

Untitled

◆ Imports

js

Copy

Edit

```
import { useState, useEffect } from  
'react'
```

Importing React hooks: `useState` to manage state, and `useEffect` to run code on component mount or update.

js

Copy

Edit

```
import { TodoProvider } from  
'../contexts'
```

Importing the context provider to share todo-related functions/data across components.

js

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```
import './App.css'
```

Importing custom CSS styles.

Untitled

js

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```
import TodoForm from
'./components/TodoForm'
import TodoItem from
'./components/TodoItem'
```

Importing the TodoForm component (to add todos) and TodoItem component (to display each todo).

◆ App Component Starts

js

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```
function App() {
Declaring the main App component.
```

js

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```
    const [todos, setTodos] = useState([])
Creating a state variable todos,
initially an empty array, to store all
todo items.
```

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◆ Function to Add a Todo

js

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```
const addTodo = (todo) => {  
  setTodos((prev) => [{ id:  
Date.now(), ...todo }, ...prev])  
}
```

Adds a new todo item to the top of the list.

`Date.now()` generates a unique id.

Using the spread operator `...todo` to include all properties of the new todo.

New todo is added to the front using `[newTodo, ...prev]`.

◆ Function to Update a Todo

js

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```
const updateTodo = (id, todo) => {  
  page3
```

Untitled

```
setTodos((prev) =>
  prev.map((prevTodo) =>
    (prevTodo.id === id ? todo : prevTodo))
  )
}
```

Updates an existing todo by matching the id.

If match found, replace with new todo, otherwise keep the old one.

◆ Function to Delete a Todo

js

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```
const deleteTodo = (id) => {
  setTodos((prev) =>
    prev.filter((todo) => todo.id !== id))
  }
```

Deletes the todo with the given id by filtering it out.

◆ Function to Toggle Completed State

js

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Edit

```
const toggleComplete = (id) => {
  setTodos((prev) =>
    prev.map((prevTodo) =>
      prevTodo.id === id
        ? { ...prevTodo, completed:
!prevTodo.completed }
        : prevTodo
    )
  )
}
```

Toggles the completed state (true or false) for the matched todo.

◆ Load Todos from LocalStorage (Run Once)

js

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Edit

```
useEffect(() => {
  const todos =
JSON.parse(localStorage.getItem("todos")
)
```

```
  if (todos && todos.length > 0) {
```

```
                                Untitled
      setTodos(todos)
    }
  }, [])
```

This runs only once when the component mounts.

It loads previously saved todos from localStorage and updates the state.

◆ Save Todos to LocalStorage on Change

js

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```
    useEffect(() => {
      localStorage.setItem("todos",
JSON.stringify(todos))
    }, [todos])
```

This runs every time todos change.

It saves the updated todos list to localStorage.

◆ Return JSX: UI Rendering

js

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```
    return (  
      <TodoProvider value={{ todos,  
addTodo, updateTodo, deleteTodo,  
toggleComplete }}>  
Wrapping everything in TodoProvider,  
which allows all nested components to  
access todo functions/data.
```

js

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Edit

```
    <div className="bg-[#172842]  
min-h-screen py-8">  
Full page background styling using  
Tailwind CSS.
```

js

Copy

Edit

```
    <div className="w-full max-w-2xl  
mx-auto shadow-md rounded-lg px-4 py-3  
text-white">  
Centered container with styling: max  
width, padding, white text, rounded
```

Untitled

edges, shadow.

js

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Edit

```
<h1 className="text-2xl
font-bold text-center mb-8 mt-2">Manage
Your Todos</h1>
Heading text.
```

js

Copy

Edit

```
<div className="mb-4">
  <TodoForm />
</div>
Rendering the form to add new todos.
```

js

Copy

Edit

```
<div className="flex flex-wrap
gap-y-3">
Wrapping todo items with spacing.
```


Untitled

js

Copy

Edit

```
        {todos.map((todo) => (  
            <div key={todo.id}  
className='w-full'>  
                <TodoItem todo={todo} />  
            </div>  
        ))}
```

Mapping through the todos array and rendering TodoItem for each todo.

key={todo.id} helps React identify each item uniquely.



Closing Tags

js

Copy

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```
        </div>  
    </div>  
    </div>  
    </TodoProvider>  
)  
}
```

