GTU DEPARTMENT OF COMPUTER ENGINEERING

CSE 222

HOMEWORK #4

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How to run?

make : Write "make" to compile the program.

make run : Write "make run" to run the program.

make doc : Write "make doc" to create JavaDoc.

make cleandoc : Write "make cleandoc" to clean JavaDoc files.

make clean : Write "make clean" to clean *.java files.

Input/Output Tests

First, we print contents of the 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: 2
Listing contents of: /
```

Then, we create directories and files under the 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
Current directory: /
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
Current directory: /
Create file or directory (f/d): d
Enter name for new directory: mnt
Directory created: mnt/
```

```
===== 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: /
Create file or directory (f/d): f
Enter name for new file: readme.txt
File created: readme.txt
```

Then, we list the contents of the 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: 2
Listing contents of: /
* home/
* mnt/
readme.txt
```

Then we change the directory:

```
===== 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: /
Enter new directory path: home/
Directory changed to: home/
```

Then, we create new directories under "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 directory: desktop
Directory created: desktop/
```

```
===== 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 directory: download
Directory created: download/
```

Then we change the directory again:

```
===== 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/desktop/
Directory changed to: /home/desktop/
```

Then we create new directories again and change the directory:

```
===== 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/desktop/
Create file or directory (f/d): d
Enter name for new directory: projects
Directory created: projects/
```

```
===== 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/desktop/
Enter new directory path: /home/desktop/projects/
Directory changed to: /home/desktop/projects/
```

Then we print the directory tree:

```
===== 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/
    * desktop/
      * projects/ (Current directory)
    * download/
  * mnt/
  readme.txt
```

Then, we create new files under "projects" directory:

```
===== 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/desktop/projects/
Create file or directory (f/d): f
Enter name for new file: makefile
File created: makefile
```

```
===== 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/desktop/projects/
Create file or directory (f/d): f
Enter name for new file: main.java
File created: main.java
```

Then we list directory contents of "projects":

```
===== 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/desktop/projects/
main.java
makefile
```

Then we sort contents of "projects" directory:

```
===== 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 /home/desktop/projects/ by date created:
main.java (2024-04-22 18:21:56.438)
makefile (2024-04-22 18:22:05.412)
```

Then, we print the directory tree:

```
===== 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/
    * desktop/
      * projects/ (Current directory)
        main.java
        makefile
    * download/
  * mnt/
  readme.txt
```

Then we search file and directory:

```
===== 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: makefile
Found: /home/desktop/projects/makefile/
```

```
===== 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: download
Found: /home/download/
```

Then, we move the "main.java" in "projects" directory and search:

```
===== 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/desktop/projects/
Enter the name of file/directory to move: main.java
Enter new directory path: /mnt/
File/directory moved: main.java to /mnt/

===== 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: main.java
Found: /mnt/main.java/
```

Then, we move "makefile" in "projects" directory try to move it to a non-existent directory:

```
===== 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/desktop/projects/
Enter the name of file/directory to move: makefile
Enter new directory path: /home/new/
Destination directory not found.
```

Then we search a non-existent 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: 6
Search query: test
No files or directories found containing: test
```

Then, we exit:

```
===== 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
Exiting...
```