Module Code & Module Title

Level 5 – CT5052 Network Operating System

Assessment Types

Logbook -8

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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 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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1. Introduction

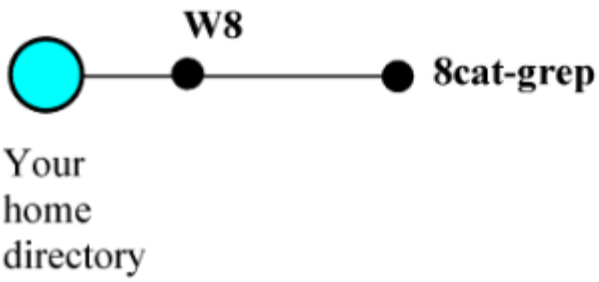
Linux is an operating system with open-source, and everybody can use it, modify its code and share it with others. It was developed in 1991 and turned into a strong and protected OS, suitable for computers, smartphones, and servers. Linux is known for its efficiency, stability and security, for that reason, Linux version can be installed on both home and computers. Some operating systems are more straight forward but Linux offers people a classic environment with a lot of freedom, even though Linux maintains a graphical user interface.

Ubuntu, Debian, Fedora are just some various operating systems that fulfill all the needs of regular user, developer or server. Linux is clearly known for its reliability, security and consistency. They are not at risk of break down and every operating system gets updated to use both powerful computer and slow computers. It is very secure operating system. Since operating system is freely available in Linux, the os is constantly tested for errors and various levels of security. Some of the commonly used versions of Linux are Ubuntu, that is simple to use and widely utilized in computers. Debian which is a well- known for its consistency and reliability and Fedora, which is focused on modern technology. By handling both simple devices and powerful servers in its operating system, this has helped in its growth throughout the Internet of Things (IOT).

Kali continues to be an open- source project that is free. Most importantly, it is well supported by an active online community. The purpose of Kali Linux is to secure things and bundle all the tools to provide a single platform for penetration testers. (Velu, Jun 30, 2017)

1. Week 8 Workshop Tasks

1. Create the directory structure presented in the figure below.



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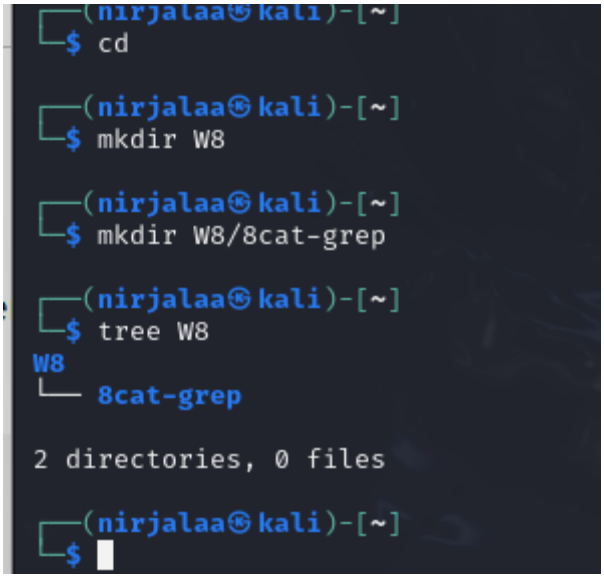

Figure 1: Creating the directory structure

2. Change to the **8cat-grep** directory by one step using a relative pathname.

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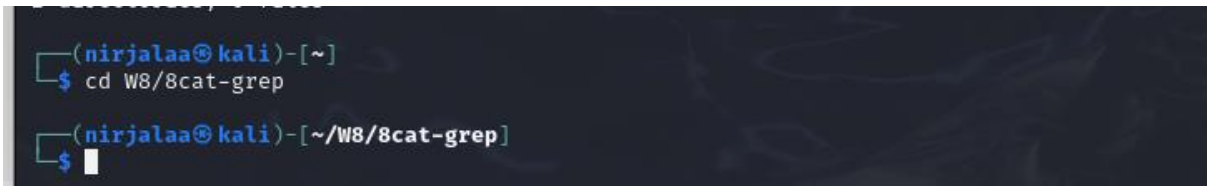

