EXPERIMENT-2.2

Aim:

To create a web-based product list with a dropdown menu that dynamically filters and displays products based on the selected category using JavaScript DOM manipulation.

Objective:

- Practice DOM manipulation with JavaScript.
- Implement real-time filtering without page reload.
- Enhance user experience by showing only relevant items.
- Learn to use HTML data attributes for storing metadata.

Theory:

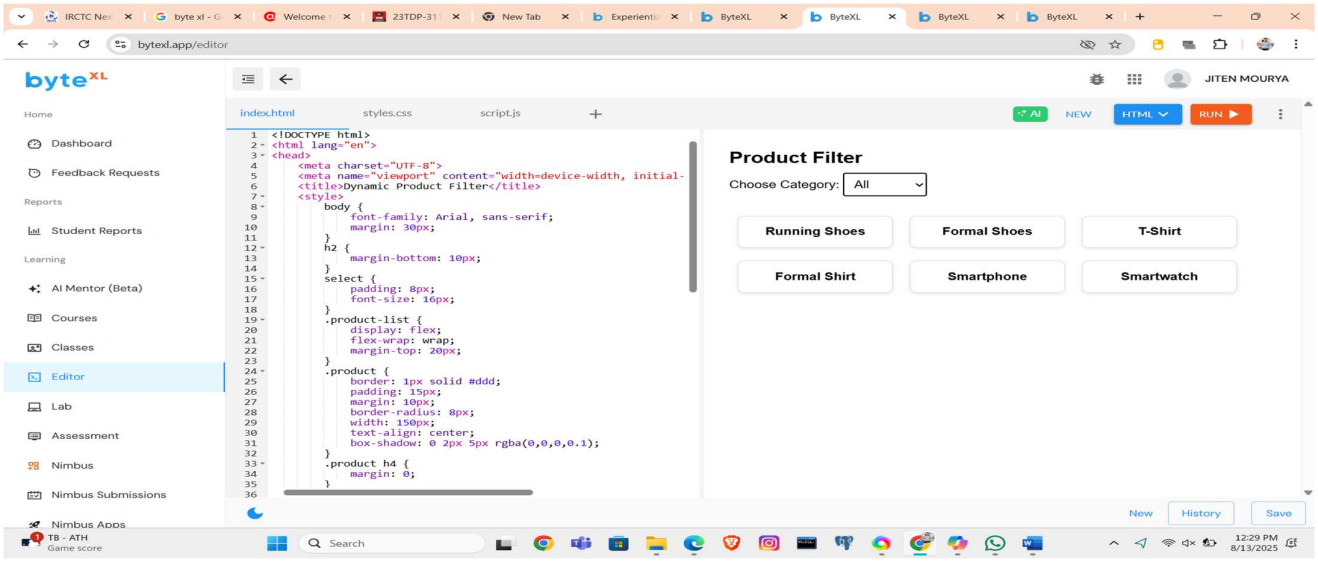
Dynamic filtering is a technique where elements on a web page are shown or hidden based on user input, without reloading the page. This is commonly achieved using JavaScript to manipulate the Document Object Model (DOM). A dropdown menu triggers an event (such as 'change'), and JavaScript checks each item's category via attributes like 'data-category'. Matching items are displayed while others are hidden, providing instant, user-friendly interaction.

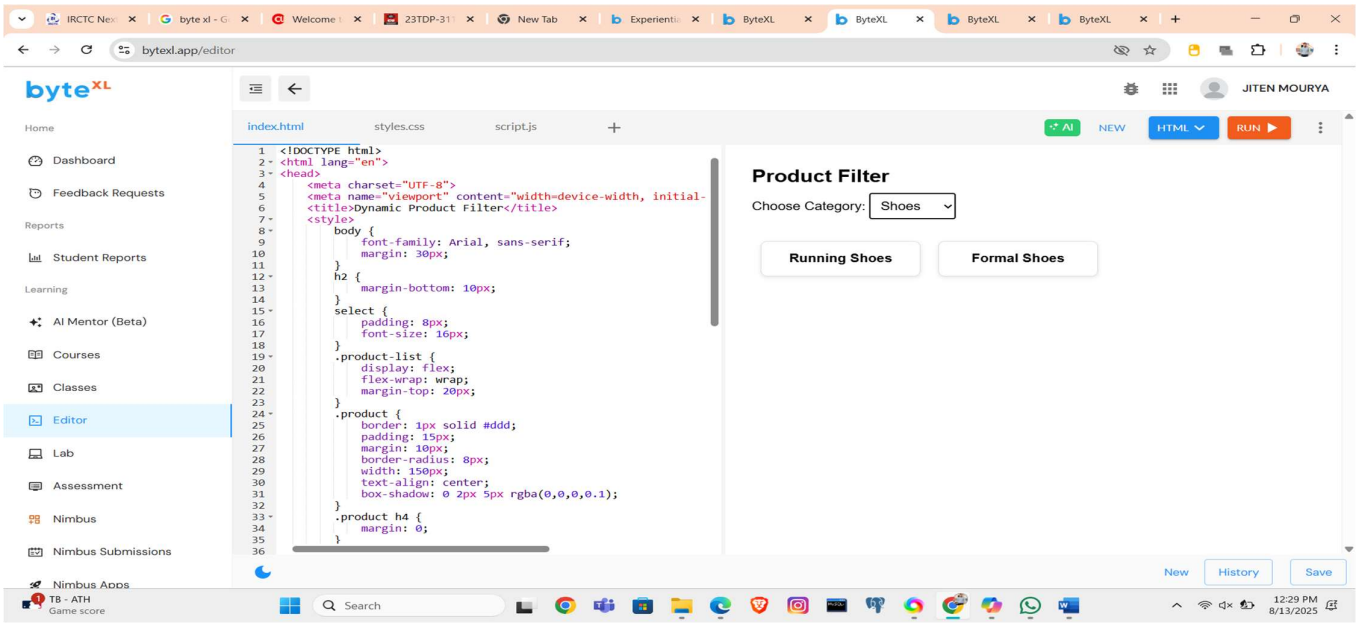
CODE-

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Dynamic Product Filter</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            margin: 30px;
        }
        h2 {
            margin-bottom: 10px;
        }
        select {
            padding: 8px;
            font-size: 16px;
        }
        .product-list {
            display: flex;
            flex-wrap: wrap;
            margin-top: 20px;
        }
        .product {
```

