

## -- Day2 --

ls	- to list files in directory
tty	- to get the number of tele type terminal
chvt N	- to change the number of tty
date	- to get the date
cal	- to get the calender of the present month
su - uname	- to switch to another user
id [user name]	- to get the id of the user (root = 0), (user >= 1000), (0 < system/services users < 1000)
clear	- to clear the terminal
exit	- to logout the user

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## -- Day3 --

eject	- to eject the CD tray
eject -t	- to close the CD's open tray (works only on the Desktops)
cat	- ( <b>concatenate</b> ) to view the content inside the .txt files only
cd [path] user directory	- <b>change directory</b> , without arguments change the directory to the home user directory
cd ~	- change the directory to the home user directory, like cd only
cd ~[user]	- change the directory to the given home user directory ex: cd ~null/path/
cd -	- last working directory
cd .	- present working directory
cd .. = cd ./..	- go to parent directory
pwd	- present/print working/where directory
dir	- same as ls but without coloring the output
touch time,	- create empty txt file, and can create more than file in the same time without changing the content inside the file, but changing the last time accessed file
nano	- (basic text editor) to edit the txt files

**T!p:** to copy more than on file, we can put every one file in a double quotes like this:

**cp "file1" "file2" /etc/**

Now both file1 and file2, will be copied to the destination path.

## -- Day 4 --

tree - represents a directory or a path like a tree figure

mkdir - creates a new directory, ex: mkdir /tmp/newdirname

cp - copies a file and change the name of its copy,  
ex: cp [filename] [newfilename], cp [filename]  
[another\_path/filename]  
"to copy a file to another path", ex: cp file1 ../../file1\_copy

cp -r - recursive, to copy the directory with its content (it overwrites  
the content of the original file/dir on the new path, only if existed!)  
to change the name of copied directory, ex: cp -r d1/ d2/d3/  
"new d1 will be named d3, if and only if d3 doesn't exist, if d3 existed it will be copied  
inside it!!"

mv - moves a file or directory to a new path and remove its source

rm - removes the file

rmdir - removes the empty directory

rm -r - removes the directory with its content

rm -rf - force removing directory and files

**!!Attention!!** rm -rf dir / "don't let spaces after the name of directory, bcause it will  
read it as another thing to remove !!"

mv filename newf - to rename a file by indirect way

ls -a - all, list all hidden files

ls -r - reversed, list files with reversed arrangement of alphabet

ls -R - Recursive, list files and directories with its inside content,  
ex: ls -R /home/

exit / logout - logout

reset - clear and start a new page of terminal

bg - to continue a pasued command on the background

reboot - reboot

shutdown -r now - reboot now

systemctl reboot - reboot

init 6 - reboot

shutdown - shutdown

shutdown -h now - shutdown now, "-h means hold"

poweroff - shutdown

init 0 - shutdown

systemctl poweroff - shutdown

;- append two commands

useradd [name] - to add a new user

passwd [uname] - to set a passwd for the user (root only)

passwd - to change the password for the current user

systemctl poweroff -i - to shutdown and ignore inhibitors and users (self-learned)

## -- Day 5 --

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groupadd                - to create a new group for users

useradd -g [gname] [uname] - to change the primary group for "a new user",
                        ex: useradd -g groupdc userali

usermod                 - to modify any data and info about the user

usermod -G              - to add/remove a user to another secondary groups,
                        ex: usermod -G groupdc userali

usermod -a -G           - to add the user to additional secondary group,
                        ex: usermod -a -G groupdc uname

usermod -g              - to change the primary group to an existed user,
                        ex: usermod -g group1 ali

userdel                 - to delete a user,      ex: userdel [username]

userdel -r              - to delete the use with his home directory too!

groupdel                - to delete a group,      ex: groupdel [groupname]

ls -l                  - list all files with thier info


chmod                  - change permissions,      ex: chmod [u,g,o] [+,-] [r,w,x] [filename]
                        ex: chmod ug+r,o-wx file1,  chmod a+w file2 (a=all),
                        ex: chmod -x file4 (if you didn't select the permission to whom, it will excute to all)

chmod -R               - excute command on all things (directory and what inside it recursively)

chown                  - change ownership,        ex: chown [username:groupname] [filename]

./                      - to excute files,        ex: ./[filename]
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## -- Day 6 -

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0 < [filename]         - to print the input to a file

1 > [filename]          - to print the output to a file

2 > [filename]          - to print the error to a file

cat <file1 >file2       - takes input from file1 and add it to file2

cat <<AnyWord>> file2   - makes you add inputs to the filename
                        and when you write AnyWord in the last line, it closes the inputs

<< or >>                - just to append the new result to the file instead of overwriting it!!