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Closing divs and provider.

js

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```
export default App
```

Exporting the App component so it can be used in main.jsx.

Let me know if you want the same line-by-line breakdown for `TodoForm.js`, `TodoItem.js`, or `contexts/index.js`.

You said:

```
import {createContext, useContext} from  
"react"
```

```
export const TodoContext =  
createContext({
```

Untitled

```
todos: [  
  {  
    id: 1,  
    todo: " Todo msg",  
    completed: false,  
  }  
],  
addTodo: (todo) => {},  
updateTodo: (id, todo) => {},  
deleteTodo: (id) => {},  
toggleComplete: (id) => {}  
})
```

```
export const useTodo = () => {  
  return useContext(TodoContext)  
}
```

```
export const TodoProvider =  
  TodoContext.Provider
```

ChatGPT said:

Here's a line-by-line explanation of your contexts/index.js file where you

Untitled

define and use the TodoContext:

◆ Importing React Context API

js

Copy

Edit

```
import { createContext, useContext }  
from "react"
```

createContext is used to create a context object.

useContext is a hook to consume the context in any component.

◆ Creating the Context with Default Values

js

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Edit

```
export const TodoContext =  
createContext({
```

Creating a new context called TodoContext and assigning some default dummy values.

Untitled

js

Copy

Edit

```
  todos: [  
    {  
      id: 1,  
      todo: " Todo msg",  
      completed: false,  
    }  
  ],
```

A sample todos array is given with one default todo (this helps with initial auto-suggestions in IDEs).

js

Copy

Edit

```
    addTodo: (todo) => {},  
    updateTodo: (id, todo) => {},  
    deleteTodo: (id) => {},  
    toggleComplete: (id) => {}  
  })
```

Default empty functions for all the actions. These are placeholders that will be replaced by real functions from

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App.js when the provider is used.

◆ Custom Hook to Use Context

js

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Edit

```
export const useTodo = () => {  
  return useContext(TodoContext)  
}
```

A custom hook named useTodo to make accessing the context easier in other components.

Instead of writing
useContext(TodoContext) everywhere, you
can just use useTodo().

◆ Exporting the Provider Component

js

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```
export const TodoProvider =  
  TodoContext.Provider
```

Exporting the Provider component of the context.

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This is used in App.js to wrap your components and provide them access to the todo functions and data.



Summary

Exported Name	Type	Purpose
TodoContext	Context	The actual context object
useTodo()	Function	Custom hook to consume the context
TodoProvider	Provider	Wraps components to provide context values

Would you like the same line-by-line for TodoForm.js or TodoItem.js too?

You said:

```
export {TodoContext, TodoProvider,
useTodo} from "../TodoContext"
```

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ChatGPT said:

Great! Here's a line-by-line explanation of:

js

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```
export { TodoContext, TodoProvider,
useTodo } from "./TodoContext"
```

◆ What This Line Does

This is a re-export statement. It imports named exports (TodoContext, TodoProvider, and useTodo) from the file `"./TodoContext"` and exports them again from the current file.

◆ Why It's Useful

This is usually written in an `index.js` file inside a folder (like `contexts/`) to centralize and simplify imports.

Instead of doing this in other files:

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js

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```
import { TodoContext, TodoProvider,
useTodo } from './contexts/TodoContext'
```

You can now do:

js

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```
import { TodoContext, TodoProvider,
useTodo } from './contexts'
```

This is cleaner and shorter.



Summary



Purpose: Shortcut for importing all context exports from one place.



Best Practice: Use this pattern in index.js files of folders to simplify and group exports.

Let me know if you'd like help organizing other folders like components/ this way too!

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You said:

```
import React, { useState } from 'react'
import { useTodo } from
'../contexts/ToDoContext';
```

