

- 1- ubuntu, debian and kubuntu
- 2- for given details about any command
- 3- rm for removing directory or file while rmdir for removing empty directories
- 4- a-it can't be deleted using this command as it used to delete empty directory, so you can use rm -rf to remove it

```
mohammed@mohammed: ~/dir1
mohammed@mohammed: ~/dir1 80x25
mohammed@mohammed:~$ mkdir --
--context --help --mode= --parents --verbose --version
mohammed@mohammed:~$ mkdir dir1/dir2
mkdir: cannot create directory 'dir1/dir2': No such file or directory
mohammed@mohammed:~$ mkdir -p dir1/dir2
mohammed@mohammed:~$ ls
Desktop      example.txt  ros2_example_1  ros2_ws4      Videos
dir1         kk.coffee   ros2_example_2  ros2_ws_second
Documents    Music        ros2_example_3  ros5_ws
Downloads    Pictures     ros2_ws         snap
embedded_fady Public        ros2_ws3        Templates
mohammed@mohammed:~$ cd dir1
mohammed@mohammed:~/dir1$ ls
dir2
mohammed@mohammed:~/dir1$ cp dir2 dir11
cp: -r not specified; omitting directory 'dir2'
mohammed@mohammed:~/dir1$ cp -r dir2 dir11
mohammed@mohammed:~/dir1$ ls
dir11  dir2
mohammed@mohammed:~/dir1$ rmdir dir2
mohammed@mohammed:~/dir1$
```

```
mohammed@mohammed: ~/Documents
mohammed@mohammed: ~/Documents 80x25
embedded_fady Public ros2_ws3 Templates
mohammed@mohammed:~$ cd dir1
mohammed@mohammed:~/dir1$ ls
dir2
mohammed@mohammed:~/dir1$ cp dir2 dir11
cp: -r not specified; omitting directory 'dir2'
mohammed@mohammed:~/dir1$ cp -r dir2 dir11
mohammed@mohammed:~/dir1$ ls
dir11 dir2
mohammed@mohammed:~/dir1$ rmdir dir2
mohammed@mohammed:~/dir1$ mkdir dir12
mohammed@mohammed:~/dir1$ cd dir11
mohammed@mohammed:~/dir1/dir11$ touch file1
mohammed@mohammed:~/dir1/dir11$ cd ../../
mohammed@mohammed:~$ mkdir docs
mohammed@mohammed:~$ cd docs
mohammed@mohammed:~/docs$ touch mycv
mohammed@mohammed:~/docs$ cd
mohammed@mohammed:~$ mkdir Documents
mkdir: cannot create directory 'Documents': File exists
mohammed@mohammed:~$ cd Do
Documents/ Downloads/
mohammed@mohammed:~$ cd Documents/
mohammed@mohammed:~/Documents$ touch OldFiles
mohammed@mohammed:~/Documents$
```

```
mohammed@mohammed: ~/Documents
mohammed@mohammed: ~/Documents 80x25
mohammed@mohammed:~$ mkdir --
--context --help --mode= --parents --verbose --version
mohammed@mohammed:~$ mkdir dir1/dir2
mkdir: cannot create directory 'dir1/dir2': No such file or directory
mohammed@mohammed:~$ mkdir -p dir1/dir2
mohammed@mohammed:~$ ls
Desktop example.txt ros2_example_1 ros2_ws4 Videos
dir1 kk.coffee ros2_example_2 ros2_ws_second
Documents Music ros2_example_3 ros5_ws
Downloads Pictures ros2_ws snap
embedded_fady Public ros2_ws3 Templates
mohammed@mohammed:~$ cd dir1
mohammed@mohammed:~/dir1$ ls
dir2
mohammed@mohammed:~/dir1$ cp dir2 dir11
cp: -r not specified; omitting directory 'dir2'
mohammed@mohammed:~/dir1$ cp -r dir2 dir11
mohammed@mohammed:~/dir1$ ls
dir11 dir2
mohammed@mohammed:~/dir1$ rmdir dir2
mohammed@mohammed:~/dir1$ mkdir dir12
mohammed@mohammed:~/dir1$ cd dir11
mohammed@mohammed:~/dir1/dir11$ touch file1
mohammed@mohammed:~/dir1/dir11$ cd ../../
mohammed@mohammed:~$ mkdir docs
```

