# NAME-ROUSHAN; UID-23BCC70013; SUB-FULL STACK

**EXP-05**

* **AIM:-** To create a **dynamic product filter** using **JavaScript DOM manipulation**, where products are shown/hidden based on the category selected from a dropdown menu.
* **THEORY:**- **DOM (Document Object Model)** represents the structure of a webpage in a tree-like format.
* Using **JavaScript DOM manipulation**, we can access HTML elements (getElementById, querySelectorAll) and dynamically change their properties (style, classList).
* By assigning each product a **data-category attribute**, JavaScript can filter and display only those products that match the user’s selection from the dropdown.
* This technique is commonly used in **e-commerce sites** for filtering products by category, price, brand, etc.

# CODE:-

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Dynamic Product Filter</title>

<style>

body { font-family: Arial, sans-serif; padding: 20px; } select { padding: 5px; margin-bottom: 20px; }

.product { padding: 10px; border: 1px solid #ccc; margin: 5px 0; border-radius: 5px; }

.hidden { display: none; }

</style>

</head>

<body>

<h2>Product List</h2>

<!-- Dropdown filter -->

<label for="categoryFilter">Filter by Category:</label>

<select id="categoryFilter">

<option value="all">All</option>

<option value="electronics">Electronics</option>

<option value="clothing">Clothing</option>

<option value="books">Books</option>

</select>

<!-- Product list -->

<div id="productList">

<div class="product" data-category="electronics">Smartphone</div>

<div class="product" data-category="electronics">Laptop</div>

<div class="product" data-category="clothing">T-Shirt</div>

<div class="product" data-category="clothing">Jeans</div>

<div class="product" data-category="books">JavaScript Guide</div>

<div class="product" data-category="books">Novel</div>

</div>

<script>

// DOM Elements

const filterDropdown = document.getElementById("categoryFilter"); const products = document.querySelectorAll(".product");

// Event listener for dropdown change filterDropdown.addEventListener("change", function() { const selectedCategory = this.value;

products.forEach(product => {

const category = product.getAttribute("data-category");

if (selectedCategory === "all" || category === selectedCategory) { product.classList.remove("hidden");

} else { product.classList.add("hidden");

}

});

});

</script>

</body>

</html>

# OUTPUT:-

* + **LEARNING OUTCOMES:**-
  + Understand how to **use DOM manipulation** to dynamically show/hide elements.
  + Apply **event handling** (addEventListener) for interactive web features.
  + Use **data attributes** (data-category) for custom filtering logic.
  + Implement a **basic product filtering system** similar to real-world e-commerce platforms.