```
function ToDoForm() {
  const [todo, setTodo] = useState("")
  const {addTodo} = useTodo()

  const add = (e) => {
    e.preventDefault()

    if (!todo) return

    addTodo({ todo, completed: false})
    setTodo("")
  }

  return (
```

```

        Untitled
    <form onSubmit={add}
className="flex">
        <input
            type="text"
            placeholder="Write
Todo..."
            className="w-full border
border-black/10 rounded-l-lg px-3
outline-none duration-150 bg-white/20
py-1.5"
            value={todo}
            onChange={(e) =>
setTodo(e.target.value)}
        />
        <button type="submit"
className="rounded-r-lg px-3 py-1
bg-green-600 text-white shrink-0">
            Add
        </button>
    </form>
);
}

```

```

export default TodoForm;

```

Untitled

ChatGPT said:

Here is a line-by-line explanation of your `TodoForm.js` component in simple terms:

◆ Importing Required Modules

js

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Edit

`import React, { useState } from 'react'`
React is imported to define a component.

`useState` is a React hook used to manage the `todo` input state.

js

Copy

Edit

`import { useTodo } from
'../contexts/ToDoContext';`

This custom hook gives you access to the `todo` context (functions like `addTodo`) from `ToDoContext`.

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◆ TodoForm Component Starts

js

Copy

Edit

```
function TodoForm() {  
Declaring a functional component  
TodoForm.
```

js

Copy

Edit

```
    const [todo, setTodo] = useState("")  
todo holds the text typed by the user.
```

setTodo updates the value.

Initially empty (").

js

Copy

Edit

```
    const { addTodo } = useTodo()  
Destructures addTodo function from the  
context, so we can add a new todo to the  
global list.
```

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◆ Add Function - Triggered on Form Submit

js

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Edit

```
const add = (e) => {  
  e.preventDefault()  
}
```

Prevents the default form submission (which would refresh the page).

js

Copy

Edit

```
if (!todo) return
```

If the input is empty, it stops further execution.

js

Copy

Edit

```
addTodo({ todo, completed: false })
```

Calls the context method addTodo, passing a new todo object with todo text and completed: false.

Untitled

js

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Edit

```
setTodo("")
```

Clears the input field after adding the todo.

◆ JSX: UI Return

js

Copy

Edit

```
return (
```

```
  <form onSubmit={add}
```

```
  className="flex">
```

Form that runs add() when submitted.

Flex layout for inline input and button.

js

Copy

Edit

```
<input
```

```
  type="text"
```

```
  placeholder="Write Todo..."
```

```
  className="w-full border
```

Untitled

```
border-black/10 rounded-l-lg px-3  
outline-none duration-150 bg-white/20  
py-1.5"
```

```
      value={todo}  
      onChange={(e) =>  
setTodo(e.target.value)}  
    />
```

Text input:

Takes the user's todo message.

Bound to todo state (value={todo}).

onChange updates the state when typing.

js

Copy

Edit

```
      <button type="submit"  
className="rounded-r-lg px-3 py-1  
bg-green-600 text-white shrink-0">
```

Add

```
    </button>
```

Button that submits the form (triggers add()).

Untitled

 Closing and Exporting

js

Copy

Edit

```
</form>
```

```
);
```

```
}
```

End of form component.

js

Copy

Edit

```
export default TodoForm;
```

Makes this component usable in other files like App.js.

 Summary:

Controlled form input.

Uses `useTodo()` to add a new todo from a central context.

Auto-clears the input after submission.

Untitled

Let me know if you want a line-by-line breakdown of `TodoItem.js` too!

You said:

```
import React, { useState } from 'react'
import { useTodo } from
'../contexts/ToDoContext';
```

```
function TodoItem({ todo }) {
  const [isTodoEditable,
setIsTodoEditable] = useState(false)
  const [todoMsg, setTodoMsg] =
useState(todo.todo)
  const {updateTodo, deleteTodo,
toggleComplete} = useTodo()
```

```
  const editTodo = () => {
    updateTodo(todo.id, {...todo, todo:
```

Untitled

```
todoMsg}))
  setIsTodoEditable(false)
}
const toggleCompleted = () => {
  //console.log(todo.id);
  toggleComplete(todo.id)
}

return (
  <div
    className={flex border
border-black/10 rounded-lg px-3 py-1.5
gap-x-3 shadow-sm shadow-white/50
duration-300 text-black ${
      todo.completed ?
"bg-[#c6e9a7]" : "bg-[#ccbed7]"
    }}
  >
    <input
      type="checkbox"
      className="cursor-pointer"
      checked={todo.completed}
      onChange={toggleCompleted}
    />
    <input
```

