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Task Tiltle : To-Do App Development using HTML, CSS, & JAVASCRIPT

1. Task Description:

The task was to develop a robust and user-friendly To-Do application using HTML, CSS, and JavaScript. The app should allow users to add, delete, and mark tasks as completed, with the functionality to persist data using local storage. This would ensure that user data remains intact even after the browser is closed or refreshed.

2. Steps Taken:

1. **Planning and Design**: Defined the core features and designed a user-friendly interface using wireframes.
2. **HTML Structure**: Created the basic structure of the app with essential elements such as the form for adding tasks and the list for displaying tasks.
3. **Styling with CSS**: Applied styling to ensure a clean, modern, and responsive design.
4. **JavaScript Functionality**: Implemented the core functionalities including adding tasks, marking tasks as done, and deleting tasks.
5. **Local Storage Integration**: Added functionality to save tasks in local storage and retrieve them upon page load to ensure data persistence.
6. **Testing and Debugging**: Conducted thorough testing to identify and fix any bugs or issues.

3. Challenges Faced:

1. **Ensuring Data Persistence**: Initial challenges were faced in implementing local storage correctly to ensure that tasks persist across browser sessions.
2. **Responsive Design**: Making sure the app was fully responsive and looked good on various devices was challenging.
3. **User Interaction**: Handling user interactions, such as marking tasks as completed and deleting them, required careful event management to ensure a smooth user experience.
4. **Cross-browser Compatibility**: Ensuring the app works consistently across different browsers required extensive testing and adjustments.

4. Solutions Implemented:

1. **Local Storage Implementation**: Successfully integrated local storage to save and retrieve tasks. This involved using JSON to stringify and parse task data.
2. **Responsive CSS**: Used flexible layouts and media queries to ensure the app's responsiveness across different screen sizes.
3. **Event Handling in JavaScript**: Utilized event delegation to efficiently manage user interactions, ensuring that the app remains responsive and easy to use.
4. **Cross-browser Testing**: Conducted testing across major browsers and made necessary adjustments to ensure compatibility, such as handling differences in how each browser interprets CSS and JavaScript.

5. Learnings:

1. **Enhanced JavaScript Skills**: Gained a deeper understanding of manipulating the DOM and managing events effectively.

2. **Local Storage Usage**: Learned to effectively use local storage for persisting data in a web application.
3. **Responsive Web Design**: Improved skills in creating responsive designs that adapt to various screen sizes.
4. **Problem-solving**: Developed better problem-solving skills by tackling cross-browser compatibility issues and ensuring a seamless user experience.

6. Project Update:

The To-Do application is now fully functional and meets all the specified requirements. Users can add, complete, and delete tasks, with all data persisting across sessions. The design is responsive, ensuring usability on both desktop and mobile devices. The app has been tested across major browsers, confirming consistent performance and appearance.

One feature that is currently not implemented is the ability to edit existing tasks. This can be considered as a potential enhancement for future updates to improve the app's functionality and user experience.

Moving forward, additional features such as task editing, prioritization, and categorization can be considered to further enhance the app.

CODE (HTML)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>To-Do App</title>
    <link rel="stylesheet" href="/Users/sonab/OneDrive/Desktop/VeriTech/Task
3/cssForTask3.css">
</head>
<body>
    <div class="todo-container">
        <h1>To-Do List</h1>
        <form id="todo-form">
            <input type="text" id="todo-input" placeholder="Add a new task">
            <button type="submit">Add</button>
        </form>
        <ul id="todo-list"></ul>
    </div>
    <script src="/Users/sonab/OneDrive/Desktop/VeriTech/Task
3/jsForTask3.js"></script>
</body>
</html>
```

CODE(CSS)

```css
body {
    font-family: Arial, sans-serif;
    display: flex;
    justify-content: center;
    align-items: center;
    height: 100vh;
    margin: 0;
    background-color: #f0f0f0;
}

.todo-container {
    background-color: #fff;
    padding: 20px;
    border-radius: 5px;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    width: 100%;
    max-width: 400px;
}

h1 {
    margin: 0 0 20px;
    text-align: center;
}

form {
    display: flex;
    margin-bottom: 20px;
}

input {
    flex: 1;
    padding: 10px;
    border: 1px solid #ddd;
    border-radius: 5px;
    margin-right: 10px;
}

button {
    padding: 10px;
    border: none;
    background-color: #5cb85c;
    color: #fff;
    border-radius: 5px;
    cursor: pointer;
    font-size: 16px;
}
```

