Learner Assignment Submission Format

Learner Details

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- **Enrollment Number: su625mr004**
- **Batch / Class: Mern Stack**
- **Assignment: todo list**
- **Date of Submission: 04-08-25**

Problem Solving Activity 1.1

1. Program Statement

To develop a basic React application that allows users to manage a to-do list. The application should let users add new tasks and delete existing ones with a simple and clean interface.

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2. Algorithm

- Start the React application.
- Initialize a task list with some default tasks using useState.
- Display the list on the screen using map().
- Allow the user to type a new task in the input field.
- On clicking the "Add" button:
  - Add the new task to the task list.
  - Clear the input field.
- On clicking the "Delete" button next to a task:
  - Remove that task from the task list using filter().
- Repeat steps 4□6 as the user interacts.

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3. Pseudocode

START

```
SET initialTasks = ["Read a book", "Do homework", "Take a walk", "Drink water"]
SET newTask = ""

FUNCTION handleInput(event):
    SET newTask = event.value

FUNCTION addTask():
    IF newTask is not empty:
        APPEND newTask to tasks
        CLEAR newTask

FUNCTION deleteTask(index):
    REMOVE task at given index from tasks

DISPLAY tasks in an ordered list
FOR each task:
    DISPLAY task text and Delete button

END
```

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4. Program Code

```
import React, { useState } from 'react';

function ToDoList() {
  const [tasks, setTasks] = useState([
    "Read a book",
    "Do homework",
```

```
  "Take a walk",
  "Drink water"
]);
const [newTask, setNewTask] = useState("");

function handleInput(event) {
  setNewTask(event.target.value);
}

function addTask() {
  if (newTask !== "") {
    setTasks([...tasks, newTask]);
    setNewTask("");
  }
}

function deleteTask(index) {
  const updated = tasks.filter((task, i) => i !== index);
  setTasks(updated);
}

return (
  <>
    <style>{`
      .box {
        max-width: 400px;
        margin: 50px auto;
```

```
  padding: 20px;
  background: #fff8dc;
  border-radius: 10px;
  text-align: center;
  font-family: Arial, sans-serif;
}

h1 {
  margin-bottom: 20px;
}

input {
  padding: 8px;
  width: 60%;
  border: 1px solid #ccc;
  border-radius: 5px;
}

button {
  padding: 8px 12px;
  margin-left: 10px;
  border: none;
  background-color: green;
  color: white;
  border-radius: 5px;
  cursor: pointer;
}
```

```
ol {
  margin-top: 20px;
  text-align: left;
  padding-left: 20px;
}

li {
  margin-bottom: 10px;
}

.delete-btn {
  margin-left: 10px;
  background-color: red;
}
`}</style>

<div className="box">
  <h1>To Do List</h1>
  <input type="text" value={newTask} onChange={handleInput} placeholder="New task" />
  <button onClick={addTask}>Add</button>

  <ol>
    {tasks.map((task, index) => (
      <li key={index}>
        {task}
        <button className="delete-btn" onClick={() => deleteTask(index)}>Delete</button>
```

```
            </li>
          ))}
        </ol>
      </div>
    </>
  );
}

export default ToDoList;
```

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5. Test Cases

Input Task	Expected Result	Actual Result
"Wash dishes"	Task added to the end of the list	Works
Empty input	No task added	Works
Delete index 1	Task at position 1 removed	Works
Multiple additions	All tasks appear in the correct order	Works

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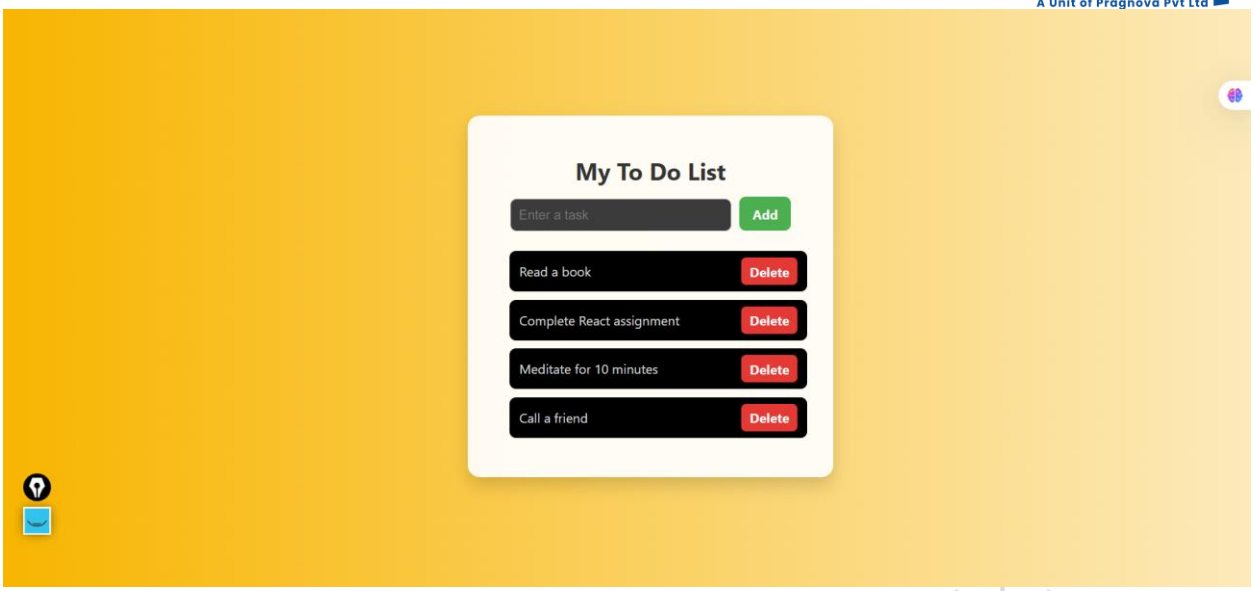
6. Screenshots of Output



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7. Observation / Reflection

- Faced difficulty understanding useState in the beginning.
- Learned how to handle input, update state, and render lists in React.
- Would like to improve the design and also explore saving tasks in local storage next time.