

AACS2284 OPERATING SYSTEMS (PRACTICAL)

Practical 2 – Managing Files in Linux System

Section A

At current location (e.g /home/student), perform the following operations:

1. Show the current path.

pwd

2. Create a directory “p2”.

mkdir p2

3. Give two commands which can list all the contents at the current directory.

ls -a

dir -a

4. Create a directory “super” inside the directory “p2”.

cd p2

mkdir super

5. Inside this “super” directory, create four files “apple.doc”, “april.doc”, “box.txt” and “ultra.txt” using *touch* command.

cd super

touch apple.doc april.doc box.txt ultra.txt

*cd into p2/super

6. (a) Show the file(s) starting with “ap”.

ls ap*

(b) Show the file(s) that the length of the filename contains 5 characters.

ls ?????

(c) Show the file(s) ending with “txt” extension.

ls *.txt

(d) Show the file(s) that the third character of the filename is “p”.

ls ??p*

7. Go to root directory.

cd /

8. Search a directory named “super” from the root directory.

sudo -i

find / -name super

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9. Search a file named “ultra.txt” from the root directory.

```
find / -name ultra.txt
```

10. Go back to directory “super”. Rename the file “ultra.txt” to “mega.txt”

```
cd /home/zixuan/Desktop/p2/super
```

```
mv ultra.txt mega.txt
```

11. Copy “super” directory to *home* directory and rename it to “super2” in one command line.

```
cd ..
```

```
cp -r super /home/zixuan/super2
```

12. Confirm whether “super2” directory is created and copied.

```
ls /home
```

```
ls /home/super2
```

13. Remove “super” and all its subdirectories and files.

```
rm -r super
```

14. Create a text file “sampleA.txt” using *vi* command.

```
vi sampleA.txt
```

15. Type the following contents into “sampleA.txt” and save the file.

“The shell is a program that takes keyboard commands and passes them to the operating system to carry out. Almost all Linux distributions supply a shell program from the GNU Project called bash.”

```
:wq
```

16. Create another text file “sampleB.txt” using *cat* command.

```
cat > sampleB.txt
```

17. Type the following contents into “sampleB.txt” and save the file.

“When using a graphical user interface, we need another program called a terminal emulator to interact with the shell.”

```
Ctrl+D or Ctrl+C
```

18. Open “sampleB.txt” again using *vi* command and add the following sentences.

“It’s likely called simply “terminal”.”

```
vi sampleB.txt
```

```
:wq
```

19. Show the word count of “sampleB.txt”

```
wc sampleB.txt
```

20. Combine the two files “sampleA.txt” and “sampleB.txt” to a file named “sampleC.txt”.

```
cat sampleA.txt sampleB.txt > sampleC.txt
```

21. Show the content of “sampleC.txt” on the terminal.

```
cat sampleC.txt
```

22. Archive “sampleA.txt” and “sampleB.txt” to “sampleC.tar”

```
tar -c -f sampleC.tar sampleA.txt sampleB.txt
```

23. Overwrite “sampleB.txt” by “sampleA.txt” and show the content of both files on the terminal.

```
cat sampleB.txt > sampleA.txt
```

```
cat sampleA.txt sampleB.txt
```

24. Delete the file “sampleB.txt”.

```
rm sampleB.txt
```

25. Go back to *home* directory and create a new directory named “backup”.

```
cd /home
```

```
mkdir backup
```

26. Backup “sampleA.txt” and “sampleC.txt” to “backup” directory.

```
cp /home/student/p2/*.txt /home/backup
```

Section B

True/False.

Explain the answer if it is false.

		True/False
1.	The structure of the file system in Linux can be depicted in a form of tree. It begins at the root (/), and branches out like the branches of a tree.	True
2.	A relative path starting from the current directory while an absolute path starting from the root of the entire file system tree.	True
3.	When the terminal is opened the starting directory is the root (/) directory.	False Answer: home directory
4.	/etc directory in Linux is similar to Control Panel in WINDOWS.	True
5.	Windows separates directories using forward slash ("/") while LINUX uses back slash ("\").	False Answer: LINUX uses forward slash
6.	LINUX is non-case sensitive while WINDOWS is.	False Answer: LINUX is case-sensitive
7.	Windows uses a volume-based file hierarchy (e.g. C: volume, D: volume) while LINUX uses a unified scheme (e.g. /, /home, /etc).	True
8.	.tar is a text file extension in LINUX system.	False Answer: tar is an archived file
9.	LINUX uses color to differentiate the files and folder/directory. Blue is for executable file; Green is for directory.	False Answer: blue is for directory and green is for executable file
10.	Lossless compression preserves all the data after compression while lossy compression drops some information after compression.	True

Section C

1. Write commands for the following instructions by using the vi editor:
 - a. Create a document called first.file, and enter 4 lines of words “today” and save it.
 - b. Copy the first 4 lines using only one command
 - c. Save the file, and exit vi
 - d. Create a second document called second.file, and enter 4 lines of words “yesterday” and save it.
 - e. Create a third document called third.file, by merging the text from the first two files.
 - f. Save the third.file and exit from the editor

- a. **vi first.file**
 press i or o or a or R to switch into input mode to insert the word “today” for a line/rows
 press Esc to switch back to command mode
 :w
- b. **in command mode,**
 press -> 4yy
 press -> P or p
- c. **in command mode,**
 press :wq or :x
- d. **vi second file**
 press I or o or a or R to switch into input mode to insert the word “yesterday” for 4 lines/rows
 press Esc to switch back to command mode
 :wq
- e. **vi third file**
 In command mode,
 Press :r first.file
 There moves the cursor to the last line
 Press :r second.file
- f. **:wq or :x**

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2. Using vi command, create a new file called “sonnet” that contains the first four lines of the Shakespeare’s 80th Sonnet.

O, how I faint when I of you do write,
Knowing a better spirit doth use your name,
And in the praise therefore spends all his might,
To make me tongue-tied, speaking of your frame

- Replace all occurrences of the word “the” with “a”
- Select 5 words, and convert them to all uppercase
- Delete a line, and then undo the deletion
- Enter the command that causes line numbers to appear
- Save the file and exit vi editor

a. `:1,$s/the/a/g`
Or
`:1,$ s/the/a/g`
Or
`:%s/the/a/g`

b. in command mode, press
`v5w shift + u`

c. `dd`
`U`

d. `:set nu` or `:set number` vs `:set nonumber`

e. `:wq` or `:x`

Formula for replacement

`:%s/Search-Word/Replace-Word/g`