Linux Book from Kaniyam Students

None

None

None

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0.1 addgroup

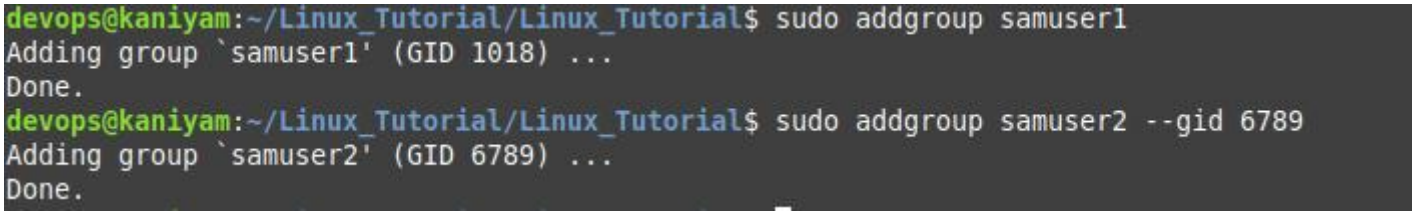
addgroup - add group to the system To add a new group

```
sudo addgroup <group_name>
```

To add a new group with specified group id

```
sudo addgroup group_name --gid 6789
```

0.2 Screenshots



1. Cat

cat command is used to concatenate files and print them to the standard output.

To display contents of file

```
cat /etc/group
```

To view contents of multiple files

```
cat file3.txt file4.txt
```

To create a file with cat command

```
cat > file5.txt
```

CTRL+D to save the file

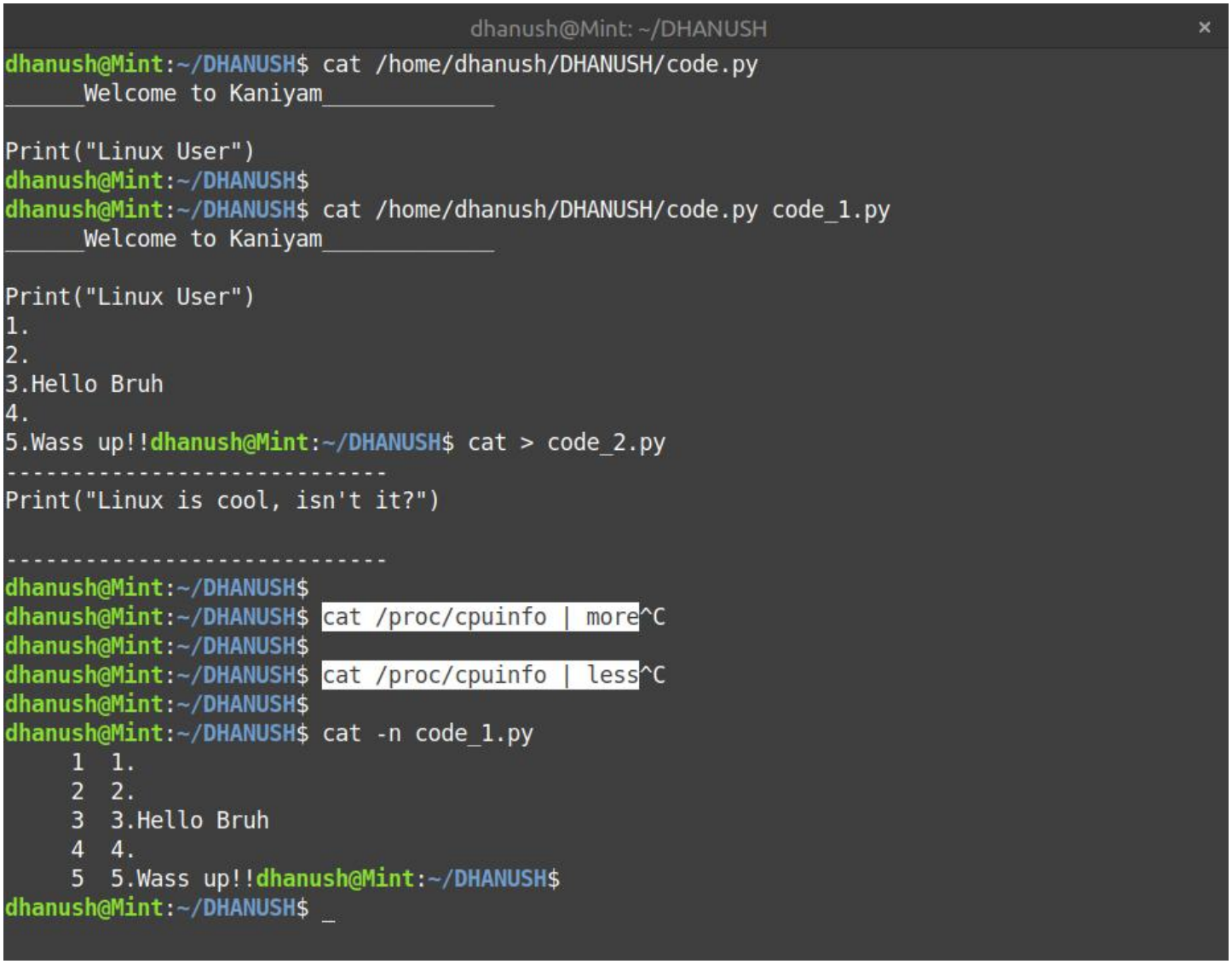
To view cat command with large file size

```
cat /proc/cpuinfo | more cat /proc/cpuinfo | less
```

