

~ - symbols the home/user directory (cd ~ - goes to /home/iliya)

ls - showing the files and directories (at the current location)

ls -l - show the files and directories in a list

ls -la - show all the files and folders in a list

ls -lah - " " " " " " " " " " to human readable

ls -laht - " " " " " " " " " " by time and date

ls -lahtr - " " " " " " " " " " in the reverse order (old on top new on the bottom)

ll - shortcut for ls -la

cd - change directory (cd /Home/Iliya/Desktop)

cd .. - goes one step back

pwd - shows where you are now

df -h - shows all the storage

ps - show all process status

ps aux - show all the process from all the users and terminal

lscpu - shows all cpu data and cores

free - shows RAM status

df -h - shows the storage status

whatis - shows what the command does

whereis - shows where the command is and from where the data of the whatis taken

less - shows all the data in the file (text of text file for example)

history - shows all the command history

ctrl+r - is searching a command by typing something from the command

echo - is printing the text on the screen in the CLI (CLI = command line interface)

ctrl+L - is deleting all the commands on top and saving the command that typed/typing now

echo "text" > text.txt - is making a text file with the line "text" inside

echo "text2" >> text.txt - is adding a new line in the text file and not deleting the line before

a="hello world" - save the text hello world in variable "a"

echo \$a - shows the text in the variable "a"

echo -n – types the text without going down to second row (like echo -n “full name “ > text.txt, echo “iliya Yeriskin” >> text.txt)

### Vi:

vi iliya.txt – make a text file and let

```
iliya@iliya-VirtualBox:~/Desktop$ echo -n "Full Name: " > Name.txt
iliya@iliya-VirtualBox:~/Desktop$ echo "Iliya Yeriskin" >> Name.txt
iliya@iliya-VirtualBox:~/Desktop$ cat Name.txt
Full Name: Iliya Yeriskin
```

shift+I – command to start writing

ESC – is for stop writing and going to command mode in vi

:w – save the file

:q – exit the file

:wq – save and exits the file

---

touch – touch the file and changes the time stamp(also make a file with .txt/.mp3/.mp4)

stat – show the properties of the file

cp – copy file (cp iliya.txt /home/iliya/Desktop)

mv – move a file to location (mv iliya.txt /home/iliya/Desktop/iliya)

mv iliya.txt iliya2.txt – change the name of the file like Rename

rm iliya.txt – delete specific file (rm \* - deletes all inside the directory)

rmdir – deletes folder

rmdir -rf – deletes folder and all the files inside

tar -cf – creates a tar compressed file (tar -cf iliya.tar 1.txt 2.txt 3.txt)

tar -xf – extracting files from a tar file (tar -xf iliya.tar)

tar -xf -C – extracting tar file to specific location(tar -xf -C /home/iliya/Desktop (ONLY FULL PATH))

gzip – makes a tar file to gzip file

bzip2 – compress a tar file

gunzip – uncompress gzip file

bunzip2 – uncompress bzip2 file

tar -zcf – make a tar file and compress with gzip

tar -jcf – make a tar file and compress with bzip2

tar -zcf iliya.tgz – make a files compressed with tar+gzip > tgz file.

tar -xzf – uncompress and unarchive tgz file (tar -xzf iliya.tgz)

## LINUX COMMANDS

grep – lets you search in a file (grep abc iliya.txt)

example of grep in a command of filtering in a output: (df -h | grep /dev/sda)

```
iliya@iliya-VirtualBox:~$ df -h | grep /dev/sda
/dev/sda1      9.8G  6.4G  3.0G  69% /
```

cut – show specific character by position (cut -c1-10 iliya.txt = show character from 1-10 in the sentences from all the row in the file)

```
iliya@iliya-VirtualBox:~/Desktop$ cut -c1-10 iliya.txt
hi my name
i'm 26 yea
bye bye
```

```
hi my name is iliya
i'm 26 years old
bye bye
```

cat ip.txt | cut -d"/" -f1 – shows from the text in the ip.txt the text until "/" as field 1 and after is field 2

```
iliya@iliya-VirtualBox:~/Desktop$ cat ip.txt | cut -d"/" -f1
192.168.1.1
iliya@iliya-VirtualBox:~/Desktop$ cat ip.txt | cut -d"/" -f2
24
192.168.1.1/24
```

shift+insert – paste from clipboard

cat /etc/\*release – shows the operating system

uname -a – shows the kernel version and system data

man – shows manual of a command (man echo)

file text.txt – shows the type of the file(text,mp3,mp4)

