Sourcecode:

1.OperationsDAO:

```java
package com.project.lockedme;

import java.io.File;

import java.io.IOException;

import java.util.Arrays;
import java.util.Set;
import java.util.TreeSet;
import java.util.regex.Matcher;
import java.util.regex.Pattern;

public class OperationsDAO {

    public void listAllFiles(String path) {

        if (path == null || path.isEmpty() || path.isBlank())
            throw new NullPointerException("Path cannot be Empty or null");

        File dir = new File(path);

        if(!dir.exists())
            throw new IllegalArgumentException("Path does not exist");

        if(dir.isFile())
            throw new IllegalArgumentException("The given path is a file. A directory is expected.");

        String [] files = dir.list();

        System.out.println("\n*********************************");
        if(files != null && files.length > 0) {

            Set<String>filesList = new TreeSet<String>(Arrays.asList(files));
            System.out.println("The Files in "+ dir.getAbsolutePath() + " are: \n");
```

```java
            for(String file1:filesList) {

                    System.out.println(file1);

            }

            System.out.println("\nTotal Number of files: "+ filesList.size());
        }else {

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

}


public void createNewFile(String path , String fileName) throws IOException {

        if (path == null || path.isEmpty() || path.isBlank())
                throw new NullPointerException("Path cannot be Empty or null");



        if (fileName == null || fileName.isEmpty() || fileName.isBlank())
                throw new NullPointerException("File Name cannot be Empty or null");


        File newFile = new File(path + File.separator + fileName);


        boolean createFile = newFile.createNewFile();


        if (createFile) {


                System.out.println("\nFile Successfully Created: " + newFile.getAbsolutePath());



        }else if(!createFile) {


                System.out.println("\nFile Already Exist.. Please try again." );
```

```java
        }

    }


public void deleteFile(String path , String fileName) throws IOException {

        if (path == null || path.isEmpty() || path.isBlank())

            throw new NullPointerException("Path cannot be Empty or null");


        if (fileName == null || fileName.isEmpty() || fileName.isBlank())

            throw new NullPointerException("File Name cannot be Empty or null");


        File newFile = new File(path + File.separator + fileName);


        boolean deleteFile = newFile.delete();


        if (deleteFile) {


            System.out.println("\nFile deleted Successfully");


        }else {


            System.out.println("\nFile Not Found.. Please try again." );


        }


    }


public void searchFile(String path , String fileName){


        if (path == null || path.isEmpty() || path.isBlank())

            throw new NullPointerException("Path cannot be Empty or null");
```

```java
if (fileName == null || fileName.isEmpty() || fileName.isBlank())

        throw new NullPointerException("File Name cannot be Empty or null");


File dir = new File(path);


if(!dir.exists())

        throw new IllegalArgumentException("Path does not exist");


if(dir.isFile())

        throw new IllegalArgumentException("The given path is a file. A directory is expected.");



String [] fileList = dir.list();

boolean flag = false;


Pattern pat = Pattern.compile(fileName);


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

        for(String file:fileList) {

                Matcher mat = pat.matcher(file);

                if(mat.matches()) {

                        System.out.println("File Found at location: " + dir.getAbsolutePath());

                        flag = true;

                        break;

                }

        }

}


if(flag == false)

        System.out.println("File Not Found.. Please try again.");




        }



    }
```