To display line numbers in file

```
cat -n number.txt
```

1.0.1 Screenshot



1.1 cd

cd - change directory A change current directory to /usr/share

```
cd /usr/share/
```

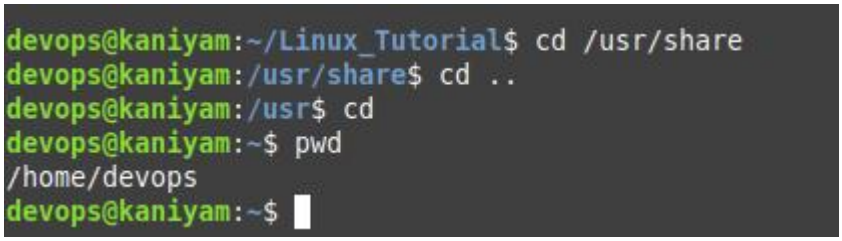
To change current directory to parent directory

```
cd ..
```

To change to home directory

```
cd
```

1.2 Screenshot



1.3 30. cut

`cut` command extracts and print sections from each line of files

```
cat >cut.txt
```

```
Alpha is first line Bravo is second line Charlie is third line Delta is fourth line
```

To display 1st character from each line of a file

```
cut -c1 cut.txt
```

To display 2nd character from each line of a file

```
cut -c2 cut.txt
```

To extract first 3 characters of each line from file.txt

```
cut -c1-3 cut.txt
```

To extract 7 characters from the beginning of each line

```
cut -c-7 cut.txt
```

2. Date

Date command is used to display date.

```
date
```

To display the time in GMT/UTC time zone

```
date -u
```

To display past dates

```
date --date="3 year ago" date --date="1 month ago"
```

