfully removed

Couldn't find product with id: B1

Product id not found

Challenges



Challenge #1

For the deliverable one, it was difficult to come up with the methods for the project from scratch.

Challenge #2

At first, I had a lot of trouble using Git Bash and all the commands that comes with it.

Challenge #3

While writing the code, it was challenging to try to connect the classes together and all its methods.

Learning outcomes



Gain #1

While doing this project, I learned how to use GitHub and Git Bash properly.

Gain #2

I learned how to do the TextIO I (this is the first time I got to apply the input TextIO part in a code).

Gain #3

In the end, I learned how to code a coding project without a given prompt and all the required methods (unlike semester 1 project where all the instructions for the methods were given).