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*I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.*

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## Introduction

The practice of UNIZ commands and tools in a Linux-based Networking Operating System (NOS) environment is the main goal of this log. Enhancing competence in text processing, file creation, directory navigation, alias definition and usage, and command execution with history are the main objectives. Investigating commands like mkdir, cat, grep, alias, and history was part of the task. Completing these tasks is crucial to become proficient in the UNIX environment, which is used extensively in software development, programming, and system management.

## Creating Directory for structured figure given

Create the directory structured presented in the figure below:

Your home directory

```
vboxuser@Ubuntu:~/W8/8cat-grep$ mkdir -p W8/8cat-grep
vboxuser@Ubuntu:~/W8/8cat-grep$ ls
W8
vboxuser@Ubuntu:~/W8/8cat-grep$ tree W8
W8
├── 8cat-grep
2 directories, 0 files
```

*Figure 1 create directory structured figure given*

## 2.Changing to 8-cat directory by one step using relative pathname

Changing to 8-cat directory by one step using relative pathname

```
vboxuser@Ubuntu:~$ cd W8/8cat-grep/
vboxuser@Ubuntu:~/W8/8cat-grep$ ls
```

*Figure 2 Changing to 8-cat directory by one step using relative pathname*

### 3. Using the cat utility for creating two files

Using the cat utility, create two files

File test A

Kkkll

lllmm

oo-oo

mmmdd

dddkk

File test B

KKKKK

LLLLL

MMMMM

DDDDD

```
vboxuser@Ubuntu:~$ cat > testa
Kkkll
lllmm
oo-oo
mmmdd
dddkk
vboxuser@Ubuntu:~$ cat > testb
KKKKK
LLLLL
MMMMM
DDDDD
vboxuser@Ubuntu:~$
```

Figure 3 creating two files using cat utility

### 4. Giving command to view the result.

Give the following command and explain the result for yourself

l.Command: grep || test A

```
vboxuser@Ubuntu: ~
vboxuser@Ubuntu:~$ grep ll testa
Kkkll
lllmm
```

Figure 4 Command: grep || test A

II. Command: `grep-v || test A`

```
vboxuser@Ubuntu:~$ grep -v ll testa
00-00
mmmmdd
dddkk
```

Figure 5 Command: `grep-v || test A`

III. Command: `grep-n || test A`

```
vboxuser@Ubuntu:~$ grep -n ll testa
1:Kkkll
2:lllmm
```

Figure 6 Command: `grep-n || test A`

IV. Command: `grep-l || *`

```
vboxuser@Ubuntu:~$ grep -l ll *
alscript
grep: bit: Is a directory
grep: BIT: Is a directory
grep: C9: Is a directory
grep: Desktop: Is a directory
grep: Documents: Is a directory
grep: Downloads: Is a directory
grep: Music: Is a directory
grep: NOS: Is a directory
grep: Pictures: Is a directory
grep: Public: Is a directory
grep: snap: Is a directory
grep: Templates: Is a directory
testa
```

Figure 7 Command: `grep-l || *`

V. Command: `grep-i || *`

```
testa:KKKll
testa:lllmm
testb:LLLLL
```

Figure 8 Command: `grep-i || *`

VI. Command: `grep -l LL*`

```
testa:KkkLL
testa:lllmm
testb:LLLLL
```

Figure 9 Command: `grep -l LL*`

VII. Command: `grep -c ||*`

```
testa:2
testb:0
```

Figure 10 Command: `grep -c ||*`

VIII. Command: `grep '^K' test A test B`

```
vboxuser@Ubuntu:~$ grep 'k' testa testb
testa:Kkkll
testa:dddkk
testb:KKKKk
```

Figure 11 Command: `grep '^K' test A test B`

IX. Command: `grep -n '^' test A`

```
vboxuser@Ubuntu:~$ grep -n '^' testa
1:Kkkll
2:lllmm
3:oo-oo
4:mmmdd
5:dddkk
```

Figure 12 Command: `grep -n '^' test A`

## 5. Defining lsal for ls -al command

Define the ls -al command's lsal alias. With the alias command, you may demonstrate that your system stores it (without arguments).

```
vboxuser@Ubuntu:~$ alias lsal="ls -al"
vboxuser@Ubuntu:~$ lsal
total 144
drwxr-x--- 25 vboxuser vboxuser 4096 Dec 26 14:37 .
drwxr-xr-x  3 root      root      4096 Dec  8 06:42 ..
-rw-rw-r--  1 vboxuser vboxuser 5875 Dec 12 05:38 a1script
-rw-rw-r--  1 vboxuser vboxuser   0 Dec  8 07:01 alscrip
```