```

        Untitled
        type="text"
        className={border
outline-none w-full bg-transparent
rounded-lg ${
            isTodoEditable ?
"border-black/10 px-2" :
"border-transparent"
        } ${todo.completed ?
"line-through" : ""}}
        value={todoMsg}
        onChange={(e) =>
setTodoMsg(e.target.value)}
        readOnly={!isTodoEditable}
    />
    {/* Edit, Save Button */}
    <button
        className="inline-flex w-8
h-8 rounded-lg text-sm border
border-black/10 justify-center
items-center bg-gray-50
hover:bg-gray-100 shrink-0
disabled:opacity-50"
        onClick={() => {
            if (todo.completed)
return;

```

Untitled

```
        if (isTodoEditable) {
            editTodo();
        } else
setIsTodoEditable((prev) => !prev);
        }}
        disabled={todo.completed}
    >
        {isTodoEditable ? "📁" :
"✎"}
    </button>
    {/* Delete Todo Button */}
    <button
        className="inline-flex w-8
h-8 rounded-lg text-sm border
border-black/10 justify-center
items-center bg-gray-50
hover:bg-gray-100 shrink-0"
        onClick={() =>
deleteTodo(todo.id)}
    >
        ✕
    </button>
</div>
);
```

Untitled

```
}
```

```
export default TodoItem;
```

ChatGPT said:

Here's a line-by-line explanation of your TodoItem.js file in simple terms:

◆ Import Required Modules

js

Copy

Edit

```
import React, { useState } from 'react'
React for JSX.
```

useState to handle local state like edit mode and updated message.

js

Copy

Edit

```
import { useTodo } from
'../contexts/TodoContext';
Importing useTodo() custom hook to get
```

Untitled

access to shared todo context (update, delete, toggle functions).

◆ Start Functional Component

js

Copy

Edit

```
function TodoItem({ todo }) {  
  Functional component that receives a  
  single todo item as a prop.
```

◆ Local States

js

Copy

Edit

```
  const [isTodoEditable,  
  setIsTodoEditable] = useState(false)  
  isTodoEditable: To toggle between  
  read-only and editable input.
```

js

Copy

Edit

```
  const [todoMsg, setTodoMsg] =  
  useState(todo.todo)
```

Untitled

todoMsg: Local state to hold the current message (can be edited).

◆ Context Functions

js

Copy

Edit

```
const { updateTodo, deleteTodo,
toggleComplete } = useTodo()
```

These functions come from the shared context.

◆ Edit Function

js

Copy

Edit

```
const editTodo = () => {
  updateTodo(todo.id, { ...todo, todo:
todoMsg })
  setIsTodoEditable(false)
}
```

Updates the todo using updateTodo().

Turns off edit mode after saving.

Untitled

◆ Toggle Completed

js

Copy

Edit

```
const toggleCompleted = () => {  
  toggleComplete(todo.id)  
}
```

Calls context function to toggle the completed status.

◆ Return JSX

js

Copy

Edit

```
return (  
  <div  
    className={`flex border  
border-black/10 rounded-lg px-3 py-1.5  
gap-x-3 shadow-sm shadow-white/50  
duration-300 text-black ${  
      todo.completed ?  
"bg-[#c6e9a7]" : "bg-[#ccbed7]"  
    }` }  
  >
```

Main todo box:

Untitled

Styled with different colors depending on completed.

Rounded with padding and flex layout.

Checkbox Input

js

Copy

Edit

```
<input
  type="checkbox"
  className="cursor-pointer"
  checked={todo.completed}
  onChange={toggleCompleted}
/>
```

Checkbox toggles the todo's completion.

Bound to `todo.completed`.

Text Input for Todo Message

js

Copy

Edit

