Experiment 5

Dynamic Product Filter with Dropdown using JavaScript DOM Manipulation

CODE:

HTML 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>
    /* General Styles */
    body {
      font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, "Helvetica Neue", Arial, sans-serif;
      background-color: #f4f7f9;
      color: #333;
      margin: 0;
      padding: 20px;
    }

    .container {
      max-width: 1200px;
      margin: 0 auto;
      padding: 20px;
      background-color: #fff;
      box-shadow: 0 4px 12px rgba(0, 0, 0, 0.05);
      border-radius: 8px;
    }

    h1 {
      text-align: center;
      color: #2c3e50;
      margin-bottom: 20px;
    }

    /* Filter Section */
    .filter-section {
      display: flex;
      justify-content: flex-end;
      margin-bottom: 25px;
      align-items: center;
    }

    .filter-label {
      font-weight: 600;
      margin-right: 10px;
      color: #555;
    }

    .filter-dropdown {
      padding: 8px 12px;
      border: 1px solid #ccc;
      border-radius: 6px;
      font-size: 1rem;
      cursor: pointer;
      background-color: #f9f9f9;
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            transition: all 0.3s ease;
        }

        .filter-dropdown:hover {
            border-color: #999;
        }

        .filter-dropdown:focus {
            outline: none;
            border-color: #007bff;
            box-shadow: 0 0 0 3px rgba(0, 123, 255, 0.25);
        }

        /* Product Grid */
        .product-grid {
            display: grid;
            grid-template-columns: repeat(auto-fill, minmax(250px, 1fr));
            gap: 20px;
        }

        .product-card {
            background-color: #fff;
            border: 1px solid #eee;
            border-radius: 8px;
            box-shadow: 0 2px 5px rgba(0, 0, 0, 0.05);
            padding: 20px;
            text-align: center;
            transition: transform 0.3s ease, box-shadow 0.3s ease;
        }

        .product-card:hover {
            transform: translateY(-5px);
            box-shadow: 0 4px 10px rgba(0, 0, 0, 0.1);
        }

        .product-name {
            font-size: 1.2rem;
            font-weight: 600;
            margin-top: 0;
            color: #2c3e50;
        }

        .product-category {
            font-style: italic;
            color: #7f8c8d;
            margin-bottom: 10px;
        }

        .product-price {
            font-size: 1.5rem;
            font-weight: 700;
            color: #e74c3c;
        }

    </style>
</head>
<body>

    <div class="container">
        <h1>Our Products</h1>

        <div class="filter-section">
            <span class="filter-label">Filter by Category:</span>
            <select id="categoryFilter" class="filter-dropdown">
                <option value="all">All</option>
        <option value="electronics">Electronics</option>
        <option value="books">Books</option>
        <option value="clothing">Clothing</option>
        <option value="home">Home</option>
      </select>
    </div>

    <div id="productGrid" class="product-grid">
      </div>

  </div>

  <script>
    // Product Data Array
    const products = [
      { id: 1, name: 'Wireless Headphones', category: 'electronics', price: 129.99 },
      { id: 2, name: 'The Art of Programming', category: 'books', price: 34.50 },
      { id: 3, name: 'Designer T-Shirt', category: 'clothing', price: 45.00 },
      { id: 4, name: 'Smart Coffee Maker', category: 'home', price: 89.99 },
      { id: 5, name: 'Bluetooth Speaker', category: 'electronics', price: 75.00 },
      { id: 6, name: 'Dune: The Classic', category: 'books', price: 22.00 },
      { id: 7, name: 'Woolen Sweater', category: 'clothing', price: 65.00 },
      { id: 8, name: 'Robot Vacuum Cleaner', category: 'home', price: 299.99 },
      { id: 9, name: 'Gaming Mouse', category: 'electronics', price: 59.99 },
      { id: 10, name: 'The Lord of the Rings', category: 'books', price: 55.00 },
    ];

    // Get DOM elements
    const productGrid = document.getElementById('productGrid');
    const categoryFilter = document.getElementById('categoryFilter');

    // Function to render products based on a given list
    function renderProducts(filteredProducts) {
      // Clear the current grid
      productGrid.innerHTML = '';

