## **🗂 Task: File Explorer with Nested Folders**

### **Objective**

Build a React-based File Explorer that allows users to navigate, create, rename, delete, and organize files and folders in a hierarchical structure.

## **📌 Features & Requirements**

### **1️⃣ Display a Nested File Structure**

* Use a tree-like structure where folders can contain both subfolders and files.
* Display folders and files differently (e.g., folder icons, file icons).
* Clicking on a folder should expand/collapse its contents.

### **2️⃣ User Actions on Files & Folders**

✅ Create a New Folder/File

* Users should be able to create a new folder inside any existing folder.
* Users should be able to create a new file inside any folder.

✅ Rename a Folder/File

* Users should be able to rename a folder or file by clicking on it or using a right-click context menu.

✅ Delete a Folder/File

* Users should be able to delete folders or files.
* Deleting a folder should delete all its contents.
* Show a confirmation prompt before deleting.

### **3️⃣ Drag and Drop Functionality** (Bonus)

* Users should be able to move files and folders using drag-and-drop.
* Moving a folder should move all its subfolders and files inside it.
* Ensure that users cannot move a folder into itself.

### **4️⃣ Data Persistence**

* Use React State (useState or useReducer) to manage the file structure.
* Optionally, store the file system in Local Storage, so that the structure persists after refresh.

### **5️⃣ Search Functionality** (Bonus)

* Implement a search bar that allows users to search for files and folders by name.
* Highlight the matched search results in the UI.

## **📂 Example File Structure (JSON Representation)**

Your file explorer should be able to manage a data structure like this:

{

"name": "Root",

"type": "folder",

"children": [

{

"name": "Documents",

"type": "folder",

"children": [

{ "name": "Resume.pdf", "type": "file" },

{ "name": "Project.docx", "type": "file" }

]

},

{

"name": "Pictures",

"type": "folder",

"children": [

{ "name": "Vacation.jpg", "type": "file" },

{ "name": "Profile.png", "type": "file" }

]

},

{ "name": "Notes.txt", "type": "file" }

]

}

## **💡 Expected UI Behavior**

✅ Folders can be expanded/collapsed to show or hide their contents.  
✅ Clicking "New Folder" inside a folder should create a new folder inside it.  
✅ Clicking "New File" should create a new file.  
✅ Right-clicking should open a context menu with Rename & Delete options.  
✅ Users can drag and drop files & folders to organize them.  
✅ The file structure should be managed dynamically using React State.