2.Menus:

```java
package com.project.lockedme;

import java.io.IOException;

import java.util.Scanner;


public class Menus {


        Scanner scan = new Scanner(System.in);

        OperationsDAO dao = new OperationsDAO();


        public void introScreen() {

                System.out.println();

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

                System.out.println("*           DEVELOPED BY NILADRI CHOWDHURY              *");

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

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

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

                System.out.println("*           A Product of Lockers Pvt. Ltd              *");

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



                System.out.println("\n\n");



        }


        public void exitScreen() {



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

                System.out.println("*         THANK YOU FOR VISITING LOCKEDME.COM            *");

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



                System.out.println("\n\n");



        }
```

```java
public void mainMenuOptions() {

        System.out.println("|                MAIN MENU                    |");
        System.out.println("----------------------------------------------------------------");
        System.out.println("|          Enter your choice which you want to select:        |");
    System.out.println("|            1 - List All Files in ascending order            |");
    System.out.println("|            2 - Business-level operation menu                 |");
    System.out.println("|            3 - Exit from the application                     |");
    System.out.println("====================================================================");
    System.out.println("Enter your choice : ");
}


public void subMenuOptions() {



        System.out.println("|                FILE MENU                    |");
        System.out.println("-----------------------------------------------------------------");
        System.out.println("|          Enter your choice for business:                 |");
    System.out.println("|            1 - Add a file                          |");
    System.out.println("|            2 - Delete a file from a directory              |");
    System.out.println("|            3 - Searching a file                     |");
    System.out.println("|            4 - Exit from BLO                        |");
    System.out.println("====================================================================");
    System.out.println("Enter your choice : ");


}


public void mainMenu() {

        int choice = 0;
        char decision = 0;
        do {

                mainMenuOptions();


                try {

                        choice = Integer.parseInt(scan.nextLine());
                } catch (NumberFormatException e) {
```

```java
                    System.out.println("\nInvalid Input \nValid Input Integers:(1-3)\n");

                    mainMenu();

}



switch (choice) {


case 1:

                    System.out.println();

                    try {

                                    dao.listAllFiles(Main.path);

                    }catch(NullPointerException e) {

                                    System.out.println(e.getMessage());

                    }catch(IllegalArgumentException e) {

                                    System.out.println(e.getMessage());

                    }catch(Exception e) {

                                    System.out.println(e.getMessage());

                    }

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

                    break;


case 2:

                    System.out.println();

                    subMenu();

                    break;


case 3:

                    System.out.println("\n Are you sure you want to exit ? ");

                    System.out.println("  (Y) ==> Yes    (N) ==> No       ");

                    decision =  scan.nextLine().toUpperCase().charAt(0);

                    if(decision == 'Y') {

                                    System.out.println("\n");

                                    exitScreen();

                                    System.exit(1);

                    }else if(decision == 'N') {

                                    System.out.println("\n");

                                    mainMenu();

                    }else {
```

```java
                        System.out.println("\nInvalid Input \nValid Inputs :(Y/N)\n");

                        mainMenu();

                }



                default:

                        System.out.println("\nInvalid Input \nValid Input Integers:(1-3)\n");

                        mainMenu();



                }



        }while(true);



    }



    public void subMenu() {

        String file = null;

        String fileName = null;

        int choice = 0;



        do {



                subMenuOptions();



                try {

                        choice = Integer.parseInt(scan.nextLine());

                } catch (NumberFormatException e) {

                        System.out.println("Invalid Input \nValid Input Integers:(1-4)");

                        subMenu();

                }



                switch (choice) {

                case 1:

                        System.out.println("\n==> Adding a File...");

                        System.out.println("Please enter the file which you want to add : ");
```

```java
                file = scan.nextLine();

                fileName = file.trim();

                try {

                        dao.createNewFile(Main.path, fileName);

                }catch(NullPointerException e) {

                        System.out.println(e.getMessage());

                }catch(IOException e) {

                        System.out.println("Error occurred while adding file..");

                        System.out.println("Please try again...");

                }catch(Exception e) {

                        System.out.println("Error occurred while adding file..");

                        System.out.println("Please try again...");

                }

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

                break;


        case 2:

                System.out.println("\n==> Deleting a File...");

                System.out.println("Please enter the file which you want to delete : ");

                file = scan.nextLine();

                fileName = file.trim();

                try {

                        dao.deleteFile(Main.path, fileName);

                }catch(NullPointerException e) {

                        System.out.println(e.getMessage());

                }catch(IOException e) {

                        System.out.println("Error occurred while Deleting File..");

                        System.out.println("Please try again...");

                }catch(Exception e) {

                        System.out.println("Error occurred while Deleting File..");

                        System.out.println("Please try again...");

                }

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

                break;


        case 3:

                System.out.println("\n==> Searching a File...");

                System.out.println("Please enter the file which you want to search : ");
```

```java
                            file = scan.nextLine();

                            fileName = file.trim();

                            try {

                                      dao.searchFile(Main.path, fileName);

                            }catch(NullPointerException e) {

                                      System.out.println(e.getMessage());

                            }catch(IllegalArgumentException e) {

                                      System.out.println(e.getMessage());

                            }catch(Exception e) {

                                      System.out.println(e.getMessage());

                            }

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

                            break;

                case 4: mainMenu();

                            break;


                default:

                            System.out.println("Invalid Input \nValid Input Integers:(1-4)");

                            subMenu();


                }


            file = null;

            fileName = null;


            }while(true);


            }


}
```

3.Main:

```java
package com.project.lockedme;
public class Main {

    /*Enter your desired Directory path */
    public static final String path = "F:\\Lockedme\\Niladri";

    public static void main(String[] args) {
        Menus menu = new Menus();
        menu.introScreen();
        menu.mainMenu();
    }

}
```

Outputs:

Welcome Screen:

```
Main [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe  (Apr 5, 2022, 12:43:53 PM) [pid: 24276]

**********************************************************************
*                 DEVELOPED BY NILADRI CHOWDHURY                     *
**********************************************************************
*                      LOCKEDME.COM                                  *
**********************************************************************
*                 A Product of Lockers Pvt. Ltd                      *
**********************************************************************



|                        MAIN MENU                                   |
----------------------------------------------------------------------
|               Enter your choice which you want to select:          |
|               1 - List All Files in ascending order                |
|               2 - Business-level operation menu                    |
|               3 - Exit from the application                        |
======================================================================
Enter your choice :
|
```

Main Menu:

```
|                          MAIN MENU                                       |
----------------------------------------------------------------------------
|                  Enter your choice which you want to select:             |
|                  1 - List All Files in ascending order                   |
|                  2 - Business-level operation menu                       |
|                  3 - Exit from the application                           |
============================================================================
```

Choices:

