FILE OPERATIONS

**package** com.phase1project;

**import** java.io.File;

**import** java.io.IOException;

**import** java.nio.file.Files;

**import** java.nio.file.Path;

**import** java.nio.file.Paths;

**import** java.util.ArrayList;

**import** java.util.Arrays;

**import** java.util.Collections;

**import** java.util.List;

**import** java.util.Scanner;

**import** java.util.stream.Collectors;

**import** java.util.stream.IntStream;

**public** **class** FileOperations {

**public** **static** **void** createMainFolderIfNotPresent(String folderName) {

File file = **new** File(folderName);

// If file doesn't exist, create the main folder

**if** (!file.exists()) {

file.mkdirs();

}

}

**public** **static** **void** displayAllFiles(String path) {

FileOperations.*createMainFolderIfNotPresent*("main");

// All required files and folders inside "main" folder relative to current

// folder

System.***out***.println("Displaying all files with directory structure in ascending order\n");

// listFilesInDirectory displays files along with folder structure

List<String>filesListNames = FileOperations.*listFilesInDirectory*(path, 0, **new** ArrayList<String>());

System.***out***.println("Displaying all files in ascending order\n");

Collections.*sort*(filesListNames);

filesListNames.stream().forEach(System.***out***::println);

}

**public** **static** List<String>listFilesInDirectory(String path, **int** indentationCount, List<String>fileListNames) {

File dir = **new** File(path);

File[] files = dir.listFiles();

List<File>filesList = Arrays.*asList*(files);

Collections.*sort*(filesList);

**if** (files != **null** &&files.length> 0) {

**for** (File file :filesList) {

System.***out***.print(" ".repeat(indentationCount \* 2));

**if** (file.isDirectory()) {

System.***out***.println("`-- " + file.getName());

// Recursively indent and display the files

fileListNames.add(file.getName());

*listFilesInDirectory*(file.getAbsolutePath(), indentationCount + 1, fileListNames);

} **else** {

System.***out***.println("|-- " + file.getName());

fileListNames.add(file.getName());

}

}

} **else** {

System.***out***.print(" ".repeat(indentationCount \* 2));

System.***out***.println("|-- Empty Directory");

}

System.***out***.println();

**return** fileListNames;

}

**public** **static** **void** createFile(String fileToAdd, Scanner sc) {

FileOperations.*createMainFolderIfNotPresent*("main");

Path pathToFile = Paths.*get*("./main/" + fileToAdd);

**try** {

Files.*createDirectories*(pathToFile.getParent());

Files.*createFile*(pathToFile);

System.***out***.println(fileToAdd + " created successfully");

System.***out***.println("Would you like to add some content to the file? (Y/N)");

String choice = sc.next().toLowerCase();

sc.nextLine();

**if** (choice.equals("y")) {

System.***out***.println("\n\nInput content and press enter\n");

String content = sc.nextLine();

Files.*write*(pathToFile, content.getBytes());

System.***out***.println("\nContent written to file " + fileToAdd);

System.***out***.println("Content can be read using Notepad or Notepad++");

}

} **catch** (IOException e) {

System.***out***.println("Failed to create file " + fileToAdd);

System.***out***.println(e.getClass().getName());

}

}

**public** **static** List<String>displayFileLocations(String fileName, String path) {

List<String>fileListNames = **new** ArrayList<>();

FileOperations.*searchFileRecursively*(path, fileName, fileListNames);

**if** (fileListNames.isEmpty()) {

System.***out***.println("\n\n\*\*\*\*\* Couldn't find any file with given file name \"" + fileName + "\" \*\*\*\*\*\n\n");

} **else** {

System.***out***.println("\n\nFound file at below location(s):");

List<String> files = IntStream.*range*(0, fileListNames.size())

.mapToObj(index -> (index + 1) + ": " + fileListNames.get(index)).collect(Collectors.*toList*());

files.forEach(System.***out***::println);

}

**return** fileListNames;

}

**public** **static** **void** searchFileRecursively(String path, String fileName, List<String>fileListNames) {

File dir = **new** File(path);

File[] files = dir.listFiles();

List<File>filesList = Arrays.*asList*(files);

**if** (files != **null** &&files.length> 0) {

**for** (File file :filesList) {

**if** (file.getName().startsWith(fileName)) {

fileListNames.add(file.getAbsolutePath());

}

// Need to search in directories separately to ensure all files of required

// fileName are searched

**if** (file.isDirectory()) {

*searchFileRecursively*(file.getAbsolutePath(), fileName, fileListNames);

}

}

}

}

**public** **static** **void** deleteFileRecursively(String path) {

File currFile = **new** File(path);

File[] files = currFile.listFiles();

**if** (files != **null** &&files.length> 0) {

**for** (File file : files) {

String fileName = file.getName() + " at " + file.getParent();

**if** (file.isDirectory()) {

*deleteFileRecursively*(file.getAbsolutePath());

}

**if** (file.delete()) {

System.***out***.println(fileName + " deleted successfully");

} **else** {

System.***out***.println("Failed to delete " + fileName);