b- it didn't delete the file

c- absolute path: /home/mohammed/docs/mycv

relative path: *docs/mycv*

```
mohammed@mohammed: ~  
mohammed@mohammed: ~ 80x25  
Desktop/      .ignition/    ros2_example_2/ snap/  
dir1/         .java/        ros2_example_3/ .ssh/  
docs/         .local/       ros2_ws/        Templates/  
Documents/    .mozilla/     ros2_ws3/       .thunderbird/  
.dotnet/      Music/        ros2_ws4/       Videos/  
Downloads/    Pictures/     ros2_ws_second/ .vscode/  
embedded_fady/ .pki/        ros5_ws/  
.gazebo/      Public/       .rviz2/  
mohammed@mohammed:~$ rmdir -p Do  
Documents/ Downloads/  
mohammed@mohammed:~$ cd Documents/  
mohammed@mohammed:~/Documents$ rmdir -p Oldfiles  
rmdir: failed to remove 'Oldfiles': No such file or directory  
mohammed@mohammed:~/Documents$ cd  
mohammed@mohammed:~$ cd /  
mohammed@mohammed:/$ cd /home/mohammed/  
mohammed@mohammed:~$ cp /etc/  
Display all 253 possibilities? (y or n)  
mohammed@mohammed:~$ cp /etc/passwd .  
mohammed@mohammed:~$ ls  
Desktop  Downloads  Music  ros2_example_1  ros2_ws3  snap  
dir1     embedded_fady  passwd  ros2_example_2  ros2_ws4  Templates  
docs     example.txt   Pictures  ros2_example_3  ros2_ws_second  Videos  
Documents kk.coffee    Public   ros2_ws         ros5_ws  
mohammed@mohammed:~$
```

6-

Relative path: */lab-1/docs*

7- a - using *cd*

b- using *cd ~*

c- using *cd \$HOME*

d- using *../home/mohammed*

8- w watchgnupg wget whiptail winicontopppm write

w3m wayland-scanner whatis who wish write.ul

w3mman wbmptopbm whereis whoami wish8.6 www-browser

wall wc which whoopsie word-list-compress

watch wdctl which.debianutils whoopsie-preferences wpa_passphrase

```
mohammed@mohammed: ~/Desktop/ROS2/forth_lab
mohammed@mohammed: ~/Desktop/ROS2/forth_lab 80x25
-rwxr-sr-x 1 root tty 23K Feb 21 2022 wall
-rwxr-xr-x 1 root root 27K Oct 31 13:36 watch
-rwxr-xr-x 1 root root 19K Jul 4 2022 watchgnupg
-rwxr-xr-x 1 root root 47K Sep 14 2022 wayland-scanner
-rwxr-xr-x 1 root root 15K Feb 7 2021 wbmptopbm
-rwxr-xr-x 1 root root 43K Feb 7 2022 wc
-rwxr-xr-x 1 root root 31K Feb 21 2022 wdctl
-rwxr-xr-x 1 root root 516K Jan 24 2022 wget
-rwxr-xr-x 1 root root 48K Mar 17 2022 whatis
-rwxr-xr-x 1 root root 31K Feb 21 2022 whereis
lrwxrwxrwx 1 root root 23 Mar 1 2023 which -> /etc/alternatives/which
-rwxr-xr-x 1 root root 946 Mar 23 2022 which.debianutils
-rwxr-xr-x 1 root root 31K Mar 17 2022 whiptail
-rwxr-xr-x 1 root root 51K Feb 7 2022 who
-rwxr-xr-x 1 root root 31K Feb 7 2022 whoami
-rwxr-xr-x 1 root root 47K Feb 23 2022 whoopsie
-rwxr-xr-x 1 root root 23K Feb 23 2022 whoopsie-preferences
-rwxr-xr-x 1 root root 23K Feb 7 2021 winicontoppm
lrwxrwxrwx 1 root root 7 Mar 25 2022 wish -> wish8.6
-rwxr-xr-x 1 root root 15K Mar 25 2022 wish8.6
-rwxr-xr-x 1 root root 15K Mar 23 2022 word-list-compress
-rwxr-xr-x 1 root root 15K Jun 3 2022 wpa_passphrase
lrwxrwxrwx 1 root root 23 Mar 1 2023 write -> /etc/alternatives/write
-rwxr-sr-x 1 root tty 23K Feb 21 2022 write.ul
lrwxrwxrwx 1 root root 29 Mar 11 2023 www-browser -> /etc/alternatives/www-br
```