1.Listing all the files in ascending order:

```
|                          MAIN MENU                                       |
----------------------------------------------------------------------------
|                  Enter your choice which you want to select:             |
|                  1 - List All Files in ascending order                   |
|                  2 - Business-level operation menu                       |
|                  3 - Exit from the application                           |
============================================================================
Enter your choice :
1
|

*********************************
The Files in F:\Lockedme\Niladri are:

Abc
Bdc
Cab
testfile1

Total Number of files: 4

*********************************
```

2.Business-Level operation menu:

```
|                           MAIN MENU                                    |
-------------------------------------------------------------------------
|                   Enter your choice which you want to select:         |
|                   1 - List All Files in ascending order               |
|                   2 - Business-level operation menu                   |
|                   3 - Exit from the application                       |
=========================================================================
Enter your choice :
2
|
|                           FILE MENU                                    |
-------------------------------------------------------------------------
|                   Enter your choice for business:                     |
|                   1 - Add a file                                      |
|                   2 - Delete a file from a directory                  |
|                   3 - Searching a file                                |
|                   4 - Exit from BLO                                   |
=========================================================================
```

a. Adding a File in the directory:

```
|                           FILE MENU                                    |
-------------------------------------------------------------------------
|                   Enter your choice for business:                     |
|                   1 - Add a file                                      |
|                   2 - Delete a file from a directory                  |
|                   3 - Searching a file                                |
|                   4 - Exit from BLO                                   |
=========================================================================
Enter your choice :
1

==> Adding a File...
Please enter the file which you want to add :
testfile3

File Successfully Created: F:\Lockedme\Niladri\testfile3

**********************************
```

b. Deleting a File from the directory:

i. If the file is present in the directory:

```
|                        FILE MENU                                    |
----------------------------------------------------------------------
|                  Enter your choice for business:                    |
|                  1 - Add a file                                     |
|                  2 - Delete a file from a directory                 |
|                  3 - Searching a file                               |
|                  4 - Exit from BLO                                  |
======================================================================
Enter your choice :
2

==> Deleting a File...
Please enter the file which you want to delete :
testfile3

File deleted Successfully

*********************************
```

ii. If the file is not present in the directory:

```
|                        FILE MENU                                    |
----------------------------------------------------------------------
|                  Enter your choice for business:                    |
|                  1 - Add a file                                     |
|                  2 - Delete a file from a directory                 |
|                  3 - Searching a file                               |
|                  4 - Exit from BLO                                  |
======================================================================
Enter your choice :
2

==> Deleting a File...
Please enter the file which you want to delete :
testfile3

File Not Found.. Please try again.

*********************************
```

c. Searching a File in a directory:

i. If the file searched is present in the directory:

```
|                         FILE MENU                                    |
-------------------------------------------------------------------------
|                    Enter your choice for business:                   |
|                    1 - Add a file                                    |
|                    2 - Delete a file from a directory                |
|                    3 - Searching a file                              |
|                    4 - Exit from BLO                                 |
=========================================================================
Enter your choice :
3

==> Searching a File...
Please enter the file which you want to search :
testfile1
File Found at location: F:\Lockedme\Niladri

********************************
```

ii. If the file searched is not present in the directory:

```
|                         FILE MENU                                    |
-------------------------------------------------------------------------
|                    Enter your choice for business:                   |
|                    1 - Add a file                                    |
|                    2 - Delete a file from a directory                |
|                    3 - Searching a file                              |
|                    4 - Exit from BLO                                 |
=========================================================================
Enter your choice :
3

==> Searching a File...
Please enter the file which you want to search :
testfile3
File Not Found.. Please try again.

********************************
```

d. Exiting from BLO:

```
|                        FILE MENU                                |
-------------------------------------------------------------------
|              Enter your choice for business:                    |
|              1 - Add a file                                     |
|              2 - Delete a file from a directory                 |
|              3 - Searching a file                               |
|              4 - Exit from BLO                                  |
===================================================================
Enter your choice :
4
|                        MAIN MENU                                |
-------------------------------------------------------------------
|              Enter your choice which you want to select:        |
|              1 - List All Files in ascending order              |
|              2 - Business-level operation menu                  |
|              3 - Exit from the application                      |
===================================================================
```

3. Exit from the Application:

```
|                        MAIN MENU                                |
-------------------------------------------------------------------
|              Enter your choice which you want to select:        |
|              1 - List All Files in ascending order              |
|              2 - Business-level operation menu                  |
|              3 - Exit from the application                      |
===================================================================
Enter your choice :
3

 Are you sure you want to exit ?
  (Y) ==> Yes    (N) ==> No
y

*                                                                *
*              THANK YOU FOR VISITING LOCKEDME.COM               *
*                                                                *
```

4. If the user gives any wrong input:

```
|                        MAIN MENU                                    |
---------------------------------------------------------------------
|              Enter your choice which you want to select:            |
|              1 - List All Files in ascending order                  |
|              2 - Business-level operation menu                      |
|              3 - Exit from the application                          |
=====================================================================
Enter your choice :
4


Invalid Input
Valid Input Integers:(1-3)
```

PROGRAM ENDS