```
<input
```

```

        Untitled
        type="text"
        className={`border
outline-none w-full bg-transparent
rounded-lg ${
            isTodoEditable ?
"border-black/10 px-2" :
"border-transparent"
        } ${todo.completed ?
"line-through" : ""}`}
        value={todoMsg}
        onChange={(e) =>
setTodoMsg(e.target.value)}
        readOnly={!isTodoEditable}
    />

```

Text field shows the todo message.

If editable, it has a visible border and padding.

If completed, shows strikethrough text.

`readOnly={!isTodoEditable}` disables editing unless toggled.

 Edit/Save Button

Untitled

js

Copy

Edit

```
      <button
        className="inline-flex w-8
h-8 rounded-lg text-sm border
border-black/10 justify-center
items-center bg-gray-50
hover:bg-gray-100 shrink-0
disabled:opacity-50"
        onClick={() => {
          if (todo.completed)
return;

          if (isTodoEditable) {
            editTodo();
          } else
setIsTodoEditable((prev) => !prev);
        }}
        disabled={todo.completed}
      >
        {isTodoEditable ? "📁" :
"✎"}
      </button>
```

Toggle button between edit and save:

Untitled

If editable, show  icon (for saving).

Else show  icon (for editing).

Disabled if todo is completed.

On click:

If editable, save changes using
`editTodo()`.

If not, enable editing.

✕ Delete Button

js

Copy

Edit

```
        <button
            className="inline-flex w-8
h-8 rounded-lg text-sm border
border-black/10 justify-center
items-center bg-gray-50
hover:bg-gray-100 shrink-0"
            onClick={() =>
```

page37

Untitled

```
deleteTodo(todo.id)}  
>
```

✕

```
</button>
```

Deletes the todo when clicked using
deleteTodo() from context.



Close the Component

js

Copy

Edit

```
</div>
```

```
);
```

```
}
```

Closing the return block.

js

Copy

Edit

```
export default TodoItem;
```

Exporting this component for use in
other parts of the app (App.js).



Summary:

Feature Purpose

Untitled

Checkbox Toggles completion

Input Shows and edits todo text

 Button Toggle between edit and save

✕ Button Deletes the todo

Would you like me to bundle all components (App, TodoContext, TodoForm, TodoItem) into a ready-to-run ZIP file too?

You said:

App, TodoContext, TodoForm, TodoItem in sabhi files ka one by one code ka output do

ChatGPT said:

Bilkul Anupam! Chalo har ek file ke code ka line-by-line output dekhte hain –

Untitled

React + Context-based Todo App ke har part ka breakdown.

Main chaar files ka explanation dunga:

✓ App.js

✓ TodoContext.js

✓ TodoForm.js

✓ TodoItem.js

🧠 1. App.js - Output & Explanation
js

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Edit

```
const [todos, setTodos] = useState([])
```

◆ Initializes empty todo list.

js

Copy

Edit

```
const addTodo = (todo) => {  
  setTodos((prev) => [{id: Date.now(),  
    ...todo}, ...prev] )  
}
```


Untitled

```
}
```

◆ New todo added with unique id using `Date.now()`

◆ Newest todos come at the top.

```
js
```

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Edit

```
const updateTodo = (id, todo) => {  
  setTodos((prev) => prev.map((prevTodo)  
=> (prevTodo.id === id ? todo : prevTodo  
)))  
}
```

◆ Finds the todo with matching id, and replaces it with new data.

```
js
```

Copy

Edit

```
const deleteTodo = (id) => {  
  setTodos((prev) => prev.filter((todo)  
=> todo.id !== id))  
}
```

◆ Deletes the todo matching the id.

Untitled

js

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Edit

```
const toggleComplete = (id) => {
  setTodos((prev) =>
    prev.map((prevTodo) =>
      prevTodo.id === id ? {
...prevTodo, completed:
!prevTodo.completed } : prevTodo))
}
```

◆ Toggles completed status of selected todo.

js

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Edit

```
useEffect(() => {
  const todos =
JSON.parse(localStorage.getItem("todos")
)
  if (todos && todos.length > 0) {
    setTodos(todos)
  }
}, [])
```

◆ On first load: fetches todos from
page42

Untitled

localStorage.

js

Copy

Edit

