Basic Shopping List Lab

Overview

Build a simple shopping list application that allows adding items.

Description

This exercise demonstrates how to: - Create and manipulate arrays in JavaScript - Pass arrays as parameters to functions - Update DOM elements based on array content - Handle basic form input

The main focus is on the `displayList()` function which takes an array as a parameter and displays its contents. This shows how arrays can be passed to functions and processed to generate HTML output.

HTML Structure

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Interactive Shopping List</title>
    <style>
        /* CSS will go here */
    </style>
</head>
<body>
    <h1>My Shopping List</h1>

    <div class="input-section">
        <h3>Add New Item:</h3>
        <input type="text" id="itemInput" placeholder="Enter item name">
        <button onclick="addItem()">Add to List</button>
    </div>

    <div id="output"></div>

    <script>
        /* JavaScript will go here */
    </script>
</body>
</html>
```

CSS Steps

1. Style the body:

```
body {
    font-family: Arial, sans-serif;
    max-width: 600px;
    margin: 20px auto;
    padding: 20px;
}
```

2. Style the input section:

```
.input-section {
    margin: 20px 0;
    padding: 10px;
    background-color: #f0f0f0;
    border-radius: 5px;
}
```

3. Style the shopping list container:

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

4. Style the button:

```
button {
    padding: 5px 10px;
    margin: 5px;
}
```

JavaScript Steps

1. Initialize Array

```
// Create an empty array to store shopping list items
let shoppingList = [];
```

Key Points: - Array is declared with let for block scope - Initially empty to store future shopping items

2. Create addItem Function

```
function addItem() {
    // Get input value
    let newItem = document.getElementById('itemInput').value;

    // Check if input is not empty
    if (newItem.trim() !== '') {
```

```
        // Add item to array
        shoppingList.push(newItem);
        // Clear input field
        document.getElementById('itemInput').value = '';
        // Update display by passing array to displayList
        displayList(shoppingList);
    }
}
```

Key Points: - Gets value from input field using getElementById - Validates input is not empty using trim() - Uses push() to add new item to array - Passes entire shoppingList array to displayList function

3. Create displayList Function

```
function displayList(items) {
    // Get output container
    let outputDiv = document.getElementById('output');

    // Create HTML content
    let htmlContent = "<div class='shopping-list'>";
    htmlContent += "<h3>Shopping List:</h3>";

    // Check if list is empty
    if (items.length === 0) {
        htmlContent += "<p>Your shopping list is empty</p>";
    } else {
        // Loop through array passed as parameter
        for (let i = 0; i < items.length; i++) {
            // Create numbered list using array index
            htmlContent += `<p>${i + 1}. ${items[i]}</p>`;
        }
    }

    htmlContent += "</div>";

    // Update DOM with generated HTML
    outputDiv.innerHTML = htmlContent;
}
```

Key Points: - Function takes array as parameter named ‘items’ - Uses array.length to check if empty - Loops through array using index - Generates HTML based on array content - Updates DOM using innerHTML

4. Initialize Display

```
// Call displayList with empty array on page load
displayList(shoppingList);
```

Key Points: - Ensures empty list displays when page loads - Passes initial empty array to function

Expected Output

- Empty list displayed on page load
- Ability to add items through input field
- Items displayed in numbered list format