**package** fileOperationsAssesment;

**import** java.io.File;

**import** java.io.IOException;

**import** java.util.\*;

**class** FileOperations{

/\*\*

Scanner object to take input from user

\*/

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

/\*\* To store the path variable.\*/

**public** **static** String *path*;

/\*\* Instance of File Object\*/

**public** **static** File *f*;

**public** **static** **void** fileOperations() **throws** IOException {

**char** ch;

**do**{

System.***out***.println("a. Display files in ascending order.");

System.***out***.println("b. Perform operation on files.");

System.***out***.println("c. Change Folder/Directory");

System.***out***.println("d. Exit The Program.");

System.***out***.print("Please Select any option from above choices : ");

ch = *sc*.next().charAt(0);

**switch** (ch) {

**case** 'a':

*displayFiles*();

**break**;

**case** 'b':

System.***out***.println("File operations:");

System.***out***.println("a. Create file");

System.***out***.println("b. delete file");

System.***out***.println("c. search file");

System.***out***.print("Please Select any option from above choices : ");

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

**char** chop= scopp.next().charAt(0);

**switch**(chop) {

**case** 'a':

*createFile*();

**break**;

**case** 'b':

*deleteFile*();

**break**;

**case** 'c':

*searchFile*();

**break**;

}

**break**;

**case** 'c':

*changeFolder*();

**break**;

**case** 'd':

*exit*();

**break**;

}

}**while**(ch!='e');

}

**public** **static** **void** displayFiles() **throws** IOException {

String[] list = *f*.list();

**if** (!*f*.isDirectory()) System.***out***.println("It is not a folder");

**else** **if** (list.length==0||list==**null**) System.***out***.println(" \t!!!! "+*f*.getAbsolutePath()+" Directory is empty");

**else** {

Arrays.*sort*(list);

**for** (String file : list)

{

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

}

}

}

**public** **static** String stringreader() {

String str = "";

**try** {

str = *sc*.nextLine();

} **catch** (Exception var3) {

System.***out***.println("Invalid Input!");

}

**return** str;

}

**public** **static** **void** createFile(){

System.***out***.print("enter the file name to create:");

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

String fileName = filescan.nextLine();

File newFile = **new** File(*path*+"/" + fileName);

**if** (newFile.exists()) System.***out***.println("\t\t"+newFile + " --> Already Exists at "+newFile.getAbsolutePath());

**else**{

**try** {

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

newFile.createNewFile();

System.***out***.println("file got created sucessfully");

}

} **catch** (Exception e) {

System.***out***.println("\t!!! Unable to create file due to some exceptions\n");

}

}

}

**public** **static** **void** deleteFile() {

System.***out***.print("Specify The File Name to delete with its .dot extension else program will cause problem --> ");

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

String fileName = filescan.nextLine();

File df = **new** File(*path* + "/" + fileName);

**if**(df.delete())

{

System.***out***.println("File deleted successfully");

}

**else**

{

System.***out***.println("Failed to delete the file");

}

}

**public** **static** **void** printFile(List<File> file) **throws** IOException {

**int** j=0;

System.***out***.printf("| %-5s | %-100s | %-10s | %-10s \n","No.","File Name","Type","Path");

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

System.***out***.printf("| %-5s | %-100s | %-20s | %-10s",++j,i.getName(),*typeOfFile*(i), i.getAbsolutePath());

}

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

}

**public** **static** **void** searchFile() **throws** IOException {

**int** j = 0;

System.***out***.print("Enter File Name to Search : ");

//sc.nextLine();

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

String fileName = filescan.nextLine();

File[] list = *f*.listFiles();

**if** (list.length == 0 && *f*.isDirectory()) {

System.***out***.println("Directory is Empty");

} **else** **if** (!*f*.isDirectory()) {

System.***out***.println(*f*.getName() + " not a Directory");

} **else** **if** (*f*.isDirectory() && list.length > 0) {

List<File> foundList = **new** ArrayList<>();

**boolean** found = **false**;

//int i = list.length;

File searchedFile = **new** File(*path* + "/" + fileName);

**for** (File i : list) {

**if** (i.getName().matches(fileName + "[.][0-9|a-z|A-Z]\*") || i.getName().equals(fileName)) {

foundList.add(i);

++j;

found = **true**;

}

}

**if** (found && j > 0) {

System.***out***.println("The " + foundList.size() + " files have been founded of name " + fileName);

*printFile*(foundList);

} **else** **if** (!found || j == 0) { System.***out***.println("File Not Found"); }

}

}

**public** **static** **void** changeFolder() **throws** IOException,InputMismatchException {

System.***out***.print("Please Give Path of Folder to perform operations : ");

*path* = *stringreader*();

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

**while** (!*f*.isDirectory()) {

System.***out***.print("\t!!! Please Give Path of valid Folder/Directory : ");

*path* = *stringreader*();

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

}

}

**public** **static** String typeOfFile(File i){

**if** (i.isDirectory()){

**return** "Folder";

}

**else** **if** (i.isFile()){

String []name = i.getName().split("\\.");

**return** name[name.length-1];

}**return** "none";

}

**public** **static** **void** exit() {

System.***out***.printf("\n\n%-50sThank you for using our application\tQuitting..."," ");

System.*exit*(0);

}

**public** **static** **void** main(String args[]) **throws** IOException,InputMismatchException {

*changeFolder*();

*fileOperations*();

}

}