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Answers from Part One - Linux Filesystem

1 How can you be sure that your home directory is your current working directory?

By using the command, "cd ~" the user moves from their current directory to the home directory.

5 What does the "-l" option do?

This shows all the information and permissions associated with the items in the specified directory.

9 Research how to delete folders even with files inside them:

The command "rm -r" followed by the name of the folder wished to be deleted, will remove that folder.

10 When would you use "cat" over "more" or "less"?

The cat command is better for smaller files where the full thing is put on the screen immediately, however for something longer, the user might want to use the more and less commands in order to be able to only have a window's worth of text be visible and be able to scroll through the information easily. This is all about functionality.

Answers from Part Two - File Access Permission

3 Who is the owner of "file2". What group does "file2" belong?

The file "file2" belongs to me, the user as I created it. I am the current owner of the file.

4 Who owns this file and which group does it belong to? What permissions are allowed for the owner group & others?

Its part of the root and owner can read, write, and execute (rwx); whereas the group and others can only read and execute the program (r-x).   (output: -rwxr-xr-x 1 root root 39256 Sep 5 2019 /usr/bin/echo)

5 Try using nano. What happens when you try to save it?

At the bottom appears a line in red reading " [File '/home/thomas/part2/file2' is unwritable] ".

6 Now can you modify the file?

Yes, now I have the permission, I can edit the file!

7 How can you use chown to change the owner of file2 to root?

By using chown root the the location & file_name I am able to change the owner to root as the /usr/bin/echo was from earlier.

Answers from Part Three - File Links

What happens when you delete file2 from inside the part2 directory and you try to access it from the symbolic link?

The link can not be used and the user gets an error because there is nothing for the link to open. (cat: linkfile2: No such file or directory). If there is nothing to open, the system can not open it.

Code from Part One - Linux Filesystem

```
thomas@thomas-VirtualBox:~$ script filesystem.txt
Script started, file is filesystem.txt
thomas@thomas-VirtualBox:~$ ls ~
alsotext.py        Documents        hello.py  NoReading  random.bytes  text.py            webpage.html
Desktop            Downloads        io.py     Pictures   snap          typescript.save
directories.txt  filesystem.txt  Music  Public    Templates        Videos
thomas@thomas-VirtualBox:~$ cd ~
thomas@thomas-VirtualBox:~$ mkdir assignment2
```

```
thomas@thomas-VirtualBox:~$ ls
alsotext.py  directories.txt  filesystem.txt  Music        Public     Templates        Videos
assignment2  Documents        hello.py        NoReading  random.bytes  text.py          webpage.html
Desktop      Downloads        io.py           Pictures   snap          typescript.save
thomas@thomas-VirtualBox:~$ cd assignment2
thomas@thomas-VirtualBox:~/assignment2$ touch fileNumber1
thomas@thomas-VirtualBox:~/assignment2$ touch fileNumber2
thomas@thomas-VirtualBox:~/assignment2$ mkdir subfolder
thomas@thomas-VirtualBox:~/assignment2$ mv fileNumber1 subfolder
thomas@thomas-VirtualBox:~/assignment2$ cp fileNumber2 subfolder
thomas@thomas-VirtualBox:~/assignment2$ cd ~
thomas@thomas-VirtualBox:~$ ls -l
total 84
-rwxrwxrwx 2 thomas thomas        31 Jan 28 13:42 alsotext.py
drwxrwxr-x 3 thomas thomas  4096 Feb 20 22:07 assignment2
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Desktop
-rw-rw-r-- 1 thomas thomas  1000 Feb  4 14:01 directories.txt
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Documents
drwxr-xr-x 4 thomas thomas  4096 Feb  4 14:21 Downloads
-rw-rw-r-- 1 thomas thomas        0 Feb 20 22:01 filesystem.txt
-rw-rw-r-- 1 thomas thomas       70 Jan 28 13:39 hello.py
-rwxrwxr-x 1 thomas thomas       60 Feb 18 13:35 io.py
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Music
drwxrwx--x 2 thomas thomas  4096 Feb 11 14:00 NoReading
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Pictures
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Public
-rw-rw-r-- 1 thomas thomas        0 Jan 28 13:43 random.bytes
drwxr-xr-x 3 thomas thomas  4096 Jan 28 13:11 snap
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Templates
-rwxrwxrwx 2 thomas thomas        31 Jan 28 13:42 text.py
-rw-r--r-- 1 thomas thomas 88 Feb 20 21:51 typescript.save
drwxr-xr-x 2 thomas thomas  4096 Jan 27 17:25 Videos
-rw-rw-r-- 1 thomas thomas 15111 Feb  5 13:44 webpage.html

thomas@thomas-VirtualBox:~$ ls ~/assignment2 -l
total 4
-rw-rw-r-- 1 thomas thomas        0 Feb 20 22:04 fileNumber2
drwxrwxr-x 2 thomas thomas 4096 Feb 20 22:08 subfolder

thomas@thomas-VirtualBox:~$ ls ~/assignment2/subfolder -l
total 0
-rw-rw-r-- 1 thomas thomas 0 Feb 20 22:04 fileNumber1
-rw-rw-r-- 1 thomas thomas 0 Feb 20 22:08 fileNumber2

thomas@thomas-VirtualBox:~/assignment2$ cd ~
thomas@thomas-VirtualBox:~$ rm ~/assignment2/subfolder/fileNumber1
thomas@thomas-VirtualBox:~$ cp ~/assignment2/fileNumber2 ~/
thomas@thomas-VirtualBox:~$ rm ~/assignment2/subfolder/fileNumber2
thomas@thomas-VirtualBox:~$ rmdir ~/assignment2/subfolder
thomas@thomas-VirtualBox:~$ rm -r ~/assignment2
thomas@thomas-VirtualBox:~$ ls
alsotext.py      Documents       filesystem.txt  Music       Public     Templates        Videos
Desktop          Downloads       hello.py        NoReading  random.bytes  text.py          webpage.html
directories.txt  fileNumber2     io.py           Pictures   snap          typescript.save
```