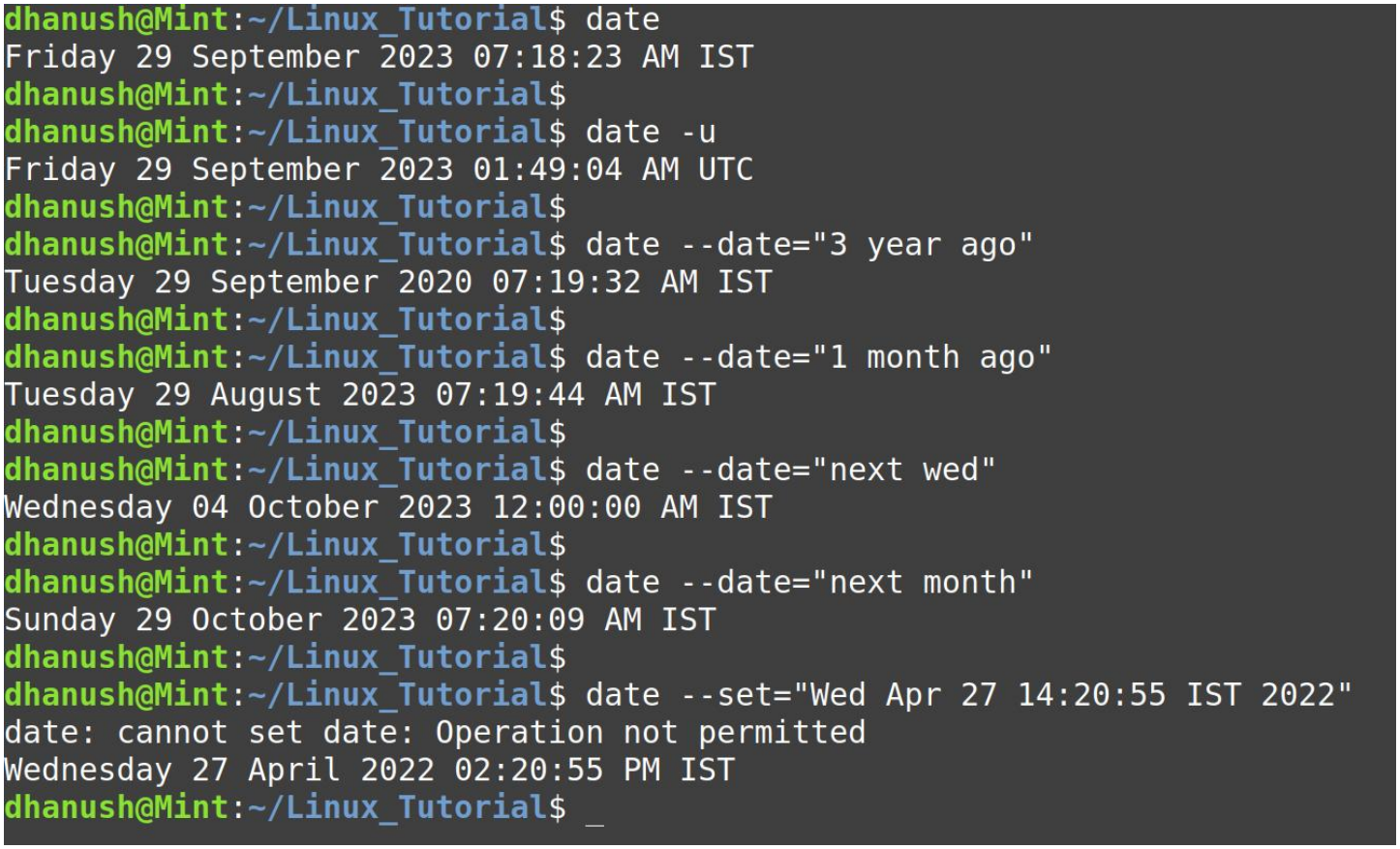
To display future date

```
date --date="next wed" date --date="next month"
```

To set the system date and time
Note: Need root permission hence use **sudo**.

```
date --set="Wed Apr 27 14:20:55 IST 2022"
```

2.0.1 Screenshot

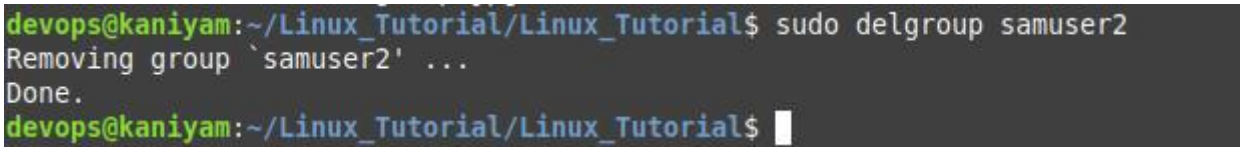


2.1 delgroup

delgroup - remove a group from the system To remove a group

```
sudo delgroup group_name
```

