Pseducode

**FileExplorer Class:**

**Purpose:** Manage file and directory operations.

Methods:

1. **listFiles(directory)**

**Input:** Directory path.

**Operation:** Iterate through the directory and print the names of all files and folders.

**Output:** List of files displayed on the console.

1. **changeDirectory(path)**

**Input:** Path of the new directory.

**Operation:** Change the current working directory to the specified path.

**Output**: Current directory is updated.

1. **searchFiles(directory, filename)**

Input: Directory path and filename to search.

Operation: Recursively search through the directory for the specified filename.

Output: Print the full path if the file is found; otherwise, display "File not found."

1. **setPermissions(filename, mode)**

Input: Filename and mode (e.g. 777) to set permissions.

Operation: Change the file permissions to the specified mode.

Output: Permissions for the file are updated.

1. **createFile(filename)**

Input: Filename to create.

Operation: Create a new file with the specified name.

Output: A new file is created.

1. **copyFile(source, destination)**

Input: Source file path and destination file path.

Operation: Copy the source file to the destination.

Output: File is copied to the specified location.

1. **moveFile(source, destination)**

Input: Source file path and destination file path.

Operation: Move or rename the source file to the destination.

Output: File is moved or renamed.

1. **deleteFile(filename)**

Input: Filename to delete.

Operation**:** Remove the specified file from the filesystem.

Output: File is deleted.

**Logger Class:**

**Purpose:** Log messages with timestamps to a log file.

Methods:

1. **Logger(filename)**

**Input:** Log file name.

Operation: Open the log file in append mode.

Output**:** Log file is ready for writing.

1. **~Logger()**

Operation: Close the log file when the Logger object is destroyed.

Output: Log file is closed.

1. **Log(message)**

Input: Message to log.

Operation: Get the current timestamp and write the timestamped message to the log file.

Output: Message is recorded in the log file.

**Main Function:**

**Purpose:** Provide an interface for users to interact with the file explorer.

Steps:

1. **Initialize Logger and FileExplorer objects:**

Open log file and prepare the file explorer for operations.

1. **Infinite Loop for User Input:**

**Display prompt**: "FileExplorer>"

**Read user input**.

**Parse input**: Split input into command and arguments.

1. **Command Execution:**

**list**: Call listFiles("."), log the action.

**cd**: Prompt for directory, call changeDirectory(directory), log the action.

**search**: Prompt for filename, call searchFiles(".", filename), log the action.

**chmod**: Prompt for filename and mode, call setPermissions(filename, mode), log the action.

Create: Call createFile(filename), log the action.

Copy: Call copyFile(source, destination), log the action.

move: Call moveFile(source, destination), log the action.

delete: Call deleteFile(filename), log the action.

exit: Log the exit action and break the loop.