

Candidates should work their way through these levels. If they get stuck, they can ask for hints, but the goal is to complete as much as possible independently.

Level 1: Basic DOM Manipulation & Event Handling (Essential)

Goal: Allow users to add new tasks to the list.

Steps:

1. Add Task Functionality:

- When the "Add Task" button (#addTaskBtn) is clicked, or the user presses Enter in the task input field (#taskInput):
 - Get the value from the #taskInput.
 - If the input is not empty, create a new element.
 - The should contain:
 - A with the task text.
 - A "Complete" button (e.g., with class complete-btn).
 - A "Delete" button (e.g., with class delete-btn).
 - Append the new to the #taskList.
 - Clear the #taskInput field.

2. Mark Task as Complete/Incomplete:

- When the "Complete" button of a task is clicked:
 - Toggle the completed class on the parent element. This class should apply a strikethrough effect (already defined in style.css).

3. Delete Task:

- When the "Delete" button of a task is clicked:
 - Remove the parent element from the DOM.

Hints for Level 1:

- Use \$("#selector").val() to get input value.
- Use \$("#selector").append() or \$("#selector").prepend() to add elements.
- Use \$(this) inside event handlers to refer to the clicked element.
- Use .parent() to get the parent element.
- Use .remove() to delete an element.
- Use .toggleClass() to toggle a class.

Level 2: Filtering & Clearing Completed Tasks (Intermediate)

Goal: Implement filters to show all, active, or completed tasks, and allow clearing completed tasks.

Steps:

1. Filtering Tasks:

- When a filter button (#showAll, #showActive, #showCompleted) is clicked:
 - Remove the active class from all filter buttons and add it to the clicked button.
 - **"All" Filter:** Show all tasks.
 - **"Active" Filter:** Show only tasks that do *not* have the completed class. Hide tasks that have the completed class.
 - **"Completed" Filter:** Show only tasks that *do* have the completed class. Hide tasks that do *not* have the completed class.

2. Clear Completed Tasks:

- When the "Clear Completed" button (#clearCompleted) is clicked:
 - Remove all elements that have the completed class.

Hints for Level 2:

- Use \$("#selector").show() and \$("#selector").hide() to control visibility.
 - Use .hasClass() to check for a class.
 - Use a combination of .each() and conditional logic to iterate through tasks for filtering.
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Level 3: Persistence with Local Storage (Advanced)

Goal: Make the To-Do List persist even after the browser is closed and reopened.

Steps:

1. Save Tasks:

- Whenever a task is added, marked complete/incomplete, or deleted, save the current state of the tasks to localStorage.
- Store tasks as an array of objects, where each object has properties like text and completed (boolean).

2. Load Tasks:

- When the page loads, check if there are saved tasks in localStorage.
- If tasks exist, load them and dynamically add them to the #taskList using the same structure as in Level 1. Ensure their completed status is correctly applied.

Hints for Level 3:

- localStorage.setItem('key', value) to save data. Remember to JSON.stringify() your array of objects before saving.
 - localStorage.getItem('key') to retrieve data. Remember to JSON.parse() the retrieved string.
 - Perform the loading logic inside \$(document).ready().
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Level 4: Enhancements and Refinements (Bonus/Excellent)

Goal: Add extra features for a more polished user experience.

Steps:

1. Edit Task:

- Allow users to edit existing tasks by clicking on the task text.
- When clicked, the `` should turn into an editable `<input type="text">` pre-filled with the current task text.
- When the user presses Enter or clicks outside the input field, update the task text and revert to ``.

2. Drag and Drop Reordering (More Complex - Optional):

- Implement drag-and-drop functionality to allow users to reorder tasks within the list. (Requires jQuery UI Sortable or a custom implementation).

3. Confirmation Dialog for Deletion:

- Before deleting a task, show a simple confirmation dialog (e.g., using `confirm()` or a custom modal) to prevent accidental deletions.

Hints for Level 4:

- For editing, you can replace the `` with an `<input>` element dynamically.
 - Use blur event for input element to detect when it loses focus.
 - For drag and drop, jQuery UI Sortable is the easiest path. If not using jQuery UI, it involves listening to dragstart, dragover, drop events and managing dataTransfer.
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Evaluation Criteria

Candidates will be evaluated on:

- **Correctness:** Does the functionality work as expected?
 - **Code Quality:** Is the code clean, readable, and well-organized? Are variable names descriptive?
 - **jQuery Best Practices:** Proper use of selectors, event delegation, and DOM manipulation.
 - **Error Handling (Basic):** Does the application handle empty input for tasks gracefully?
 - **Logical Flow:** Is the code structured logically?
 - **Problem-Solving:** How do they approach and solve the different levels of complexity?
 - **Commit History (Optional but Recommended):** If using Git, meaningful commit messages showing progress.
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