thomas@thomas-VirtualBox:~$ nano fileNumber2
thomas@thomas-VirtualBox:~$ cat fileNumber2
adding stuff in here for you to be able to read

hello, this is the contents of the file and this is me not knowing what to say

hello!! thomas here

thomas@thomas-VirtualBox:~$ exit

Code from Part Two - File Access Permission

thomas@thomas-VirtualBox:~$ script part2.txt
Script started, file is part2.txt
thomas@thomas-VirtualBox:~$ ls
alsotext.py   Documents   filesystem.txt   Music   Pictures   snap   typescript.save
Desktop   Downloads   hello.py   NoReading   Public   Templates Videos
directories.txt fileNumber2   io.py   part2.txt   random.bytes   text.py webpage.html
thomas@thomas-VirtualBox:~$ mkdir ~/part2
thomas@thomas-VirtualBox:~$ touch ~/part2/file2
thomas@thomas-VirtualBox:~$ ls -l ~/part2/file2
-rw-rw-r-- 1 thomas thomas 0 Feb 20 22:43 /home/thomas/part2/file2
thomas@thomas-VirtualBox:~$ ls -l /usr/bin/echo
-rwxr-xr-x 1 root root 39256 Sep 5 2019 /usr/bin/echo
thomas@thomas-VirtualBox:~$ chmod 440 ~/part2/file2
thomas@thomas-VirtualBox:~$ ls -l ~/part2/file2
-r--r----- 1 thomas thomas 0 Feb 20 22:43 /home/thomas/part2/file2
thomas@thomas-VirtualBox:~$ nano ~/part2/file2
thomas@thomas-VirtualBox:~$ chmod 740 ~/part2/file2
thomas@thomas-VirtualBox:~$ ls -l ~/part2/file2
-rwxr----- 1 thomas thomas 0 Feb 20 22:43 /home/thomas/part2/file2
thomas@thomas-VirtualBox:~$ nano ~/part2/file2
thomas@thomas-VirtualBox:~$ man chown
thomas@thomas-VirtualBox:~$ chown root -f ~/part2/file2
thomas@thomas-VirtualBox:~$ ls -l ~/part2/file2
-rwxr----- 1 thomas root 31 Feb 20 22:58 /home/thomas/part2/file2
thomas@thomas-VirtualBox:~$ exit

Code from Part Three - File Links

thomas@thomas-VirtualBox:~$ ln -s ~/part2/file2 ~/linkfile2
thomas@thomas-VirtualBox:~$ ls
alsotext.py   Documents   filesystem.txt   linkfile2 part2   Public   Templates   Videos
Desktop   Downloads   hello.py   Music   part2.txt random.bytes text.py   webpage.html
directories.txt fileNumber2   io.py   NoReading Pictures   snap   typescript.save
thomas@thomas-VirtualBox:~$ rm ~/part2/file2
thomas@thomas-VirtualBox:~$ ls ~/part2
thomas@thomas-VirtualBox:~$ cat linkfile2
cat: linkfile2: No such file or directory