```
useEffect(() => {  
  localStorage.setItem("todos",  
    JSON.stringify(todos))  
}, [todos])  
◆ Whenever todos change, updates  
localStorage.
```

jsx

Copy

Edit

```
<TodoProvider value={{todos, addTodo,  
  updateTodo, deleteTodo,  
  toggleComplete}}>  
◆ Provides the todo context to child  
components (Form, Item etc.).
```

✓ Output in UI:

Shows heading: "Manage Your Todos"

Renders input field (from TodoForm)

Untitled

Renders list of todos (from TodoItem)

🌐 2. TodoContext.js - Output & Explanation

js

Copy

Edit

```
export const TodoContext =
createContext({
  todos: [{ id: 1, todo: " Todo msg",
completed: false }],
  addTodo: (todo) => {},
  updateTodo: (id, todo) => {},
  deleteTodo: (id) => {},
  toggleComplete: (id) => {}
})
```

◆ This is default context for type-safety / IDE help. ◆ Holds all functions and todos for sharing.

js

Copy

Edit

```
export const useTodo = () => {
```

Untitled

```
    return useContext(TodoContext)
  }
```

◆ Custom hook useTodo() to use context anywhere in child components.

js

Copy

Edit

```
export const TodoProvider =
  TodoContext.Provider
```

◆ Named export to wrap the main app and provide all values.

✓ Output:

No direct output, but this file powers shared logic for todos.



3. TodoForm.js – Output & Explanation

js

Copy

Edit

```
const [todo, setTodo] = useState("")
```

◆ Local state for the input field.

js

Untitled

Copy

Edit

```
const { addTodo } = useTodo()
```

◆ Gets addTodo from global context.

js

Copy

Edit

```
const add = (e) => {  
  e.preventDefault()  
  if (!todo) return  
  addTodo({ todo, completed: false })  
  setTodo("")  
}
```

◆ On form submit:

Prevents refresh.

Adds todo to global list.

Clears input.

jsx

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```
<form onSubmit={add} className="flex">
  <input
    type="text"
    value={todo}
    onChange={(e) =>
setTodo(e.target.value)}
    ...
  />
  <button type="submit">Add</button>
</form>
```

◆ Renders form with text input and Add button.

✓ Output:

Shows text box: "Write Todo..."

Button: Add

On submit → adds new todo



4. TodoItem.js - Output & Explanation
js

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```
const [isTodoEditable,
```

Untitled

```
setIsTodoEditable] = useState(false)
const [todoMsg, setTodoMsg] =
useState(todo.todo)
```

◆ State to control edit mode and editable text.

js

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```
const { updateTodo, deleteTodo,
toggleComplete } = useTodo()
```

◆ Gets todo-related functions from context.

☉ Checkbox:

jsx

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```
<input type="checkbox"
checked={todo.completed}
onChange={toggleCompleted} />
```

◆ Ticks/unticks todo item.

✎ Input Field:

jsx

Untitled

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```
<input type="text" value={todoMsg}
onChange={(e) =>
  setTodoMsg(e.target.value)}
readOnly={!isTodoEditable} />
```

◆ Shows the todo message. ◆ Editable only if isTodoEditable = true.

 /  Edit-Save Button:

js

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```
onClick={() => {
  if (todo.completed) return
  if (isTodoEditable) {
    editTodo()
  } else {
    setIsTodoEditable((prev) => !prev)
  }
}}
```

◆ Toggles between edit and save.

✕ Delete Button:

js

Untitled

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```
onClick={() => deleteTodo(todo.id)}
```

◆ Removes the todo from list.

✓ Output:

Checkbox for completed.

Editable todo text.

Edit / Save (📁 / ✎) button.

✕ Delete button.

Colors: green when completed, purple when pending.

← END Final Summary:

File	Output
------	--------

App.js	Renders whole UI and provides context
--------	---------------------------------------

TodoContext.js	Provides global todo state & functions
----------------	--

TodoForm.js	Lets you add a new todo
-------------	-------------------------

TodoItem.js	Displays todo with edit,
-------------	--------------------------

Untitled

delete, complete toggle

Agar chaho toh main sabhi files ko ek complete folder structure + ZIP project ke form mein bhi de sakta hoon. Ready to run in VS Code ya Live