Figure 2: Changing the 8cat-grep directory

3. Using the **cat** utility, create two files

File testa	**File testb**
Kkkll	KKKKK
lllmm	LLLLL
oo–oo	MMMMM
mmmdd	DDDDD
dddkk	

-

Figure 3: Creating 2 files

4. Give the following commands and explain the results for yourself

- **grep ll testa**
- **grep -v ll testa**
- **grep -n ll testa**
- **grep -l ll ***
- **grep -i ll ***
- **grep -i LL ***
- **grep -c ll ***
- **grep '^K' testa testb**
- **grep -n '^' testa**
- **grep '^K' testa testb**
- **grep -n '^' testa**

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Figure 4 grep ll testa, grep -v ll testa, grep -n ll testa

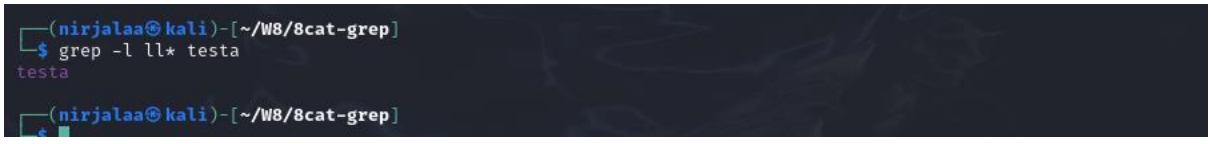

*Figure 5grep -l ll * :*

*Figure 6 : grep -i ll **

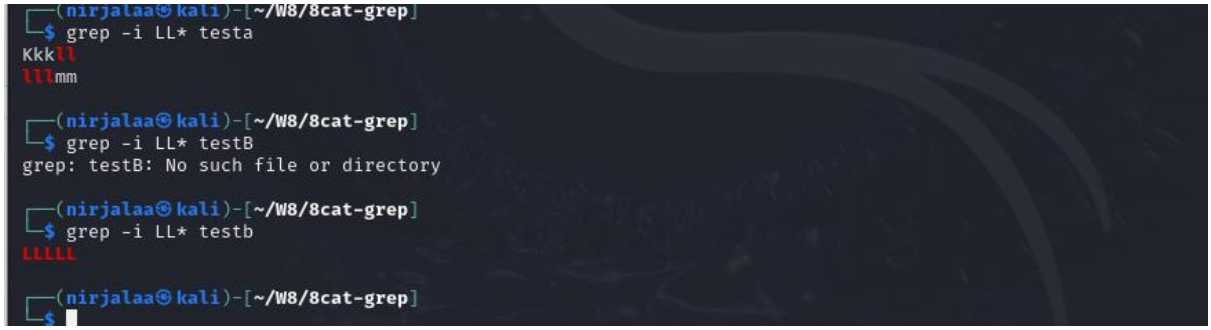

*Figure 7: grep -i LL **

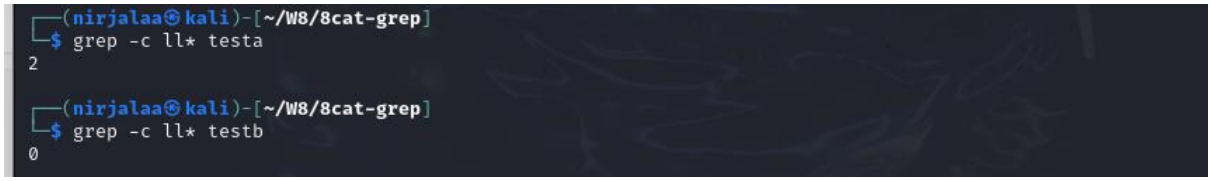

*Figure 8 : grep -c ll **

Figure 9: grep '^K' testa test, grep -n '^' testa

5. Define the **lsal** alias for **ls -al** command

Show that your system stores it giving the **alias** command (without arguments). Use it in your home directory.