```css
button:hover {
    background-color: #4cae4c;
}

ul {
    list-style: none;
    padding: 0;
}

li {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 10px;
    border: 1px solid #ddd;
    border-radius: 5px;
    margin-bottom: 10px;
    background-color: #fff;
    transition: background-color 0.3s;
}

li.done {
    text-decoration: line-through;
    color: #999;
    background-color: #f0f0f0;
}

li button {
    background-color: #d9534f;
    border: none;
    color: #fff;
    border-radius: 5px;
    cursor: pointer;
    padding: 5px 10px;
}

li button:hover {
    background-color: #c9302c;
}
```

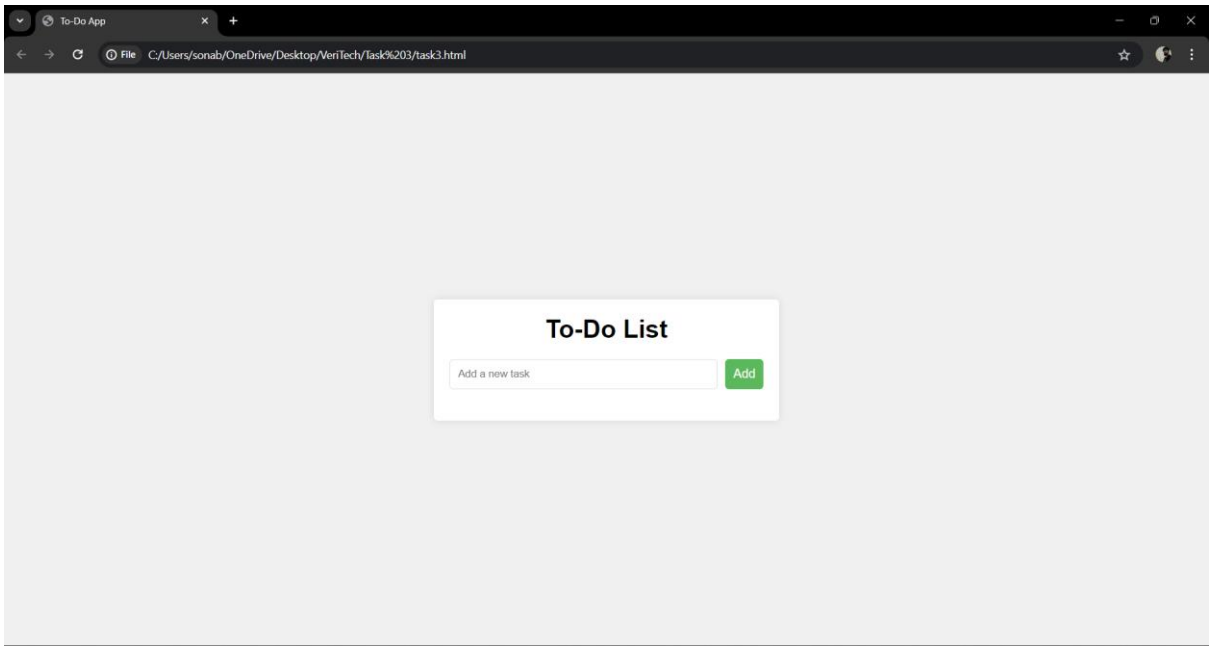
CODE(JAVASCRIPT)

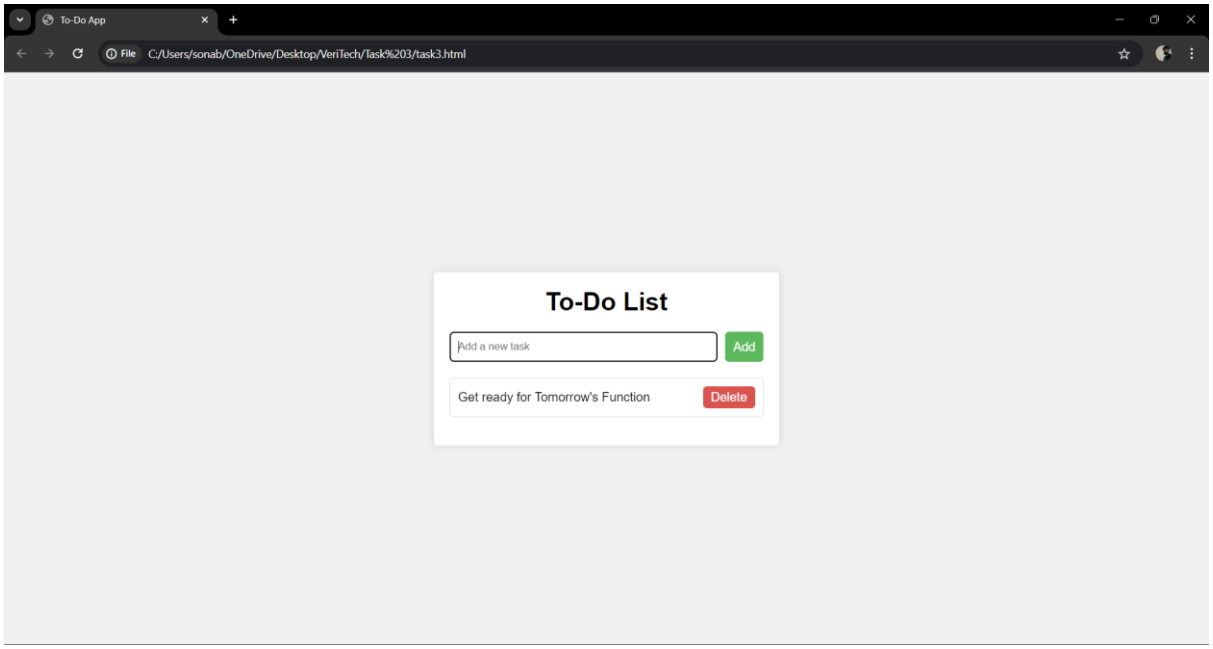
```javascript
document.addEventListener('DOMContentLoaded', () => {
    const form = document.getElementById('todo-form');
    const input = document.getElementById('todo-input');
    const todoList = document.getElementById('todo-list');
```

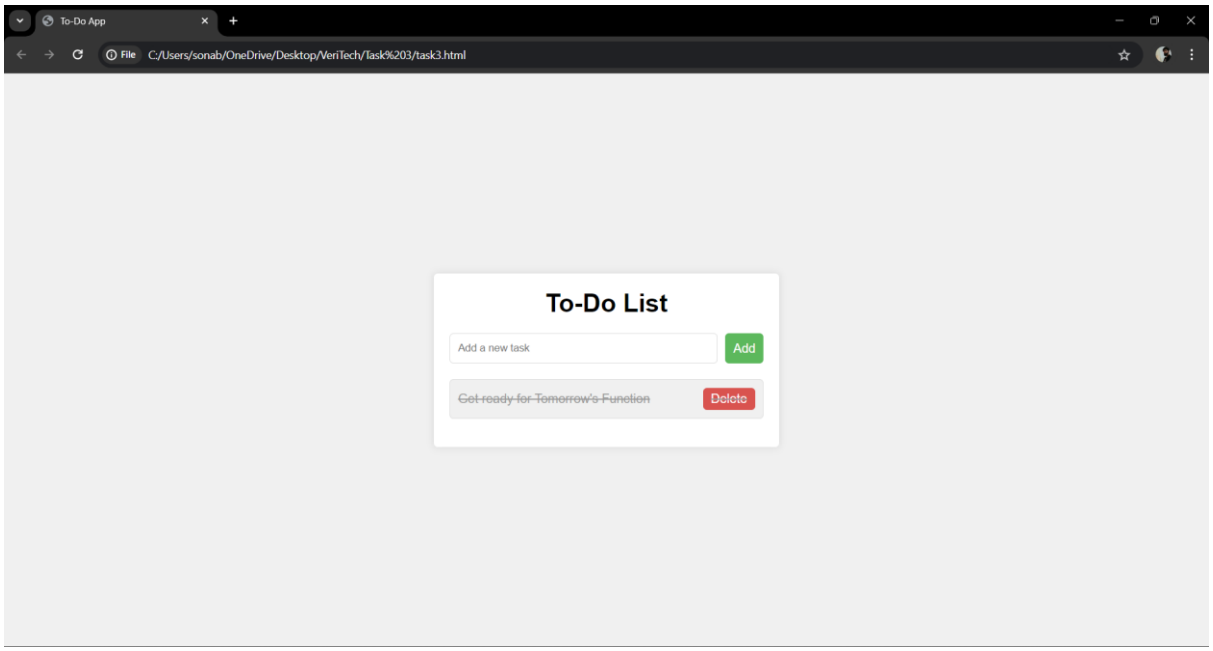
```
// To Load saved tasks from the local storage.
const savedTasks = JSON.parse(localStorage.getItem('todos')) || [];
savedTasks.forEach(task => addTask(task.text, task.done));

