

Title: Mobile Shopping Cart Features Implementation

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Introduction:

The objective of this assignment is to develop a mobile shopping cart feature using JavaScript. This feature allows users to manage their shopping items effectively by providing functionalities such as adding items, removing items, updating quantities, calculating total costs, and applying discount codes. The implementation utilizes ES6 arrow functions, array methods (map, filter, reduce), and object manipulation to enhance code readability and functionality.

Code Explanation

Adding Items: The addItem method creates a product object and adds it to the cart using the push method.

Removing Items: The removeItem method uses findIndex to locate the product and splice to remove it from the cart.

Updating Quantity: The updateQuantity method updates the quantity of a specified product using the map method.

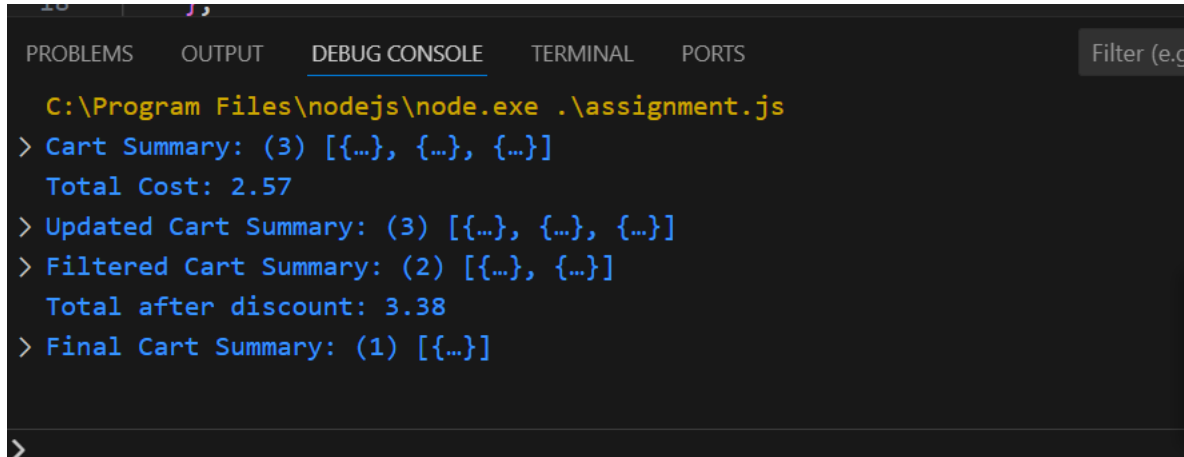
Calculating Total Cost: The calculateTotal method computes the total price of all items in the cart using reduce.

Displaying Cart Summary: The displayCartSummary method generates a summary of the cart, showing each product's name, quantity, and total price.

Filtering Zero Quantity: The filterZeroQuantity method filters out items with zero quantity using the filter method.

Applying Discounts: The applyDiscount method applies a discount code if valid and returns the updated total cost.

Output:



```
C:\Program Files\nodejs\node.exe .\assignment.js
> Cart Summary: (3) [{...}, {...}, {...}]
Total Cost: 2.57
> Updated Cart Summary: (3) [{...}, {...}, {...}]
> Filtered Cart Summary: (2) [{...}, {...}]
Total after discount: 3.38
> Final Cart Summary: (1) [{...}]
>
```

Conclusion

Through this assignment, I learned the importance of using modern JavaScript features to create maintainable and efficient code. Implementing array methods and object manipulation significantly improved the readability of the code. One of the challenges I faced was ensuring that operations like updating and removing items maintained the integrity of the cart without mutating the original array. Overall, this project enhanced my understanding of object-oriented programming in JavaScript and practical applications of data structures.