



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment 3

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Subject Name: FULL STACK-I

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

2. Objective:

- Create a product dataset
- Build filter dropdown UI
- Implement filter logic using `Array.prototype.filter()`
- Dynamically update the DOM
- Add visual feedback (e.g., filtered results)

3. 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)

4. Code:

HTML

```
<select id="filter">
  <option value="all">All Products</option>
  <option value="electronics">Electronics</option>
  <option value="clothing">Clothing</option>
</select>
```

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

JavaScript

```
const products = [
  { name: "Laptop", category: "electronics", price: 999 },
```

```
{ name: "Shirt", category: "clothing", price: 25 },  
{ name: "Headphones", category: "electronics", price: 199 }  
];
```

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

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

5. Output:

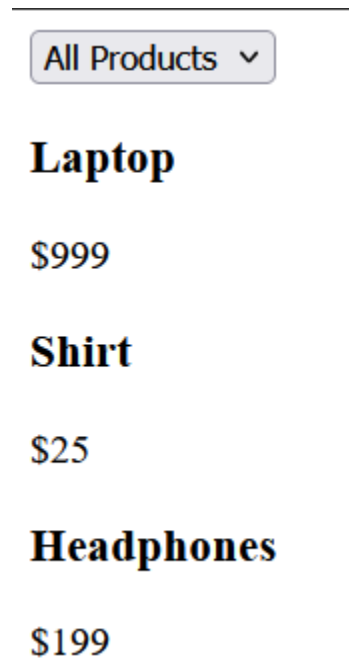


Figure1. All Products



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All Products ▾

All Products

Electronics

Clothing

Shirt

\$25

Headphones

\$199

Figure2. Combobox

Electronics ▾

Laptop

\$999

Headphones

\$199

Figure3. Electronics

Clothing ▾

Shirt

\$25

Figure4. Clothing