```
            border: 1px solid #ddd;
            padding: 15px;
            margin: 10px;
            border-radius: 8px;
            width: 150px;
            text-align: center;
            box-shadow: 0 2px 5px rgba(0,0,0,0.1);
        }
        .product h4 {
            margin: 0;
        }
    </style>
</head>
<body>

    <h2>Product Filter</h2>
    <label for="categoryFilter">Choose Category:</label>
    <select id="categoryFilter">
        <option value="all">All</option>
        <option value="shoes">Shoes</option>
        <option value="shirts">Shirts</option>
        <option value="gadgets">Gadgets</option>
    </select>

    <div class="product-list" id="productList">
        <div class="product" data-category="shoes"><h4>Running Shoes</h4></div>
        <div class="product" data-category="shoes"><h4>Formal Shoes</h4></div>
        <div class="product" data-category="shirts"><h4>T-Shirt</h4></div>
        <div class="product" data-category="shirts"><h4>Formal Shirt</h4></div>
        <div class="product" data-category="gadgets"><h4>Smartphone</h4></div>
        <div class="product" data-category="gadgets"><h4>Smartwatch</h4></div>
    </div>

    <script>
        const categoryFilter = document.getElementById("categoryFilter");
        const products = document.querySelectorAll(".product");

        categoryFilter.addEventListener("change", function() {
            const selectedCategory = this.value;

            products.forEach(product => {
                if (selectedCategory === "all" || product.dataset.category ===
selectedCategory) {
                    product.style.display = "block";
                } else {
                    product.style.display = "none";
                }
            });
        });
    </script>

</body>
</html>
```

OUTPUT-


bytexl.app/editor
JITEN MOURYA
index.html
styles.css
script.js
AI
NEW
HTML
RUN
Product Filter
Choose Category: All
Running Shoes
Formal Shoes
T-Shirt
Formal Shirt
Smartphone
Smartwatch
New
History
Save


bytexl.app/editor
JITEN MOURYA
index.html
styles.css
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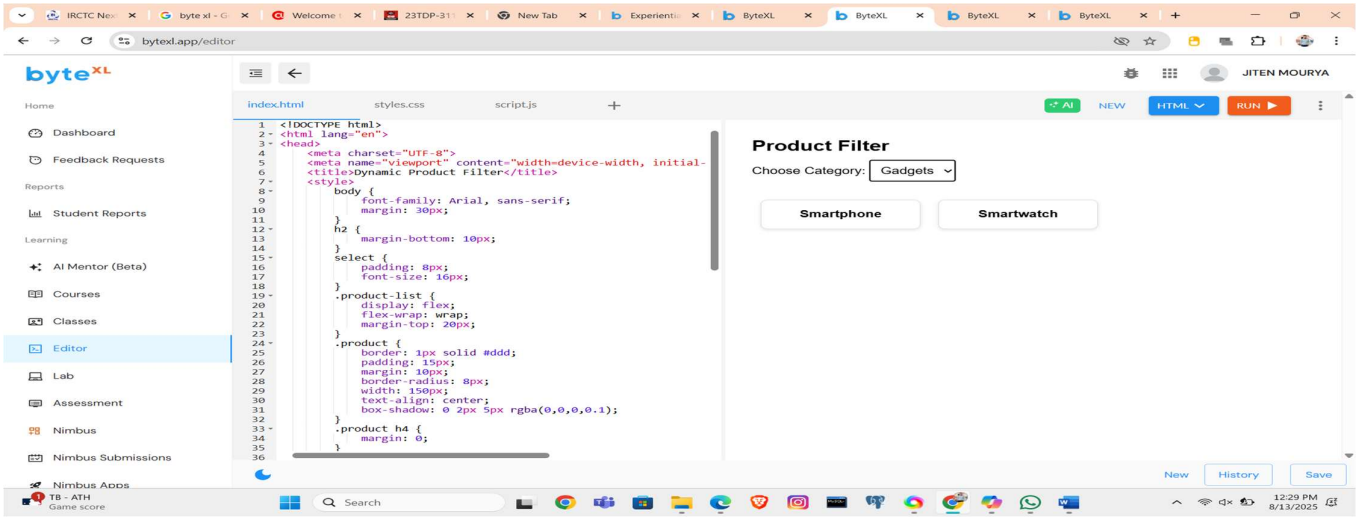
AI
NEW
HTML
RUN
Product Filter
Choose Category: Shoes
Running Shoes
Formal Shoes
New
History
Save


bytexl.app/editor
JITEN MOURYA
index.html
styles.css
script.js
AI
NEW
HTML
RUN
Product Filter
Choose Category: Gadgets
Smartphone
Smartwatch
New
History
Save

Learning Outcome:

- Ability to manipulate HTML elements dynamically.
- Understanding of event-driven programming in JavaScript.
- Knowledge of using custom HTML attributes for data handling.
- Skill in building interactive and responsive UI components.