2.2 Screenshot



3. deluser

- deluser - remove a user or group from the system

To delete an user account

```
$ sudo deluser user_name
```

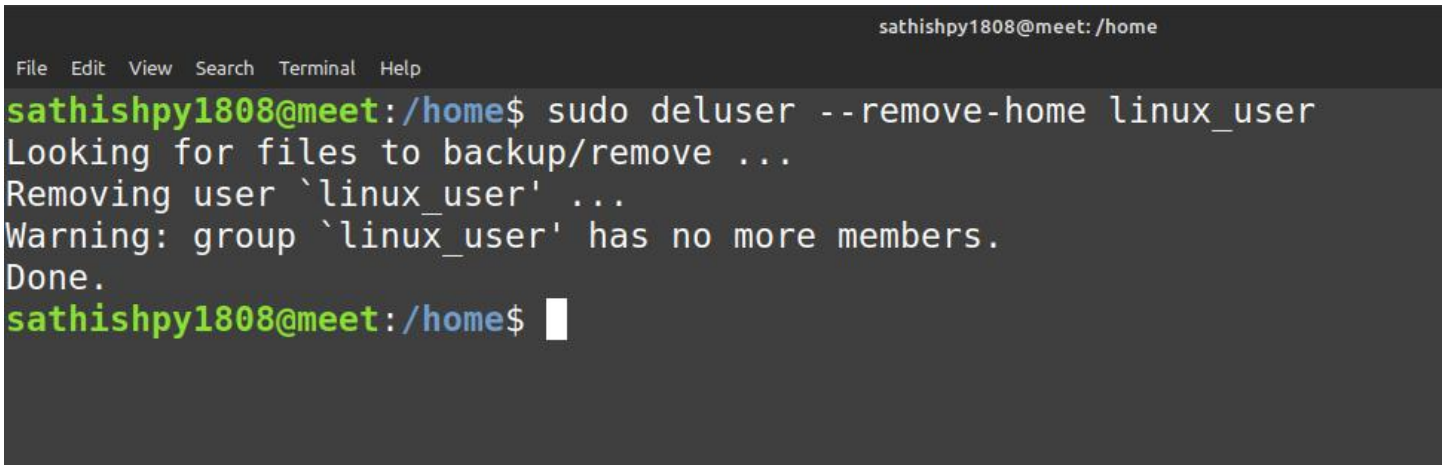
To delete or account including deleting home directory

```
$ sudo deluser --remove-home user_name
```

To delete account even while the user logged in

```
$ sudo deluser --force <user_name>
```

3.1 Screenshot



3.1.1 26. df

df - report file system disk space usage

```
df
```

To display all the file system

```
df -a
```

To display size in human readable format

```
df -h /home/
```

To get complete grand total

```
df -h --total
```

To display file type

```
df -T /home/ilugc
```

To display disk space usage of current dir

```
df -Th
```

4. echo

echo - display a line of text

`echo [string]`

with double quotes

`echo "Welcome to Linux"`

with single quotes

`echo ‘Welcome to FOSS’`

without quotes

`echo Welcome to Kaniyam`

4.1 Screenshot

```
dhanush@Mint:~/Linux_Tutorial/screenshots$
dhanush@Mint:~/Linux_Tutorial/screenshots$ echo "Welcome to Linux"
Welcome to Linux
dhanush@Mint:~/Linux_Tutorial/screenshots$
dhanush@Mint:~/Linux_Tutorial/screenshots$ echo ‘Welcome to FOSS’
‘Welcome to FOSS’
dhanush@Mint:~/Linux_Tutorial/screenshots$
dhanush@Mint:~/Linux_Tutorial/screenshots$ echo Welcome to Kaniyam
Welcome to Kaniyam
dhanush@Mint:~/Linux_Tutorial/screenshots$ _
```

4.1.1 24. env

env - runs a program in a modified environment To print out a list of all environment variables `env`

env

4.1.2 25. export

export - It is used to mark variables and functions to be passed on to child processes To display all exported variables

```
export
```

To view all exported variables on the current shell

```
export -p
```

Lets assign the variable ‘community’ with the value ‘ilugc’ and export it

```
community=ilugc
```

```
export community
```

check with command

```
printenv community
```

4.2 23. find

find - search for files in a particular directory hierarchical level.

To find all the files whose name is secret.txt in current working directory. (Notice "." period symbol after find which denotes to search in present/current directory/folder.

```
find . -name secret.txt
```

To find files in home directory

```
find /home -name secret.txt
```

To find all python files in a directory

```
find . -type f -name "*.py"
```

4.2.1 Screenshot

find

4.2.2 fmt

fmt - simple optimal text formatter Reformat each paragraph in the files, writing to standard output

```
cat fmt.txt
```

4.3 screenshots

fmt

4.4 grep

grep - print lines that match patterns

```
cat grep_example.txt This is line number one this is line number two THIS is line number three this is line 4 This is line 5
```

To search for the given string in a single file

```
grep "this" grep_example.txt
```