- 9- give us the type of the command like whether is built-in command or not, where its executable is located and whether it is aliased to some other command
- 10-

```
mohammed@mohammed: /usr/bin
mohammed@mohammed: /usr/bin 105x34
lrwxrwxrwx 1 root root 29 Mar 2 2023 caf.openmpi -> /etc/alternatives/caf-openmpi
lrwxrwxrwx 1 root root 24 Mar 2 2023 cafrun -> /etc/alternatives/cafrun
lrwxrwxrwx 1 root root 32 Mar 2 2023 cafrun.openmpi -> /etc/alternatives/cafrun-openmpi
lrwxrwxrwx 1 root root 4 Jan 28 2022 cal -> ncal
-rwxr-xr-x 1 root root 27K Mar 24 2022 calibrate_ppa
-rwxr-xr-x 1 root root 19K Jan 11 2023 canberra-gtk-play
-rwxr-xr-x 1 root root 15K Sep 15 14:19 cancel
lrwxrwxrwx 1 root root 3 May 16 2023 captinfo -> tic
-rwxr-xr-x 1 root root 35K Feb 7 2022 cat
-rwxr-xr-x 1 root root 987 Sep 13 23:36 catkin_create_pkg
-rwxr-xr-x 1 root root 983 Sep 13 23:36 catkin_find_pkg
-rwxr-xr-x 1 root root 1003 Sep 13 23:36 catkin_generate_changelog
-rwxr-xr-x 1 root root 997 Sep 13 23:36 catkin_package_version
-rwxr-xr-x 1 root root 997 Sep 13 23:36 catkin_prepare_release
-rwxr-xr-x 1 root root 993 Sep 13 23:36 catkin_tag_changelog
-rwxr-xr-x 1 root root 995 Sep 13 23:36 catkin_test_changelog
-rwxr-xr-x 1 root root 35K Mar 17 2022 catman
-rwxr-xr-x 1 root root 853 Dec 11 2021 cautious-launcher
lrwxrwxrwx 1 root root 20 Mar 2 2023 cc -> /etc/alternatives/cc
lrwxrwxrwx 1 root root 14 Jun 11 2021 ccache-swig -> ccache-swig4.0
-rwxr-xr-x 1 root root 55K Jun 11 2021 ccache-swig4.0
-rwxr-xr-x 1 root root 31K Feb 6 2022 ccomps
-rwxr-xr-x 1 root root 31K Jan 1 2022 cct
-rwxr-xr-x 1 root root 27K Feb 22 2022 cd-create-profile
-rwxr-xr-x 1 root root 27K Feb 22 2022 cd-fix-profile
-rwxr-xr-x 1 root root 15K Feb 22 2022 cd-iccdump
-rwxr-xr-x 1 root root 23K Feb 22 2022 cd-it8
lrwxrwxrwx 1 root root 24 Jun 4 09:49 c++filt -> x86_64-linux-gnu-c++filt
-rwxr-xr-x 1 root root 23K Aug 29 2021 chacl
-rwxr-xr-x 1 root root 95K Sep 5 2021 chafa
-rwxr-xr-x 1 root shadow 71K Nov 24 2022 chage
lrwxrwxrwx 1 root root 10 Mar 1 2023 chardet -> chardetect
-rwxr-xr-x 1 root root 965 Dec 30 2020 chardetect
-rwxr-xr-x 1 root root 15K Jun 2 2022 chattr
```

```
mohammed@mohammed: ~/Desktop/ROS2/forth_lab
mohammed@mohammed: ~/Desktop/ROS2/forth_lab 80x25
mohammed@mohammed:~/Desktop/ROS2/forth_lab$ type c
Display all 152 possibilities? (y or n)
mohammed@mohammed:~/Desktop/ROS2/forth_lab$ type ca
cacaclock          cancel
cacademo           capsh
cacafire           captinfo
cacaplay           case
cacaserver         cat
cacaview           catkin_create_pkg
caf                catkin_find_pkg
caf.openmpi        catkin_generate_changelog
cafrun             catkin_package_version
cafrun.openmpi     catkin_prepare_release
cal                catkin_tag_changelog
calibrate_ppa      catkin_test_changelog
caller            catman
canberra-gtk-play  cautious-launcher
mohammed@mohammed:~/Desktop/ROS2/forth_lab$ type cat
cat is /usr/bin/cat
mohammed@mohammed:~/Desktop/ROS2/forth_lab$
mohammed@mohammed:~/Desktop/ROS2/forth_lab$ type caf
caf is /usr/bin/caf
mohammed@mohammed:~/Desktop/ROS2/forth_lab$
```

12- used for list all commands related to the keyword you provided