[comnd] >>output 2>> err - Takes the output and error from the same one command at once
                        ex: ls -l file1 file1010 >output 2>error (while file1 doesn't exist)

&> or 2&>               - Takes the error and output,  ex: ls - l /home/ 2&>output
                        ex: ls -l file1 file1010 2&>outputanderror.text

file [filename]         - to get the type of any file

|                       - takes output from a command as an input to another command
                        ex: ls -lR / | cat
```

less	- to view/navigate the content inside the file, page by page
more	- to view/navigate the content inside the file, page by page
tee	- takes a copy from the output of a command and views it on the terminal and another copy in a file,        ex: <code>ls -l   tee [filename.txt]</code>
tee -a	- to append the result to the same file

Some commands:!

w	- who is login, where and when, and load average
whatis [command]	- to tell what the command does
who	- who is login now
who am i	- who are you
whereis [command] documentation	- where the binary of the command is, its 'man' pages and the documentation
which	- Find where a commmand is executed from  ex: <code>which python &gt;&gt;&gt; /usr/bin</code>
last	- all login logs, and information about the login users
lastlog	- last log of all users

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## -- Day 7 --

ls -i	- to list files with inode number
stat [path]	- alternative to (ls -i), it also displays file or file system status (self)
df	- disk free space
df -h	- disk free space in Human readable.
df -i	- get Inode info about the disk space
df -ih	- in human readable
df -B[SIZE]	- scale sizes by SIZE, SIZE here is represented by :[K, M, G, T, etc.]  you can specify the size with a number before the symbol  ex: <code>df -B512K /home,</code> <code>df -B2G /root/,</code> <code>df -B100M /home/abdulrhman</code> (man)

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## -- Day 8 --

ln [source] [link]	- to make a hard link to a file  This command have <b>4</b> forms, you can see its man page: <b>man ln</b>
ln -s, ln --symbolic	- make symbolic/soft links instead of hard links  ex: <code>ln -s /home/work/file1 /tmp/work/tempfilename</code>
lsblk	- to see the connected blocks or disks

## -- Day 9 --

fdisk	- to go inside the disk, and to manage and change inside it
fdisk -l	- list Partition Tables for the connected devices and then exit
fdisk -l [disk path]	- to list only the selected disk info
portprobe	- to make the kernel scan the disks or partition tables, automatically scan all disks connected
	- inform the OS of Partition Table changes
portprobe [disk path]	- scan only the selected disk
	- inform the OS of Partition Table changes for a specified disk
mkfs	- make a new filesystem, (by default it will be ext2)
mkfs fs-options	- Filesystem-specific options to be passed to the real filesystem builder, Although not guaranteed, the following options are supported by most FS builders
mkfs [options] [-t <type>] [fs-options] <device> [<size>]	
mkfs.[fs type] [partition]	- specify the new filesystem
mkfs -f	- to force the overwrite of the filesystem
mkfs -isize=[isize]	- to set the size of the inode
dd	- disk dump
dd if=[path1] of=[path2] bs=[size] count=[nofblocks]	
if means the input file, of means the output file destination, bs = block size	
mount [source] [dest]	- to mount any device
umount	- to unmount
dumpe2fs [prtname]	- to get the partition information (only to ext2, ext3 and ext4)
e2fsck	- to check the extN filesystem
e2fsck -f	- to force the check of the filesystem
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## -- Day 10 --

mount -t [type] [path]	- to mount a partition with the type of the filesystem
mount LABEL=label_name [mount path]	- to mount a partition with its name/label
blkid	- to view the UUID of every partition mounted on the disk
e2label <device> [label]	- to label the partition with a name (only for extN filesystems)
xfs_admin -L [label] <device>	- to set Label name to XFS partition
xfs_info <device>	- to print information about XFS partition
mount -a	- reads all the /etc/fstab and mount it and check if there errors!
mount -av	- (-v) option to see what happens <u>OR</u> verbose mode
mount -U [UUID] <device>	- to mount a device with its UUID
cfdisk [device path]	- a utility in Linux, that allow to manage fdisk more easily!
gzip [filename]	- to compress a file with extension .gz

<code>gunzip [filename]</code>	- to decompress the compression of a compressed .gz file
<code>bzip2 [filename]</code>	- to compress a file with extension .bz2
<code>bunzip2 [filename]</code>	- to decompress the compression of a compressed .bz2 file
<code>du [path]</code>	- to get the space/size for the whole directory and its content
<code>du -sh [path]</code>	- to summarize, h for human readable
<code>tar cf [filename] [source]</code>	- to make an archive of a directory
<code>tar xf [filename]</code>	- to extract the content inside the .tar file
<code>tar cvf [filename] [source]</code>	- create verbose file (view what files are being archived)
<code>tar xvf [filename]</code>	- extract verbose file (view what files are being extracted)
<code>tar cvfz [filename] [source]</code>	- create verbose file (view what files are being archived)
<code>tar xvfz [filename]</code>	- extract verbose file (view what files are being extracted)
<code>tar tvfz/j [filename]</code>	- t, to list the content without extracting its content
<code>time + command</code>	- to print the time of executing the command

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## -- Day 11 --

<code>ps</code>	- Current working processes from the present terminal only
<code>ps a</code>	- Current working processes from the whole terminal opened
<code>ps aux</code>	- All running processes existed on the system
<code>kill [PID]</code>	- to kill a background running-process on the GUI