form.addEventListener('submit', (e) => {
    e.preventDefault();
    const taskText = input.value.trim();
    if (taskText !== '') {
        addTask(taskText);
        saveTask(taskText);
        input.value = '';
        input.focus();
    }
});

todoList.addEventListener('click', (e) => {
    if (e.target.tagName === 'BUTTON') {
        const li = e.target.parentElement;
        const taskText = li.firstChild.textContent;
        li.remove();
        removeTask(taskText);
    } else if (e.target.tagName === 'LI') {
        e.target.classList.toggle('done');
        const taskText = e.target.firstChild.textContent;
        toggleTaskDone(taskText);
    }
});

function addTask(text, done = false) {
    const li = document.createElement('li');
    li.textContent = text;
    if (done) {
        li.classList.add('done');
    }
    const button = document.createElement('button');
    button.textContent = 'Delete';
    li.appendChild(button);
    todoList.appendChild(li);
}

function saveTask(text) {
    const tasks = JSON.parse(localStorage.getItem('todos')) || [];
    tasks.push({ text, done: false });
    localStorage.setItem('todos', JSON.stringify(tasks));
}

function removeTask(text) {
```

```
        let tasks = JSON.parse(localStorage.getItem('todos')) || [];
        tasks = tasks.filter(task => task.text !== text);
        localStorage.setItem('todos', JSON.stringify(tasks));
    }

    function toggleTaskDone(text) {
        const tasks = JSON.parse(localStorage.getItem('todos')) || [];
        const task = tasks.find(task => task.text === text);
        if (task) {
            task.done = !task.done;
        }
        localStorage.setItem('todos', JSON.stringify(tasks));
    }
});
```

SCREENSHOTS




To-Do App
File
C:/Users/sonab/OneDrive/Desktop/VeriTech/Task%203/task3.html
To-Do List
Add a new task
Add
Get ready for Tomorrow's Function
Delete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Thank You !