tail -f – shows the 10 last lines in the file in real time(tail -f iliya.txt (good for viewing logs in realtime))

ctrl+shift+t – open new tab in Terminal

awk 'NR==2 {print \$2}' – filtering the 2<sup>nd</sup> row(NR==2) > and print the 2<sup>nd</sup> column ({print \$2}) > and show only the 1<sup>st</sup> field with the command (cut -d"/" -f1)

```
iliya@iliya-VirtualBox:~$ ip add | grep enp0s3 | awk 'NR==2 {print $2}'
192.168.1.221/24
iliya@iliya-VirtualBox:~$ ip add | grep enp0s3 | awk 'NR==2 {print $2}' | cut -d"/" -f1
192.168.1.221
```

Echo "IP\_MACHINE: `ip add | grep enp0s3 | awk 'NR==2 {print \$2}' | cut -d"/" -f1-2`" > resources.txt ("`" – says to use the next as a command and not text)

```
iliya@iliya-VirtualBox:~/Desktop$ echo "IP_MACHINE: `ip add | grep enp0s3 | awk 'NR==2 {print $2}' | cut -d"/" -f1-2`" > resources.txt
iliya@iliya-VirtualBox:~/Desktop$ cat resources.txt
IP_MACHINE: 192.168.1.221/24
```

## LINUX COMMANDS

Ifdown enp0s3 – to disable the Network card.

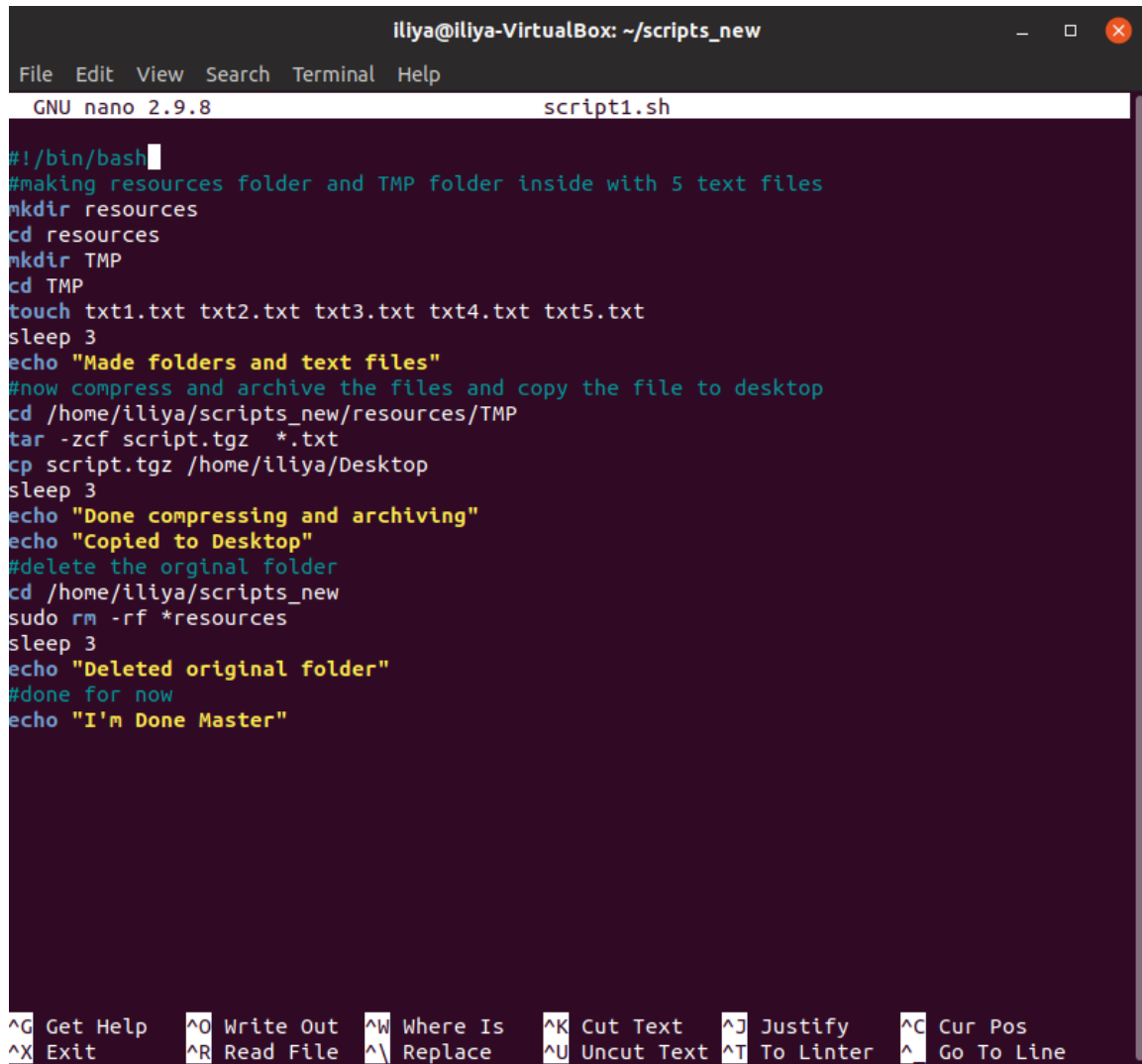
Ifup enp0s3 – to enable the Network card.

