

**Gebze Technical University**  
**Computer Engineering**  
**Department**

**CSE 222 – Data Structures And  
Algorithms**

**Homework-4 Report**

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# Test Scenarios:

When the file system is started, it is initialized with the root directory. A new directory is added and then the directory is changed to the current directory.

```
/src$ 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: 3
Current directory: /root
Create file or directory (f/d): d
Enter name for new file or 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: 1
Current directory: /root
Enter new directory path: /home
Directory changed to: /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
Current directory: /home
Create file or directory (f/d): d
Enter name for new file or 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: 1
Current directory: /home
Enter new directory path: /home/user
Directory changed to: /home/user
```

After files and directories are added, subdirectory and file deletions from the current directory are tested.

```
* root/
  * home/
    * user/
      * Documents/
        * Projects/ (Current Directory)
          * Project3/
            report.txt
            output.txt
===== 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
Current directory: /home/user/Documents/Projects
Enter name of file/directory to delete: Project3
Directory deleted: Project3/
===== 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 /home/user/Documents/Projects:
report.txt
output.txt
===== 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
Current directory: /home/user/Documents/Projects
Enter name of file/directory to delete: output.txt
File deleted: output.txt
===== 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/
      * Documents/
        * Projects/ (Current Directory)
          report.txt
```

File deletion is tested by switching to the parent directory and deleting all elements in the subdirectory.

```
* root/
  * home/
    * user/
      * Documents/
        * Projects/ (Current Directory)
          report.txt
===== 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: /home/user/Documents/Projects
Enter new directory path: /home/user
Directory changed to: /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: 7
Path to current directory from root:
* root/
  * home/
    * user/ (Current Directory)
      * Documents/
===== 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
Current directory: /home/user
Enter name of file/directory to delete: Documents
Directory deleted: Documents/
===== 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/ (Current Directory)
===== File System Management Menu =====
1. Change directory
```

New files and directories are created to test file and directory move.  
We move these files and directories to the root directory. To access the root directory, simply use "/".

```
Please select an option: 7
Path to current directory from root:
* root/
  * home/
    * user/
      * Files/ (Current Directory)
        * Programs/
          files.pdf
===== 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: /home/user/Files
Enter new directory path: /home/user
Directory changed to: /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: 5
Current directory: /home/user
Enter the name of file/directory to move: Files
Enter new directory path: /
Directory moved: Files to /
===== 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
Current directory: /home/user
Enter the name of file/directory to move: info.txt
Enter new directory path: /
File moved: info.txt to /
===== File System Management Menu =====
```

```
Please select an option: 1
Current directory: /home/user
Enter new directory path: /
Directory changed to: /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: 7
Path to current directory from root:
* root/ (Current Directory)
  * home/
    * Files/
      info.txt
===== 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: /Files
Directory changed to: /Files
===== 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 /Files:
* Programs/
  files.pdf
===== File System Management Menu =====
```

Directory and file search is tested by querying their names. Files and directories in the current directory are tested according to their creation date

```
===== 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: /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: 6
Search query: files.pdf
Searching from root...
Found: /Files/files.pdf
===== File System Management Menu =====
```

```
===== 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
Sorted contents of /Files by date created:
* Programs/ (2024-04-22 17:24:51.042)
files.pdf (2024-04-22 17:25:07.276)
===== 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: /Files
Enter new directory path: /
Directory changed to: /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: 8
Sorted contents of /root by date created:
* home/ (2024-04-22 16:57:38.464)
* Files/ (2024-04-22 17:23:11.023)
info.txt (2024-04-22 17:24:07.113)
===== File System Management Menu =====
```