



Diploma of Information Technology

CMP1041 - Foundation Programming

PRG1002 - Programming I

Plan & Implement a Terminal Application

T1A3

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Introduction



The Sneaker Terminal application is a command-line tool designed to facilitate the buying and selling of sneakers. It provides users with a menu-based interface to view available products, add products to the cart, view the cart contents, and proceed to checkout. The application offers a curated selection of sneakers with their respective prices. Users can browse through the product gallery, select desired items, and add them to their cart for purchase.



Main Features



Let's explore the main features of my Terminal application:

- View Products: Users can see a list of available sneakers with their prices.
- Add Product to Cart: Users can select sneakers from the list and add them to their shopping cart.
- View Cart: Users can check the items in their cart, including quantities and total prices.
- Checkout: Users can complete their purchase by proceeding to checkout.



Code Overview



The sneaker app consists of a Python script that runs in the terminal. It utilizes various programming concepts and structures to implement the functionality. The code follows the principles of DRY (Don't Repeat Yourself) and adheres to coding conventions and style guidelines. The code utilizes control structures such as loops and conditional statements to handle user input, validate data, and perform appropriate actions. Error handling mechanisms are implemented to catch and handle potential exceptions.

A decorative graphic in the top-left corner featuring a black and teal geometric shape.

Main Components

1. **Menu System:** The menu system provides a user-friendly interface for interacting with the application. It presents a set of options, such as viewing products, adding items to the cart, and checking out. Each option corresponds to a specific functionality within the app.
2. **Product Management:** This component manages the storage and retrieval of sneaker products. It maintains a list of sneakers along with their names and prices. It handles tasks such as displaying the product gallery and ensuring product availability for purchase.
3. **Cart Management:** The cart management component handles the management of the user's shopping cart. It allows users to add selected products to their cart, view the items in the cart (including quantities and total prices), and proceed to checkout. It facilitates the seamless purchase experience for users.

Walk-through

Menu

- View Products: Select this option to see the available sneaker products.
- Add to Cart: Choose this option to add a product to your shopping cart.
- View Cart: Select this option to view the items in your shopping cart.
- Checkout: Use this option to proceed with the checkout process.
- Exit: Select this option to exit the application

MENU:

```
1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit
Enter your choice: █
```

Walk-through

View Products

- The application retrieves the list of available sneaker products and displays them in the terminal.
- Each product is listed with its name and price.

MENU:

1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit

Enter your choice: 1

ID	Product	Price
1	Corteiz x Nike Air Max 95 SP	383
2	New Balance x Aimé Leon Dore 860v2	450
3	Converse x ADER ERROR Chuck 70	214
4	KITH x Clarks x adidas Samba	925
5	Nike Air Jordan 1 Retro Low OG 'Year of the Rabbit'	800

Walk-through

Add to Cart

- The application prompts you to enter the name of the product you want to add.
- Enter the number of the desired product and press Enter.
- The application adds the product to your shopping cart and confirms the successful addition.

```
MENU:
1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit
Enter your choice: 2
+-----+-----+-----+
| ID | Product | Price |
+-----+-----+-----+
| 1 | Corteiz x Nike Air Max 95 SP | 383 |
+-----+-----+-----+
| 2 | New Balance x Aimé Leon Dore 860v2 | 450 |
+-----+-----+-----+
| 3 | Converse x ADER ERROR Chuck 70 | 214 |
+-----+-----+-----+
| 4 | KITH x Clarks x adidas Samba | 925 |
+-----+-----+-----+
| 5 | Nike Air Jordan 1 Retro Low OG 'Year of the Rabbit' | 800 |
+-----+-----+-----+
Enter the ID of the product to add to cart (0 to cancel): 2
Enter the quantity: 3
Added 'New Balance x Aimé Leon Dore 860v2' to cart.
```

Walk-through

View Cart

- The application displays the items in your cart along with their quantities and total prices.

MENU:

1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit

Enter your choice: 3

ID	Product	Price	Quantity
1	New Balance x Aimé Leon Dore 860v2	450	3

Total price: \$1350

Walk-through

Checkout

- The application guides you through the checkout process, which may involve entering your personal details, payment information, and shipping address.
- Follow the prompts and provide the necessary information to complete the checkout process.

MENU:

1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit

Enter your choice: 4

ID	Product	Price	Quantity
1	New Balance x Aimé Leon Dore 860v2	450	3

Total price: \$1350

Confirm checkout? (y/n): y

Thank you for your purchase!



Walk-through

Error Messages

Some of the error messages include:

- "Invalid Option": Invalid menu selection.
- "Invalid Product Name": Invalid product name entered.
- "Invalid Input": Invalid user input.

MENU:

1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit

Enter your choice: 7

Invalid input! Please enter a valid menu option.

1. View products
2. Add product to cart
3. View cart
4. Checkout
5. Quit

Enter your choice: 2

ID	Product	Price
1	Corteiz x Nike Air Max 95 SP	383
2	New Balance x Aimé Leon Dore 860v2	450
3	Converse x ADER ERROR Chuck 70	214
4	KITH x Clarks x adidas Samba	925
5	Nike Air Jordan 1 Retro Low OG 'Year of the Rabbit'	800

Enter the ID of the product to add to cart (0 to cancel): 66

Invalid input! Please enter a valid product ID and quantity.



Logic of the Application



The logic of my Terminal application demonstrates a high level of algorithmic thinking to ensure optimal performance and functionality.

- Input Handling:
 - The application captures and validates user input from the terminal.
- Menu System:
 - The application presents a menu with different options for the user to choose from.
- Product Management:
 - The application manages the storage and retrieval of sneaker products.
- Cart Management:
 - The application handles the management of the user's shopping cart.
- Checkout Process:
 - The application guides the user through the checkout process.



Key Algorithms



These components and algorithms work together to enable users to interact with the application, manage their shopping cart, and complete the purchase of sneakers.

- Product Availability Check: Verifies if a selected product is available in the inventory.
- Add Product to Cart: Handles the process of adding a selected product to the user's shopping cart.
- Checkout Process: Manages the steps involved in the checkout process.



Summary



During the development of the sneaker app, I encountered challenges in implementing the cart functionality, as well as having to consider ethical considerations while navigating the development process. It was crucial to ensure that product information was accurate while respecting intellectual property rights. I enjoyed building the product gallery features as well as the cart features, as they demonstrated my understanding of key programming concepts that I had been learning. To ensure that users have the option to add more than one item to their cart, I had to overcome challenges such as input handling and validation. Throughout the process, I used project management tools like Trello to stay organized and meet deadlines. Seeing the project evolve and witnessing the functionality come together was satisfying. Overall, developing the sneaker app was an exciting and educational experience that enhanced my Python skills and provided valuable insights into the development process.



Thank you for watching!