<code>kill -l</code>	- list all the signals of killing process
<code>kill -[N] [PID]</code>	- to specify the command with the signals
<code>ps -ef</code>	- to preview the PPID
<code>pstree</code>	- view in tree
<code>pgrep [Pname]</code>	- process grep, to get the process ID by the name of it
<code>pkill [Pname]</code>	- kill the process by its name
<code>[Process name] &amp;</code>	- to make the application running in the background
<code>jobs</code>	- running background processes
<code>fg %[n] of</code>	- to foreground the process again in the shell, n is the number  the process in the background running processes
<code>bg %[n]</code>	- to background the process again

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## -- Day 12 --

<code>killall [Pname]</code>	- to kill all processes with the shared name
<code>top</code>	- information about the system and top running processes and the load of the machine and can kill the real time running processes.

Looks like Task Manager in Windows !!

`nice -n [value] [PID/Pname]` - to set the nice value of the process with its name  
you can start the process with a value given with the command

`renice -n [value] [PID/Pname]` - to set/change the priority for a real-time running process

`ps -eo "[more arguments]"` - to print some additional info with the arguments

`updatedb` - to force update for the Database

`locate [filename]` - to locate/search for a file with his name

`find [path] -name [filename]` - the path we want to only search in, and the name of the file ..

`find [path] -iname [filename]` - `iname` = insensitive name, that we don't care whether the letters  
are capital or small

`find -perm -name` - `perm`, permission, to search with permission of the file

`find -atime` - access time e.g. (1 for the last 24 hours, +1 for 24 hours and before)

`grep [word] [destinationpath]` - to search the content of the file, it shows the full line of the  
word !!

`grep -i` - insensitive name

`grep -v [word]` - `grep` everything except word,

`grep -n [word]` - `-n`, for the line number

`grep -R [word] [path]` - `-R`, for recursively, to search the word in every file in the path !!

`grep -lR [word] [path]` - `-l`, to list only the files containing the word

`cut -f [fieldn] -d [delimiter] [filepath]` - while `-f`, for the field number and `-d`, for the  
delimiter between the content words  
example : `'cut -f 1,3 -d : /etc/passwd'` or `'-f 1-4'`  
to get all fields in range  
as we can get more than one field in the same  
time !!

`sort` - to sort the content or the result of a file in arrangement  
by default, it arranges the content as a string !!

`sort -n` - to sort in numeric arrangement

`uniq` - to report or omit repeated lines, it compares the line with  
the  
line before, and then omit it, so you may see things are  
repeated

!!! so we can sort first and then `uniq` !!!

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vim - creates a file or open it if it existed

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## -- Day 14 --

systemctl [service] - to work with the service

journalctl -

systemctl status [service] - to get the status of the service

systemctl -l - to show the result in full

systemctl disable/enable - to change the vendor preset of the service

systemctl start [service] - to start a dead service

systemctl stop [service] - to stop a running service

service [service] start/stop/status - same like systemctl but with init

chkconfig [service] on/off - to change the vendor preset of the service like enable/disable

systemctl is-active/enable [service]- to see if the service is active or not and enabled or not

systemctl mask [service] - mask the service and prevent it from working

systemctl unmask [service] - unmask the service and make it working again

systemctl get-default - to get the default target.

systemctl set-default [Mode] - to change/reset the default target of the machine

runlevel - to get your run level

systemctl isolate [target] - to change the systemd target while running the machine

init [run lvl number] - to change the run level of init run levels

telinit - work like init

systemctl list-units - list all the Unit files of systemd with information about it  
like if it is running, loaded or active or not ..etc.

systemctl list-unit-files - list files of the services existed in /usr/lib/systemd/system/

systemctl reload [service] - to re-read and apply the configuration file of the service.

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## -- Day 15 --

grub2-mkconfig - to re-generate the GRU configuration settings in the terminal

grub2-mkconfig -o [path] - to make the output in the file to a path, like the main source of  
the GRUB cfg file in the /etc/

ls -Z - to view the SELinux LABEL

mount -o remount,rw /sysroot/ - to change the mount mode to read-write mode  
in the Recovery Mode



chroot /sysroot/ real	- to change the root filesystem in the Recovery Mode to the real
root filesystem	
touch /.autorelabel	-

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## -- Day 16 --

systemctl daemon-reload	- to reload the configuration files
nmcli	- Network Manager
ip addr show	- to preview your machine ip addresses found on the machine
ip a s	- same as the above and it can be abbreviated.
ifdown [Interface]	- to take down the Network Interface (disable)
ifup [Interface]	- to bring up the Network Interface (enable)
ifconfig	- to configure the Network Interface

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## -- Day 17 --

nmcli connection show	- to list the connections on your interfaces.
nmcli connection show [Profile]	- to list the Profile with in -depth details about it.
nmcli connection delete [Profile]	- to delete the connection.
nmcli connection add con-name [newName] ifname [InterfaceName] type [type] autoconnect [yes/no]	- to add a new connection.
nmcli connection modify [name]	- to modify the connections with a specific attribute.