}

}

}

String currFileName = currFile.getName() + " at " + currFile.getParent();

**if** (currFile.delete()) {

System.***out***.println(currFileName + " deleted successfully");

} **else** {

System.***out***.println("Failed to delete " + currFileName);

}

}

}

HANDLEOPTION

**package** com.phase1project;

**import** java.util.List;

**import** java.util.Scanner;

**import** com.phase1project.menuOptions;

**public** **class** HandleOption {

**public** **static** **void** handleWelcomeScreenInput() {

**boolean** running = **true**;

Scanner sc = **new** Scanner(System.***in***);

**do** {

**try** {

menuOptions.*displayMenu*();

**int** input = sc.nextInt();

**switch** (input) {

**case** 1:

FileOperations.*displayAllFiles*("main");

**break**;

**case** 2:

HandleOption.*handleFileMenuOptions*();

**break**;

**case** 3:

System.***out***.println("Program exited successfully.");

running = **false**;

sc.close();

System.*exit*(0);

**break**;

**default**:

System.***out***.println("Please select a valid option from above.");

}

} **catch** (Exception e) {

System.***out***.println(e.getClass().getName());

*handleWelcomeScreenInput*();

}

} **while** (running == **true**);

}

**public** **static** **void** handleFileMenuOptions() {

**boolean** running = **true**;

Scanner sc = **new** Scanner(System.***in***);

**do** {

**try** {

menuOptions.*displayFileMenuOptions*();

FileOperations.*createMainFolderIfNotPresent*("main");

**int** input = sc.nextInt();

**switch** (input) {

**case** 1:

// File Add

System.***out***.println("Enter the name of the file to be added to the \"main\" folder");

String fileToAdd = sc.next();

FileOperations.*createFile*(fileToAdd, sc);

**break**;

**case** 2:

// File/Folder delete

System.***out***.println("Enter the name of the file to be deleted from \"main\" folder");

String fileToDelete = sc.next();

FileOperations.*createMainFolderIfNotPresent*("main");

List<String>filesToDelete = FileOperations.*displayFileLocations*(fileToDelete, "main");

String deletionPrompt = "\nSelect index of which file to delete?"

+ "\n(Enter 0 if you want to delete all elements)";

System.***out***.println(deletionPrompt);

**int** idx = sc.nextInt();

**if** (idx != 0) {

FileOperations.*deleteFileRecursively*(filesToDelete.get(idx - 1));

} **else** {

// If idx == 0, delete all files displayed for the name

**for** (String path :filesToDelete) {

FileOperations.*deleteFileRecursively*(path);

}

}

**break**;

**case** 3:

// File/Folder Search

System.***out***.println("Enter the name of the file to be searched from \"main\" folder");

String fileName = sc.next();

FileOperations.*createMainFolderIfNotPresent*("main");

FileOperations.*displayFileLocations*(fileName, "main");

**break**;

**case** 4:

HandleOption.*handleWelcomeScreenInput*();

**case** 5:

// Exit

System.***out***.println("Program exited successfully.");

running = **false**;

sc.close();

System.*exit*(0);

**default**:

System.***out***.println("Please select a valid option from above.");

}

} **catch** (Exception e) {

System.***out***.println(e.getClass().getName());

*handleFileMenuOptions*();

}

} **while** (running == **true**);

}

}

LOCKEDMEMAIN

**package** com.phase1project;

**public** **class** LockedMeMain {

**public** **static** **void** main(String[] args) {

// Create "main" folder if not present in current folder structure

FileOperations.*createMainFolderIfNotPresent*("main");

menuOptions.*printWelcomeScreen*("Locker", "Pranay");

HandleOption.*handleWelcomeScreenInput*();

}

}

MENUOPTION

**package** com.phase1project;

**public** **class** menuOptions {

**public** **static** **void** printWelcomeScreen(String appName, String developerName) {

String companyDetails = String.*format*("\n"

+ "\*\* Welcome to %s.com. \n" + "\*\* This application was developed by %s.\n"

+ "\n", appName, developerName);

String appFunction = "You can use this application to :-\n"

+ "• Retrieve all file names in the \"main\" folder\n"

+ "• Search, add, or delete files in \"main\" folder.\n"

+ "\n\*\*Please be careful to ensure the correct filename is provided for searching or deleting files.\*\*\n";

System.***out***.println(companyDetails);

System.***out***.println(appFunction);

}

**public** **static** **void** displayMenu() {

String menu = "\n\n\*\* Select any option number from below and press Enter \*\*\n\n"

+ "1) Retrieve all files inside \"main\" folder\n" + "2) Display menu for File operations\n"

+ "3) Exit program\n";

System.***out***.println(menu);

}

**public** **static** **void** displayFileMenuOptions() {

String fileMenu = "\n\n\*\*\*\*\*\* Select any option number from below and press Enter \*\*\*\*\*\*\n\n"

+ "1) Add a file to \"main\" folder\n" + "2) Delete a file from \"main\" folder\n"

+ "3) Search for a file from \"main\" folder\n" + "4) Show Previous Menu\n" + "5) Exit program\n";

System.***out***.println(fileMenu);

}

}