***PSEUDOCODE***

* **File: FileExplorer.h**

**Class FileExplorer**

**Public:**

**Method listFiles(directory: String)**

**Method copyFile(source: String, destination: String)**

**Method moveFile(source: String, destination: String)**

**Method deleteFile(path: String)**

**Method createFile(path: String)**

**Method searchFile(filename: String, directory: String)**

**Method setPermissions(path: String, permissions: Int)**

* **File: FileExplorer.cpp**

**Include "FileExplorer.h"**

**Include "Logger.h"**

**Class FileExplorer**

**Method listFiles(directory: String):**

**TRY**

**Open directory**

**List all files in directory**

**Log: "Listing files in directory: " + directory**

**Display file list**

**CATCH Exception as e**

**Log: "Failed to list files: " + e.message**

**Method copyFile(source: String, destination: String):**

**TRY**

**Copy file from source to destination**

**Log: "Copying file from " + source + " to " + destination**

**Log: "File copied successfully"**

**CATCH Exception as e**

**Log: "Copy failed: " + e.message**

**Method moveFile(source: String, destination: String):**

**TRY**

**Move file from source to destination**

**Log: "Moving file from " + source + " to " + destination**

**Log: "File moved successfully"**

**CATCH Exception as e**

**Log: "Move failed: " + e.message**

**Method deleteFile(path: String):**

**TRY**

**Delete file at path**

**Log: "Deleting file: " + path**

**Log: "File deleted successfully"**

**CATCH Exception as e**

**Log: "Delete failed: " + e.message**

**Method createFile(path: String):**

**TRY**

**Create file at path**

**Log: "Creating file: " + path**

**Log: "File created successfully"**

**CATCH Exception as e**

**Log: "File creation failed"**

**Method searchFile(filename: String, directory: String):**

**TRY**

**Search for file in directory**

**IF file found**

**Log: "Searching for file: " + filename + " in directory: " + directory**

**Log: "File found"**

**ELSE**

**Log: "File not found"**

**CATCH Exception as e**

**Log: "Search failed: " + e.message**

**Method setPermissions(path: String, permissions: Int):**

**TRY**

**Set permissions for file at path**

**Log: "Setting permissions for file: " + path**

**Log: "Permissions set successfully"**

**CATCH Exception as e**

**Log: "Setting permissions failed"**

* **File: Logger.h**

**Class Logger**

**Public:**

**Constructor Logger(filename: String)**

**Method log(message: String)**

**Destructor ~Logger()**

* **File: Logger.cpp**

**Include "Logger.h"**

**Class Logger**

**Constructor Logger(filename: String):**

**Open file with filename in append mode**

**Method log(message: String):**

**GET current timestamp**

**WRITE timestamp, "INFO:", message to the log file**

**Destructor ~Logger():**

**Close the log file**

* **File: main.cpp**

**Include "FileExplorer.h"**

**Include "Logger.h"**

**Function main():**

**Initialize Logger with "file\_explorer.log"**

**WHILE user does not choose Exit**

**Display File Explorer Options Menu**

**Get user choice**

**SWITCH user choice**

**CASE 1: List Files in Directory**

**Prompt for directory path**

**Call FileExplorer::listFiles with directory path**

**Log: "Listing files in directory: " + directory path**

**Display file list**

**CASE 2: Copy File**

**Prompt for source file name**

**Prompt for destination file name**

**Call FileExplorer::copyFile with source and destination paths**

**IF file copy successful**

**Log: "Copying file from " + source + " to " + destination**

**Log: "File copied successfully"**

**ELSE**

**Log: "Copy failed: " + error message**

**CASE 3: Move File**

**Prompt for source file name**

**Prompt for destination file name**

**Call FileExplorer::moveFile with source and destination paths**

**IF file move successful**

**Log: "Moving file from " + source + " to " + destination**

**Log: "File moved successfully"**

**ELSE**

**Log: "Move failed: " + error message**

**CASE 4: Delete File**

**Prompt for file name to delete**

**Call FileExplorer::deleteFile with file path**

**IF file deletion successful**

**Log: "Deleting file: " + file path**

**Log: "File deleted successfully"**

**ELSE**

**Log: "Delete failed: " + error message**

**CASE 5: Create File**

**Prompt for file name to create**

**Call FileExplorer::createFile with file path**

**IF file creation successful**

**Log: "Creating file: " + file path**

**Log: "File created successfully"**

**ELSE**

**Log: "File creation failed"**

**CASE 6: Search File**

**Prompt for file name to search**

**Prompt for directory path**

**Call FileExplorer::searchFile with filename and directory path**

**IF file found**

**Log: "Searching for file: " + filename + " in directory: " + directory**

**Log: "File found"**

**ELSE**

**Log: "File not found"**

**CASE 7: Set File Permissions**

**Prompt for file name**

**Prompt for permissions (e.g., 755)**

**Call FileExplorer::setPermissions with file path and permissions**

**IF permissions set successfully**

**Log: "Setting permissions for file: " + file path**

**Log: "Permissions set successfully"**

**ELSE**

**Log: "Setting permissions failed"**

**CASE 8: Exit**

**Log: "Exiting..."**

**BREAK**

**END SWITCH**

**END WHILE**

**Close Logger**