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```
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ lsal
total 16
drwxrwxr-x 2 nirjalaa nirjalaa 4096 Dec 24 05:34 .
drwxrwxr-x 3 nirjalaa nirjalaa 4096 Dec 24 05:30 ..
-rw-rw-r-- 1 nirjalaa nirjalaa   30 Dec 24 05:33 testa
-rw-rw-r-- 1 nirjalaa nirjalaa   24 Dec 24 05:34 testb
```

Figure 10: lsal alias for ls -al command

```
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ alias lsal="ls -al"

┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ alias
alias diff='diff --color=auto'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias ip='ip --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -l'
alias ls='ls --color=auto'
alias lsal='ls -al'
```

Figure 11 : alias command

6. Remove the alias.

Show that your system does not store it.

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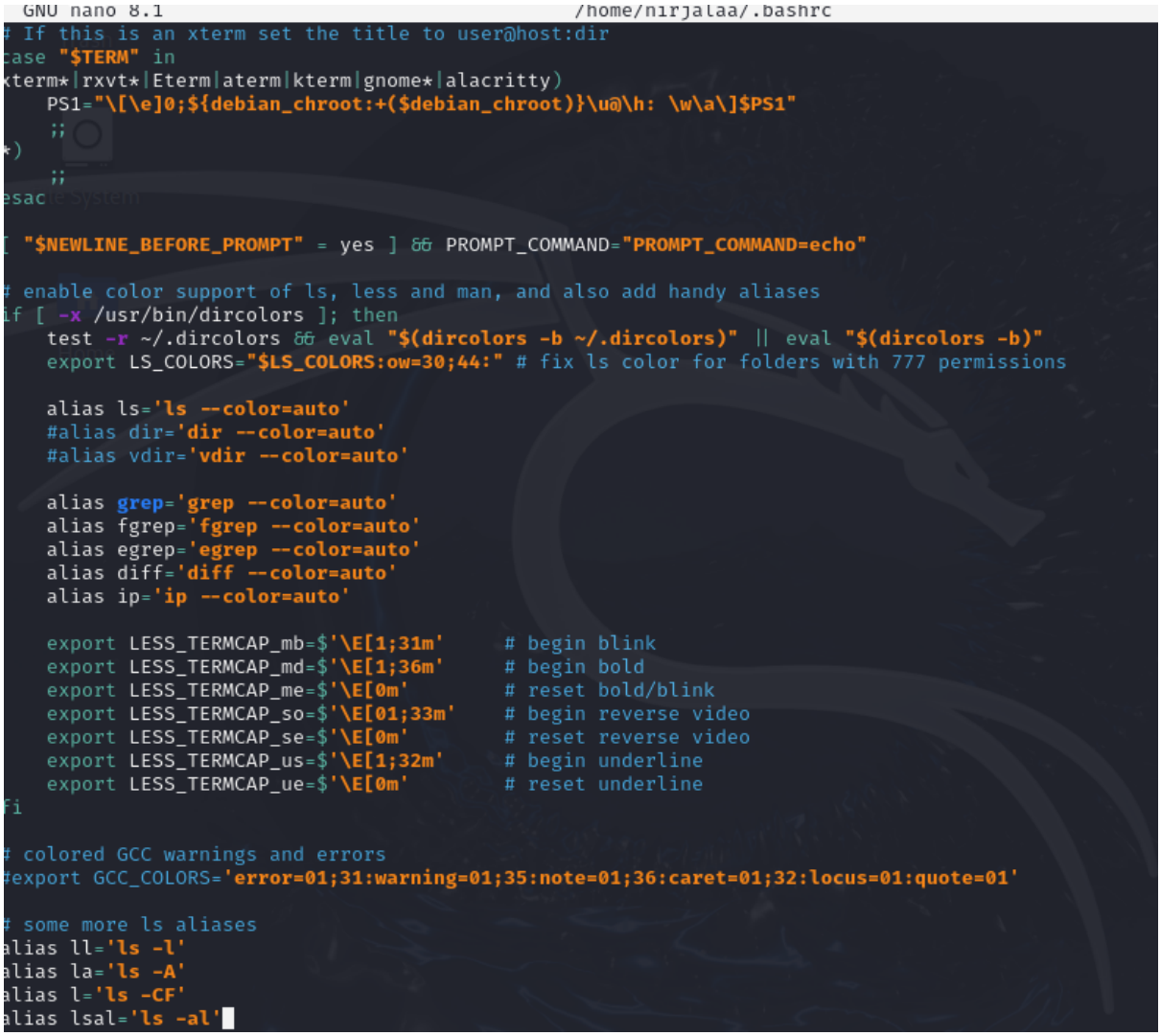
```
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ unalias lsal

┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ alias
alias diff='diff --color=auto'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias ip='ip --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -l'
alias ls='ls --color=auto'
```

Figure 12: Remove the alias

7. Define this alias again preserving it for the next session

Show that the system still keep this your alias.

- First I went at the end of the line and again put the alias lsal ='ls -al'



