

■ Problem Statement: Interactive Shopping Cart Web Application

Objective

Design and implement a Shopping Cart Web Application using HTML, CSS, and JavaScript without using HTML elements. The application should demonstrate practical use of JavaScript Operators, Events, Functions, Template Literals, and DOM Manipulation in a real-world scenario.

Problem Description

1. View Products: Display a list of pre-defined products (e.g., mobile, laptop, headphones) with their name and price. Products should be displayed as styled cards using HTML and CSS.
2. Add and Remove Items: Each product card must have an 'Add to Cart' button. When clicked, the product should appear in the cart dynamically. Each cart item should show product name, price, quantity, and subtotal. Cart items should have options to increase quantity (+), decrease quantity (-), and remove item completely.
3. Cart Calculations: Use JavaScript operators (+, -, *, /, comparison operators) to update totals. Implement a function `calculateTotal()` that recalculates total items and total price of the cart. Expensive items (price > 1000) should be styled differently using CSS + JS DOM.
4. Search Functionality: Include a search bar at the top. Typing into the search bar should dynamically filter products by name (using the `oninput` event).
5. Event Handling: Use JavaScript events such as `onclick` (Add to Cart, Remove, Increase/Decrease quantity) and `oninput` (Live search filter). Prevent page reloads (since no will be used).

Functional Requirements

- Must use JavaScript Functions (`addToCart()`, `removeFromCart()`, `updateQuantity()`, `calculateTotal()`, `renderCart()`).
- Must use JavaScript Template Literals for rendering product and cart HTML dynamically.
- Must manipulate the HTML DOM (`getElementById`, `querySelector`, `innerHTML`, `classList`).
- Must style the UI with CSS for clarity and user-friendliness.

Expected Outcome

A responsive and interactive shopping cart system. Users can add, remove, and update products in real-time. Totals are automatically updated using JavaScript operators. Products can be filtered via the search bar. Application runs completely on the client side (HTML, CSS, JavaScript only).