Documentation for Product Card Component and Factorial Calculator

Overview

This application consists of two main components: a product card that displays product details (image, name, price, and description) and a factorial calculator that allows users to compute the factorial of a number using both iterative and recursive methods. The application is designed to be user-friendly, responsive, and includes input validation to ensure correct user input.

Features

1. **Product Card Component**:

   - Displays a product image.

   - Shows the product name.

   - Displays the product price.

   - Provides a brief description of the product.

2. **Factorial Calculator**:

   - Input field for users to enter a positive integer.

   - Buttons to calculate the factorial using iterative or recursive methods.

   - Displays the calculated factorial value and the method used.

   - Input validation to ensure only valid positive integers are processed.

Technologies Used

- **HTML**: For structuring the web page.

- **CSS**: For styling the product card and calculator interface.

- **JavaScript**: For implementing the factorial calculation logic and handling user interactions.

- **Node.js/Express.js** (Optional): For creating a backend to handle factorial calculations if needed.

User Interface

Product Card

The product card is designed to be visually appealing and straightforward. It includes:

- An image of the product.

- The product name in a prominent font.

- The price displayed in a distinct color.

- A description that provides additional information about the product.

Factorial Calculator:-

The calculator interface includes:

- An input field for entering a number.

- Two buttons for calculating the factorial using iterative and recursive methods.

- A result display area that shows the factorial value and the method used.

Usage Instructions:

1. **Viewing the Product Card**:

   - Open the HTML file in a web browser to view the product card.

   - The product details can be modified in the HTML file by changing the **src**, **product-name**, **product-price**, and **product-description** values.

2. **Using the Factorial Calculator**:

   - Enter a positive integer in the input field.

   - Click on the "Calculate Iterative" button to compute the factorial using the iterative method.

   - Click on the "Calculate Recursive" button to compute the factorial using the recursive method.

   - The result will be displayed below the buttons, indicating the factorial value and the method used.

Input Validation:

The application includes input validation to ensure that:

- The input is a valid positive integer.

- If the input is invalid (e.g., negative numbers, non-integer values), an alert will notify the user to enter a valid positive integer.

Testing

- Test the application across different browsers (Chrome, Firefox, Safari) to ensure compatibility.

- Verify that the product card displays correctly and that the factorial calculator functions as expected.

- Check input validation by entering various invalid inputs to confirm that alerts are triggered appropriately.

Conclusion

This application provides a simple yet effective way to display product information and calculate factorials. The user interface is designed to be intuitive, and the implementation of input validation ensures a smooth user experience. The optional backend allows for scalability and further enhancements if needed.