To check for the given string in multiple files

```
grep "this" grep_example.txt file2.txt
```

To search case insensitive using grep -i

```
grep -i "4" grep_example.txt
```

To count the number of matches using grep -c

```
grep -c this grep_example.txt
```

To show line number while displaying the output using grep -n

```
grep -n "this" grep_example.txt 56
```

4.4.1 Screenshot

4.5 groupadd

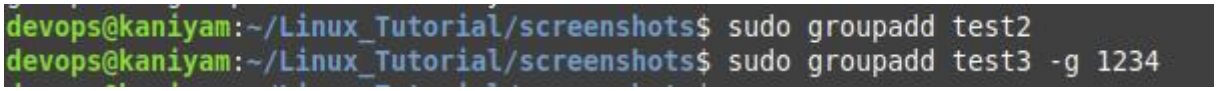
groupadd - create a new group To create a group

```
sudo groupadd group_name
```

To create a group with specific groupid

```
sudo groupadd <group_name> -g 1234
```

4.6 Screenshots

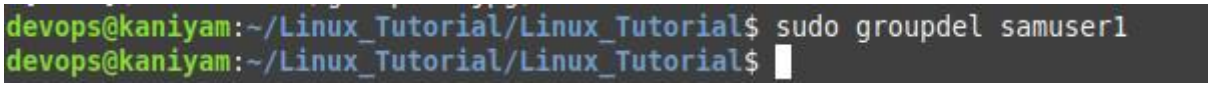


4.7 groupdel

groupdel - delete a group To delete a group

```
sudo groupdel group_name
```

4.8 Screenshots



4.9 groups

groups - print the groups a user is in

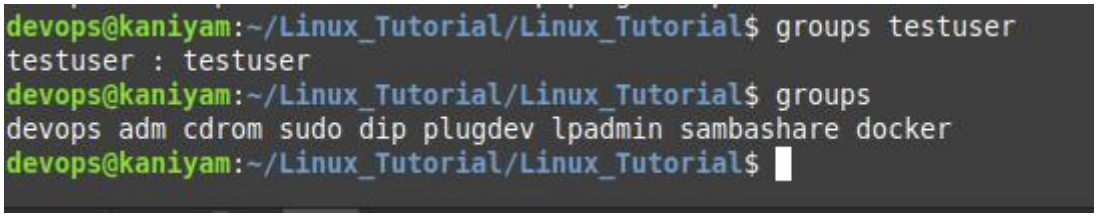
`groups [username]`

To display group membership for the current user

`groups`

To find groups of root

4.10 Screenshot



4.11 id

id - print real and effective user and group IDs To print your own id without any options

```
id
```

To find a specific users id

```
id -u <user_name>
```

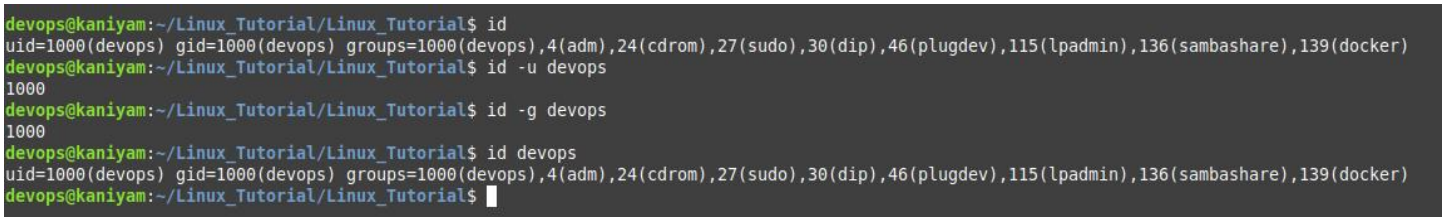
To find a specific users GID

```
id -g <user_name>
```

To find out UID and all groups associated with a username

```
id <user_name>
```

4.12 Screenshot



4.13 jobs

jobs - used to list the jobs running in the background

To run some jobs in background

```
ping google.com ctrl + z
```

```
man ls ctrl + z
```