Figure 13 Defining lsal for ls -al command

## 6. Removing the alias so that the system does not store it.

Remove the alias so that the system does not store it

```
vboxuser@Ubuntu:~$ unalias lsal
bash: unalias: lsal: not found
vboxuser@Ubuntu:~$
```

Figure 14 Remove the alias so that the system does not store it

## 7. Defining alias again for preserving for next sessions.

Define this alias again, preserving it for the next sessions. Shows that the system still keeps this your alias.

```
al
ias lsal="ls
-al"
File Name to Write: .bashrc
^G Help          M-D DOS Format   M-A Append       M-B Backup File
^C Cancel        M-M Mac Format   M-P Prepend      ^T Browse
```

Figure 15 Defining alias again for preserving for next sessions.



## 8. Defining the nwho alias for the number of system file at UNIX computers.

Define the nwho alias for the number of system files at UNIX computers.

Alias nwho 'getent passwd|wc-l'

```
vboxuser@Ubuntu:~$ alias nwho="getent passwd | wc -l"  
vboxuser@Ubuntu:~$ nwho
```

Figure 16 Defining the nwho alias for the number of system file

## 9. Comparing the figure displayed with ones got by your UNIX -mates by giving command nwho

Give the command nwho. Compare the figure displayed with ones got by your UNIX mates.

```
vboxuser@Ubuntu:~$ alias nwho="getent passwd | wc -l"  
vboxuser@Ubuntu:~$ nwho  
49
```

Figure 17 command nwho

```
vboxuser@Ubuntu:~$ uname -a  
Linux Ubuntu 6.8.0-49-generic #49-Ubuntu SMP PREEMPT_DYNAMIC Mon Nov 4 02:06:24  
UTC 2024 x86_64 x86_64 x86_64 GNU/Linux  
vboxuser@Ubuntu:~$
```

Figure 18 figure display with one got by UNIX – mates

## 10. Listing last command executed by history command

List your last command executed by the history command

```
vboxuser@Ubuntu:~$ history
 1  script alscript
 2  whoami
 3  who
 4  finger linuxnnn
 5  date
 6  is
 7  Ls
```

Figure 19 listing the last command executed by the history command

## 11. Re-executing last one command using redo (r) command

Re-execute last one command using redor command and the number of the event Fc-r

```
vboxuser@Ubuntu:~$ fc 225
script alscript1
```

Figure 20 Re-executing last one command using redor command

## 12. Re-executing the command given three commands ago using the negative integer! - 3.

Re-execute the command given three commands ago using the negative integer.

! -3


```
vboxuser@Ubuntu:~$ echo "A"
A
vboxuser@Ubuntu:~$ echo "B"
B
vboxuser@Ubuntu:~$ echo "C"
C
vboxuser@Ubuntu:~$ !-3
echo "A"
A
```

Figure 21 Re-executing command given three commands ago using the negative integer

## 13. Re-executing the last command which command begins with 'l'.

Re-execute the last command which name begins with 'l'.

Fc -e -1

A terminal window with a dark purple background. The prompt is 'vboxuser@Ubuntu:~\$'. The user enters 'fc -s e', followed by 'echo hello', and then 'hello'. The prompt returns. Then, the user presses 'I' (representing the up arrow), and the prompt returns again, indicating the last command was re-executed.

```
vboxuser@Ubuntu:~$ fc -s e
echo hello
hello
vboxuser@Ubuntu:~$
```

Figure 22 Re-executing the last command which name begins with 'I'

## Conclusion

The exercises in this course gave participants important knowledge about how to use Unix/Linux tools to carry out essential system functions. Participants developed their ability to efficiently process text by making directories, interacting with files, and utilizing programs like grep. Customizing the shell environment for increased productivity is made possible by defining and maintaining aliases. Furthermore, looking through command history showed how to effectively run previously run commands again. All things considered, these exercises have improved the participants' competence and self-assurance in navigating and controlling the Unix/Linux environment, providing a solid basis for future research into more complex system administration duties.

## References

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