Service networking restart – to restart the network card (down>up).

Service network restart – same as the command but for CentOS.

Making a script file:

To run: sudo bash script1.sh



```
iliya@iliya-VirtualBox: ~/scripts_new
File Edit View Search Terminal Help
GNU nano 2.9.8 script1.sh

#!/bin/bash
#making resources folder and TMP folder inside with 5 text files
mkdir resources
cd resources
mkdir TMP
cd TMP
touch txt1.txt txt2.txt txt3.txt txt4.txt txt5.txt
sleep 3
echo "Made folders and text files"
#now compress and archive the files and copy the file to desktop
cd /home/iliya/scripts_new/resources/TMP
tar -zcf script.tgz *.txt
cp script.tgz /home/iliya/Desktop
sleep 3
echo "Done compressing and archiving"
echo "Copied to Desktop"
#delete the original folder
cd /home/iliya/scripts_new
sudo rm -rf *resources
sleep 3
echo "Deleted original folder"
#done for now
echo "I'm Done Master"

^G Get Help  ^O Write Out  ^W Where Is   ^K Cut Text   ^J Justify    ^C Cur Pos
^X Exit       ^R Read File  ^\ Replace    ^U Uncut Text ^T To Linter  ^_ Go To Line
```

How to make a bash script with inputs from user

```
#!/bin/bash
#making data from user
echo "Hello please input your name: $NAME"
read NAME
echo "My name is: $NAME"
```

This is the output when running the script:

```
iliya@iliya-VirtualBox:~/scripts_new$ sudo bash inputscript.sh
Hello please input your name:
iliya
My name is: iliya
```

## LINUX COMMANDS

This is a file with inputs and also question with if and else:

```
#!/bin/bash
#making data from user
echo "Hello"
echo -e "Please enter your information:\nName: $Name"
read Name
echo -e "Last Name: $Last_Name"
read Last_Name
echo -e "Phone: $Phone"
read Phone
echo -e "Email: $Email"
read Email
echo -e "Age: $Age"
read Age
echo "Thank you $Name"
sleep 2
echo "Please confirm your details"
sleep 2
echo -e "Name: $Name\nLast Name: $Last_Name\nPhone: $Phone\nEmail: $Email\nAge: $Age"
sleep 2
echo -e "Please make a directory:\nDirectory Name: $DN"
read DN
cd Desktop
mkdir $DN
sleep 1
echo "In the folder you created you'll see file with your storage information"
cd $DN
echo "Your Storage:">Storage_Data.txt
echo "`df -h | awk 'NR==1 {print $2,$3,$4,$5}'`">>Storage_Data.txt
echo "`df -h | awk 'NR==4 {print $2,$3,$4,$5}'`">>Storage_Data.txt
sleep 2
echo "Whould you like to print the data on the Screen?"
read Answer
if [ $Answer == "Yes" ]
then
    cat Storage_Data.txt
else
    echo "ByeBye"
fi
```

That's the output:

```
iliya@iliya-VirtualBox:~$ bash ./scripts_new/inputsript.sh
Hello
Please enter your information:
Name:
Iliya
Last Name:
Yeriskin
Phone:
052-882400
Email:
iliya123@gmail.com
Age:
27
Thank you Iliya
Please confirm your details
Name: Iliya
Last Name: Yeriskin
Phone: 052-882400
Email: iliya123@gmail.com
Age: 27
Please make a directory:
Directory Name:
Folder
In the folder you created you'll see file with your storage information
Whould you like to print the data on the Screen?
Yes
Your Storage:
Size Used Avail Use%
13G 4.4G 7.9G 36%
```