-- 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 calendar 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
```

-- Day3 --

```
eject               - to eject the CD tray

eject -t            - to close the CD's open tray (works only on the Desktops)
```

cat   - (**concatenate**) to view the content inside the .txt files only

cd [path]   - **change directory**, 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 ~nu11/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               - create empty text 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 text 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                      - copys 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 fle

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, because 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                      - continue paused command on the background or run jobs in 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]          - create a new user / update default new user information (same adduser)

passwd [uname]          - to set a password 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 --

```
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 their info
groupmod -p            - to set/change the password for the group
groupmod -g            - change the group ID to GID
groupmod -n [NEW] [OLD]- change the name of the group
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 execute to all)
chmod -R               - execute command on all (directory and what inside it recursively
chown                  - change ownership,     ex: chown [username:groupname] [filename]
./                     - to execute files,     ex: ./[filename]
```

-- Day 6 –

```
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!!
[command] >>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]        - determine file type, gives some additional info about special files
```

```
|                      - 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: ls -l | tee [filename.txt]
tee -a                - to append the result to the same file

Some commands:!
w                     - who is login, where and what he is doing, and load average
whatis [command]      - to tell what the command does
who                   - who is logged on the system
whoami                - print the user name associated with the current effective user ID
whereis [command]     - where the binary of the command is, its 'man' page and the documentation
which                 - shows the full path of (shell) commands, where it executed from
                        ex: which python >>>> /usr/bin
last                  - all login logs, and information about the login users
lastlog               - last log of all users
```

-- 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: df -B512K /home,    df -B2G /root/,    df -B100M /home/abdulrhman   (man)
```

-- Day 8 --

```
ln [source] [link]       - to make a hard link to a file
                           This command have 4 forms, you can see its man page: man ln
ln -s, ln --symbolic     - make symbolic/soft links instead of hard links
                           ex: ln -s /home/work/file1 /tmp/work/tempfilename
lsblk                    - list block devices or connected 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 un mount

dumpe2fs [prtname]         - to get the partition information (only to ext2, ext3 and ext4)

e2fsck                     - to check the extN Linux filesystem (ext2, ext3 and ext4)

e2fsck -f                  - to force the check of the filesystem
```

-- 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 OR 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
```

```
gunzip [filename]          - to decompress the compression of a compressed .gz file

bzip2 [filename]           - to compress a file with extension .bz2

bunzip2 [filename]         - to decompress the compression of a compressed .bz2 file

du [path]                  - to get the space/size for the whole directory and its content

du -sh [path]              - to summarize, h for human readable

tar cf [filename] [source] - to make an archive of a directory

tar xf [filename]          - to extract the content inside the .tar file

tar cvf [filename] [source] - create verbose file (view what files are being archived)

tar xvf [filename]         - extract verbose file (view what files are being extracted)

tar cvfz [filename] [source] - create verbose file (view what files are being archived)

tar xvfz [filename]        - extract verbose file (view what files are being extracted)

tar tvfz/j [filename]      - t, to list the content without extracting its content

time + command             - to print the time of executing the command
```

-- **Day 11** --

```
ps                         - Current working processes from the present terminal only

ps a                       - Current working processes from the whole terminal opened

ps aux                     - All running processes existed on the system

kill [PID]                 - to kill a background running-process on the GUI

kill -l                    - list all the signals of killing process

kill -[N] [PID]            - to specify the command with the signals

ps -ef                     - to preview the PPID

pstree                     - view in tree

pgrep [Pname]              - process grep, to get the process ID by the name of it

pkill [Pname]              - kill the process by its name

[Process name] &           - to make the application running in the background

jobs                       - running background processes

fg %[n]                    - to foreground the process again in the shell, n is the number
of the process in the background running processes

bg %[n]                    - to background the process again
```

-- **Day 12** --

```
killall [Pname]            - to kill all processes with the shared name

top                        - 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 !!!

-- Day 13 --

```
vim                      - creates a file or open it if it existed
```

-- 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.
```

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

-- 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
```

-- 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.
```