

To-Do List Testing Guidance

Objective

Verify that the To-Do List application functions correctly, including task management and localStorage persistence.

Test Environment

- Browser: Latest versions of Chrome, Firefox, or Edge
- Developer Tools: Enabled for inspecting localStorage and console logs

Test Cases

1. Task Creation

- **Action:** Enter a task in the input field and click "Add Task".
- **Expected:**
 - Task appears in the list.
 - Input field clears.
 - No error message if task is valid.
 - Error message "Task cannot be empty" if input is blank or only whitespace.
- **localStorage Check:** Open Developer Tools > Application > Local Storage, verify tasks key contains the new task as JSON (e.g., [{"id":<timestamp>, "text":"Task 1", "completed":false}]).

2. Task Persistence

- **Action:** Add multiple tasks, then refresh the page.
- **Expected:** All tasks persist in the list after refresh.
- **localStorage Check:** Confirm tasks key in localStorage retains all tasks.

3. Task Completion

- **Action:** Check the checkbox next to a task.
- **Expected:**
 - Task text shows a strikethrough.
 - Task's completed status in localStorage updates to true.
- **Action:** Uncheck the checkbox.
- **Expected:** Strikethrough is removed, completed status updates to false.

4. Task Deletion

- **Action:** Click "Delete" next to a task.
- **Expected:**
 - Task is removed from the list.
 - localStorage tasks array no longer includes the deleted task.

5. Filtering Tasks

- **Action:** Select "All", "Completed", or "Pending" from the filter dropdown.
- **Expected:**
 - "All": Shows all tasks.
 - "Completed": Shows only tasks with strikethrough (completed).
 - "Pending": Shows only tasks without strikethrough.
- **Note:** Verify list updates dynamically without affecting localStorage.

6. Sorting Tasks

- **Action:** Select "Default", "A-Z", or "Z-A" from the sort dropdown.
- **Expected:**
 - "Default": Tasks in order of creation.
 - "A-Z": Tasks sorted alphabetically ascending.
 - "Z-A": Tasks sorted alphabetically descending.
- **Note:** Sorting should not alter localStorage order.

7. localStorage Failure Handling

- **Action:** Disable localStorage in browser (e.g., via incognito mode or browser settings).
- **Action:** Add, complete, or delete tasks.
- **Expected:**
 - App functions without crashing.
 - Console logs warning: `localStorage unavailable` or `Failed to save to localStorage`.
 - Tasks persist in session but not after refresh.

Manual Verification

- In Developer Tools > Console, run `localStorage.getItem('tasks')` to inspect stored tasks.
- Ensure JSON format is valid and matches the displayed list.

Notes

- Test across browsers to ensure compatibility.
- Verify responsiveness on different screen sizes.
- Report any UI glitches, errors, or console warnings.