      // Loop through the filtered products and create HTML for each
      if (filteredProducts.length === 0) {
        productGrid.innerHTML = '<p style="text-align: center; font-size: 1.2rem; color: #888;">No products found
for this category.</p>';
      } else {
        filteredProducts.forEach(product => {
          const productCard = document.createElement('div');
          productCard.className = 'product-card';
          productCard.innerHTML = `
            <h3 class="product-name">${product.name}</h3>
            <p class="product-category">${product.category.charAt(0).toUpperCase() +
product.category.slice(1)}</p>
            <p class="product-price">$${product.price.toFixed(2)}</p>
          `;
          productGrid.appendChild(productCard);
        });
      }
    }

    // Function to handle the filter change
    function filterProducts() {
      const selectedCategory = categoryFilter.value;
      let filteredProducts = [];

      if (selectedCategory === 'all') {
        filteredProducts = products; // Show all products
      } else {
        // Filter products based on the selected category
        filteredProducts = products.filter(product => product.category === selectedCategory);
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            }

            renderProducts(filteredProducts);
        }

        // Add event listener to the dropdown
        categoryFilter.addEventListener('change', filterProducts);

        // Initial render of all products when the page loads
        document.addEventListener('DOMContentLoaded', () => {
            renderProducts(products);
        });
    </script>

</body>
</html>
```
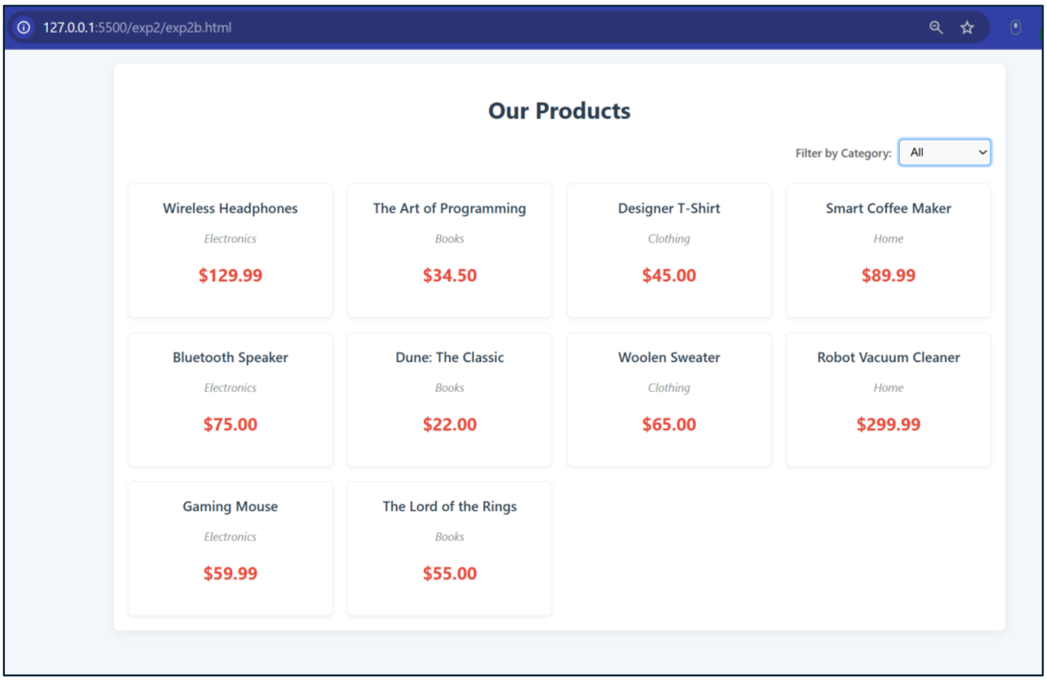

OUTPUTS

EXPERIMENT 5



Our Products

Filter by Category: All

Wireless Headphones
Electronics
$129.99

The Art of Programming
Books
$34.50

Designer T-Shirt
Clothing
$45.00

Smart Coffee Maker
Home
$89.99

Bluetooth Speaker
Electronics
$75.00

Dune: The Classic
Books
$22.00

Woolen Sweater
Clothing
$65.00

Robot Vacuum Cleaner
Home
$299.99

Gaming Mouse
Electronics
$59.99

The Lord of the Rings
Books
$55.00

Figure 1: OUTPUT OF EXPERIMENT 5