CSE 222 HOMEWORK 4 REPORT

```
c4gr1@gtu:~/Desktop/hw4$ make
javac -classpath . Main.java
c4gr1@gtu:~/Desktop/hw4$ make run
java Main
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): d
Enter name for new directory: home
Directory created: home/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): d
Enter name for new directory: user
Directory created: user/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    home/
    user/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: █
```

1. You should use the make command to compile the program.

2. To run the program, the make run command should be used.

3. Initially, the program starts in the /root directory. To display this, the user has selected the option to print the directory tree.

4. Afterwards, the user creates new folders named home and user inside /root.

5. The user selects option 7 again to display the updated directory tree.

```
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root
Enter new directory path: home
Directory changed to: root/home
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): d
Enter name for new directory: notes
Directory created: notes/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): f
Enter name for new file: data
File created: data
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): f
Enter name for new file: cse
File created: cse
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root/home:
* notes/ (2024-04-22 22:47:22)
data (2024-04-22 22:47:35)
cse (2024-04-22 22:47:53)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 
```

6. The user switches to the /home folder and creates a folder named /notes and files named data and cse.

7. Then, the user selects option 2 to view the contents of the /home folder.

```
Please select an option: 7
Path to current directory from root:
home/
    notes/
    data
    cse
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 8
Contents of home sorted by date created.
* notes/ (2024-04-22 22:47:22)
data (2024-04-22 22:47:35)
cse (2024-04-22 22:47:53)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/home
Enter new directory path: /
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root:
* home/ (2024-04-22 22:45:57)
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    home/
        notes/
        data
        cse
    user/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: ▯
```

8. This time, the user chooses option 7 to see the tree structure within the /home folder.

9. The user selects option 8 to view the contents sorted by the date of creation.

10. The user returns to the main menu and selects options 2 and 7 to view the current status. (Selecting 2 displays only the contents of that folder.)

```
Path to current directory from root:
root/
    home/
        notes/
        data
        cse
    user/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 6
Search query: cse
Searching from root...
Found:
root/home/cse
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 6
Search query: data
Searching from root...
Found:
root/home/data
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 6
Search query: user
Searching from root...
Found:
root/user
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 8
Contents of root sorted by date created.
* home/ (2024-04-22 22:45:57)
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option:
```

11. The user selects option 6 to search for the file named cse and then the file named data.
12. Then, the user selects option 6 again to search for the user folder.
13. The user selects option 8 to sort the contents of the /root folder by their creation order.

```
9. Exit
Please select an option: 1
Current directory: root
Enter new directory path: home
Directory changed to: root/home
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): d
Enter name for new directory: photos
Directory created: photos/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): d
Enter name for new directory: videos
Directory created: videos/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/home
Enter new directory path: /home/photos
Directory changed to: root/home/photos
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 3
Create file or directory (f/d): f
Enter name for new file: image1.jpg
File created: image1.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root/home/photos:
image1.jpg (2024-04-22 22:54:30)
```

14. The user selects option 1 to switch to the home folder, where they create two separate folders named photos and videos.

15. Then, the user moves into the photos folder and creates new files named image1.

16. Then, the user selects option 2 to view the contents of the /home/photos folder.

```
Please select an option: 3
Create file or directory (f/d): f
Enter name for new file: image2.jpg
File created: image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/home/photos
Enter new directory path: /
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    home/
        notes/
        data
        cse
        photos/
            image1.jpg
            image2.jpg
        videos/
    user/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root
Enter new directory path: /home/photos
Directory changed to: root/home/photos
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 4
Enter name of file/directory to delete: image1.jpg
Deleted successfully: image1.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root/home/photos:
image2.jpg (2024-04-22 22:55:29)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option:
```

17. The user creates another file named image2 and then switches back to the /root folder to display the current situation in a tree structure.

18. The user switches back to the photos directory again, deletes the file named image1, and then displays the current status of the photos folder.

```
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 5
Enter the name of the file/directory to move: image2.jpg
Enter new directory path: /user
Moved image2.jpg to root/user
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
photos/
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/home/photos
Enter new directory path: /
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    home/
        notes/
        data
        cse
        photos/
        videos/
    user/
        image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 6
Search query: image2.jpg
Searching from root...
Found:
root/user/image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option:
```

19. The user selects option 5 to move the image2 file to the /root/user folder, and then chooses option 7 to show that there are no files left in the photos folder. Afterwards, the user switches back to the /root folder to display the current situation and searches for the location of the image2 file.

```
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root:
* home/ (2024-04-22 22:45:57)
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    home/
        notes/
        data
        cse
        photos/
        videos/
    user/
        image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 8
Contents of root sorted by date created.
* home/ (2024-04-22 22:45:57)
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 4
Enter name of file/directory to delete: home
Deleted successfully: home
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 7
Path to current directory from root:
root/
    user/
        image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 
```

20. The user displays the contents of the /root directory again by selecting option 2, and then shows the directory structure in tree form once more. Subsequently, the contents are sorted by creation dates.

21. Afterward, the user deletes the Home folder and displays the current state to reflect the changes.

```
Please select an option: 1
Current directory: root
Enter new directory path: user
Directory changed to: root/user
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/user
Enter new directory path: image2.jpg
Directory not found: image2.jpg
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 1
Current directory: root/user
Enter new directory path: /
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 8
Contents of root sorted by date created.
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 2
Listing contents of root:
* user/ (2024-04-22 22:46:07)
===== File System Management Menu =====
1. Change directory
2. List directory contents
3. Create file/directory
4. Delete file/directory
5. Move file/directory
6. Search file/directory
7. Print directory tree
8. Sort contents by date created
9. Exit
Please select an option: 9
c4gr1@gtu:~/Desktop/hw4$ make clean
rm *.class
c4gr1@gtu:~/Desktop/hw4$
```

22. The user attempts to move the non-existent file image2 in the file moving section. Since the file does not exist, a "Directory not found" error is received.
23. Finally, the user displays the latest state of the /root folder sorted by creation date and then lists the contents in detail.
24. Finally, the user runs the make clean command to delete the .class files.