



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## Experiment - 2

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**Branch:** BE-CSE

**Semester:** 5<sup>th</sup>

**Subject Name:** Full Stack- I

**Subject Code:** 23CSP-339

**UID:** 23BCS13626

**Section/Group:** KRG-1A

**Date of Performance:** 11/9/25

**Aim:** To implement a dynamic product filtering system that updates displayed items based on user dropdown selection using JavaScript and DOM manipulation.

**Objective:** The main objective is to-

1. Create a product dataset.
2. Build filter dropdown UI.
3. Implement filter logic using Array.prototype.filter().
4. Dynamically update the DOM.
5. Add visual feedback (filtered results in real-time).

### **Hardware/Software Requirements:**

Category	Requirements
Hardware	i3+ CPU, 4GB RAM, 1920x1080 display
Software	VS Code, Chrome DevTools, Live Server
Backend (optional)	Node.js (for API simulation)

### **About the Experiment -**

Concepts covered-

1. DOM query selection.
2. Event listeners.
3. Array methods: filter(), map() , join()
4. Dynamic rendering using innerHTML

Real-world Applications-

1. Product filtering in e-commerce websites.
2. Real-time UI updates without page reloads.



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## Code implementation -

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
<title>Experiment 2 - Dynamic Product Filtering</title>
```

```
<style>
```

```
body {
```

```
    font-family: Arial, sans-serif;
```

```
    padding: 20px;
```

```
}
```

```
#filter {
```

```
    padding: 8px;
```

```
    margin-bottom: 20px;
```

```
}
```

```
.product {
```

```
    border: 1px solid #ccc;
```

```
    padding: 12px;
```

```
    margin: 10px 0;
```



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border-radius: 5px;

background: #f9f9f9;

}

.product h3 {

margin: 0;

color: #333;

}

.product p {

margin: 5px 0 0;

color: #555;

}

</style>

</head>

<body>

<h2>Dynamic Product Filtering System</h2>

<label for="filter">Filter by category:</label>

<select id="filter">

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

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



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

```
</select>
```

```
<div id="products-container"></div>
```

```
<script>
```

```
const products = [  
  
  { name: "Laptop", category: "electronics", price: 999 },  
  
  { name: "Shirt", category: "clothing", price: 25 },  
  
  { name: "Headphones", category: "electronics", price: 199 },  
  
  { name: "Jacket", category: "clothing", price: 80 },  
  
  { name: "Smartphone", category: "electronics", price: 699 }  
  
];
```

```
document.getElementById('filter').addEventListener('change', (e) => {  
  
  const selected = e.target.value;  
  
  const filtered = selected === 'all'  
  
    ? products  
  
    : products.filter(p => p.category === selected);  
  
  renderProducts(filtered);
```



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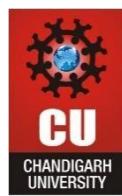
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});

```
function renderProducts(products) {  
  
    const container = document.getElementById('products-container');  
  
    container.innerHTML = products.map(p => `  
        <div class="product">  
            <h3>${p.name}</h3>  
            <p>Price: $$ ${p.price}</p>  
        </div>  
    `).join(");  
  
}  
  
// Initial render
```

```
renderProducts(products);  
  
</script>  
  
</body>  
  
</html>
```

**Output:**



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## Dynamic Product Filtering System

Filter by category:

### Laptop

Price: \$999

### Shirt

Price: \$25

### Headphones

Price: \$199

### Jacket

Price: \$80

### Smartphone

Price: \$699

## Dynamic Product Filtering System

Filter by category:

### Shirt

Price: \$25

### Jacket

Price: \$80



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## Dynamic Product Filtering System

Filter by category: Electronics ▾

### Laptop

Price: \$999

### Headphones

Price: \$199

### Smartphone

Price: \$699