```
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ nano ~/.bashrc

┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ source ~/.bashrc
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ alias
alias diff='diff --color=auto'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias ip='ip --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -l'
alias ls='ls --color=auto'
alias lsal='ls -al'
```

Figure 13: the system still keep this your alias.

8. Define the **nwho** alias for the number of system file at UNIX computers.

alias nwho='getent passwd|wc -l'

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```
┌──(nirjalaa㉿kali)-[~/W8/8cat-grep]
└─$ alias
alias diff='diff --color=auto'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias ip='ip --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -l'
alias ls='ls --color=auto'
alias lsal='ls -al'
```

```
    export LESS_TERMCAP_us=$'\E[1;32m'     # begin underline
    export LESS_TERMCAP_ue=$'\E[0m'        # reset underline
fi

# colored GCC warnings and errors
#export GCC_COLORS='error=01;31:warning=01;35:note=01;36:caret=01;32:locus=01:quote=01'

# some more ls aliases
alias ll='ls -l'
alias la='ls -A'
alias l='ls -CF'
alias lsal='ls -al'
alias nwho='getent passwd|wc-1'

# Alias definitions.
# You may want to put all your additions into a separate file like
# ~/.bash_aliases, instead of adding them here directly.
# See /usr/share/doc/bash-doc/examples in the bash-doc package.

if [ -f ~/.bash_aliases ]; then
```

Figure 14: alias nwho='getent passwd|wc -l'

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

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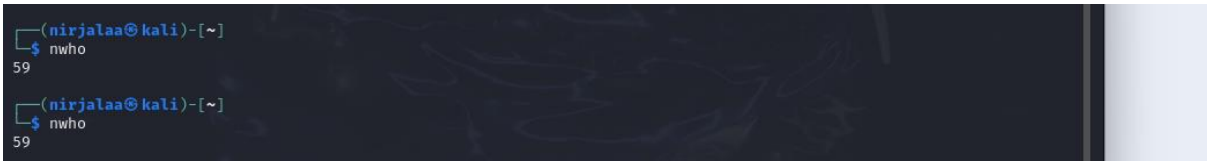

Figure 15: the command nwho

10. List your last commands executed giving the **history** command.

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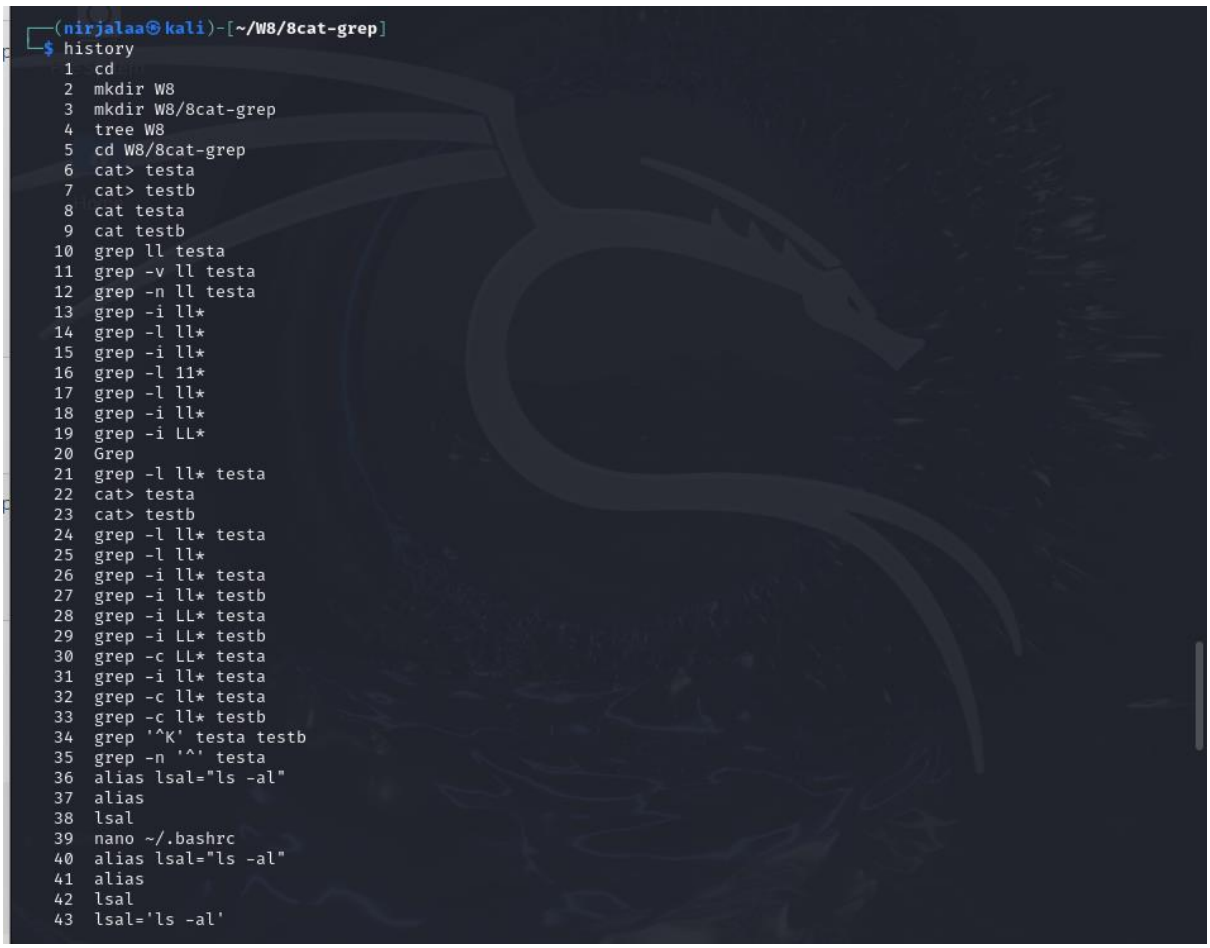

Figure 16: Full history command

Figure 17: last commands executed giving the history command

11. Re-execute the *last but one* command using the **redo** (**r**) command and the number of the event.

fc -r

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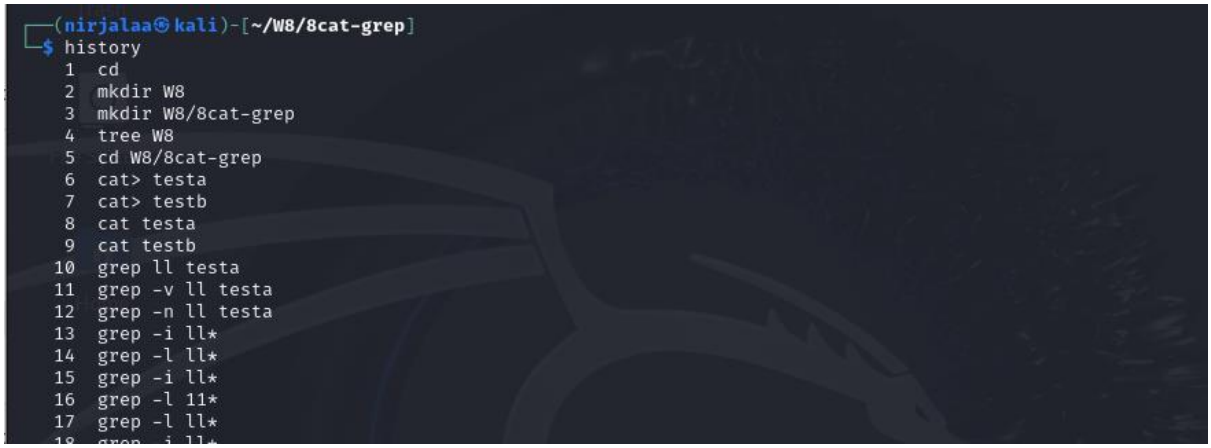

Figure 18: History command

Figure 19: fc -r command

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

!-3

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Figure 20: using the negative integer.

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

fc -e- l

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Figure 21: last command which name begins with 'l'.

2. References

Velu, V. K. (Jun 30, 2017). *Mastering Kali Linux for Advanced Penetration Testing.* UK: Packt Publishing Ltd.

3. Conclusion

In conclusion, Linux is a free to use operating system which is used in computer systems at home, on the job, and in businesses. It is safe, flexible and able to modify to fulfill particular needs. Furthermore, it is a reliable and secure choice for users that require security, power and proper management since it is a open source and can be utilized by many engineers as well. For developers, server managers or simply the user who wants a safe, versatile and adaptable operating system Linux offers a wide range of tools.