To lists jobs running in background

```
jobs
```

To display jobs with process id

```
jobs -l
```

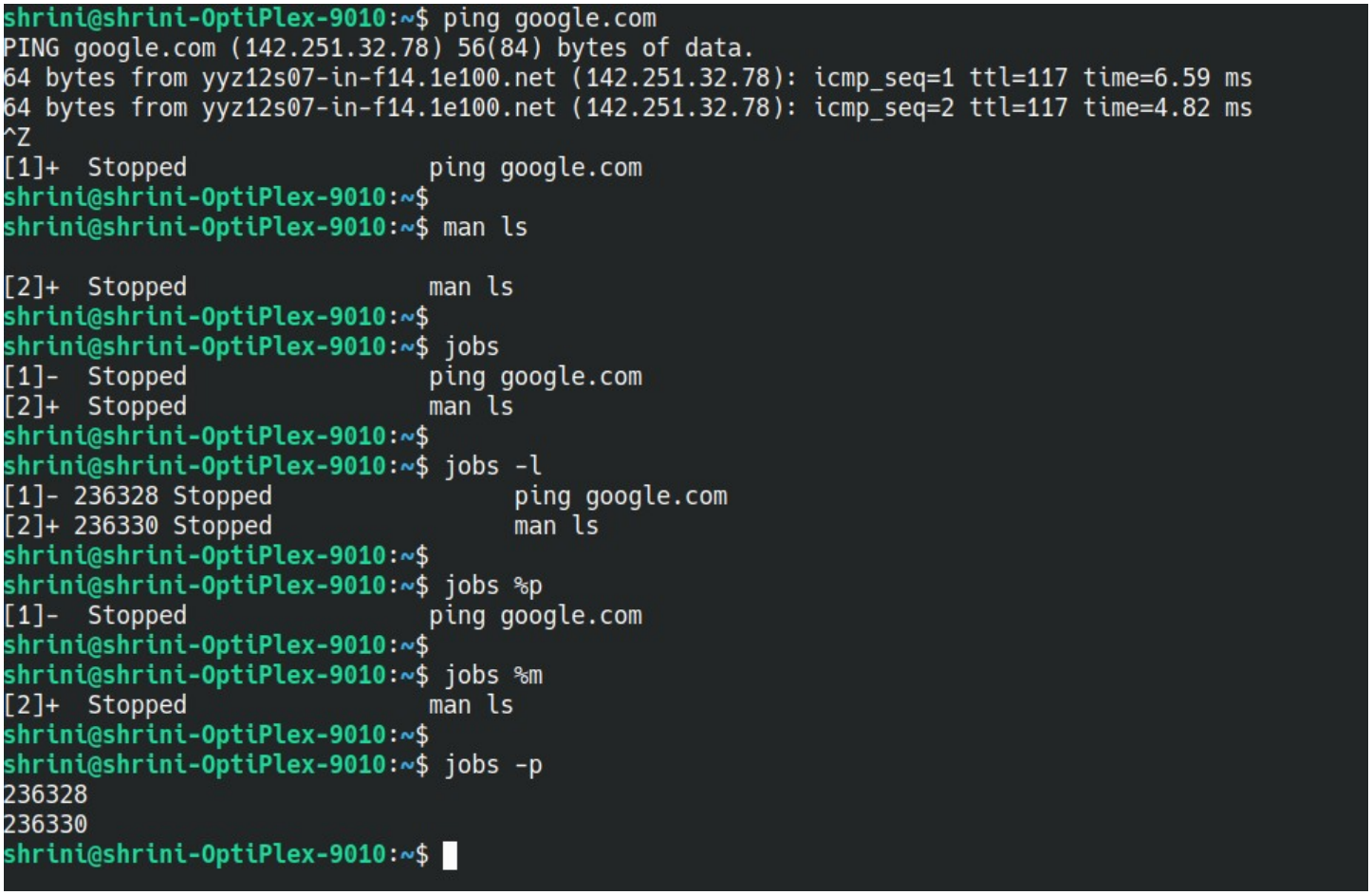
To display the process ID or jobs for the job whose name begins with “p” and “m”

```
jobs %p jobs %m
```

To display PIDs only

```
jobs -p
```

4.13.1 Screenshot



5. kill

which is used to send a SIGNAL to a process

To display all the available signals

```
$kill -l
```

To use PID with the kill command

```
$kill PID
```

To kill multiple processes at once

```
$kill <pid1> <pid2> <pid3>
```

To forcefully kill single process

```
$ kill -9 <pid>
```

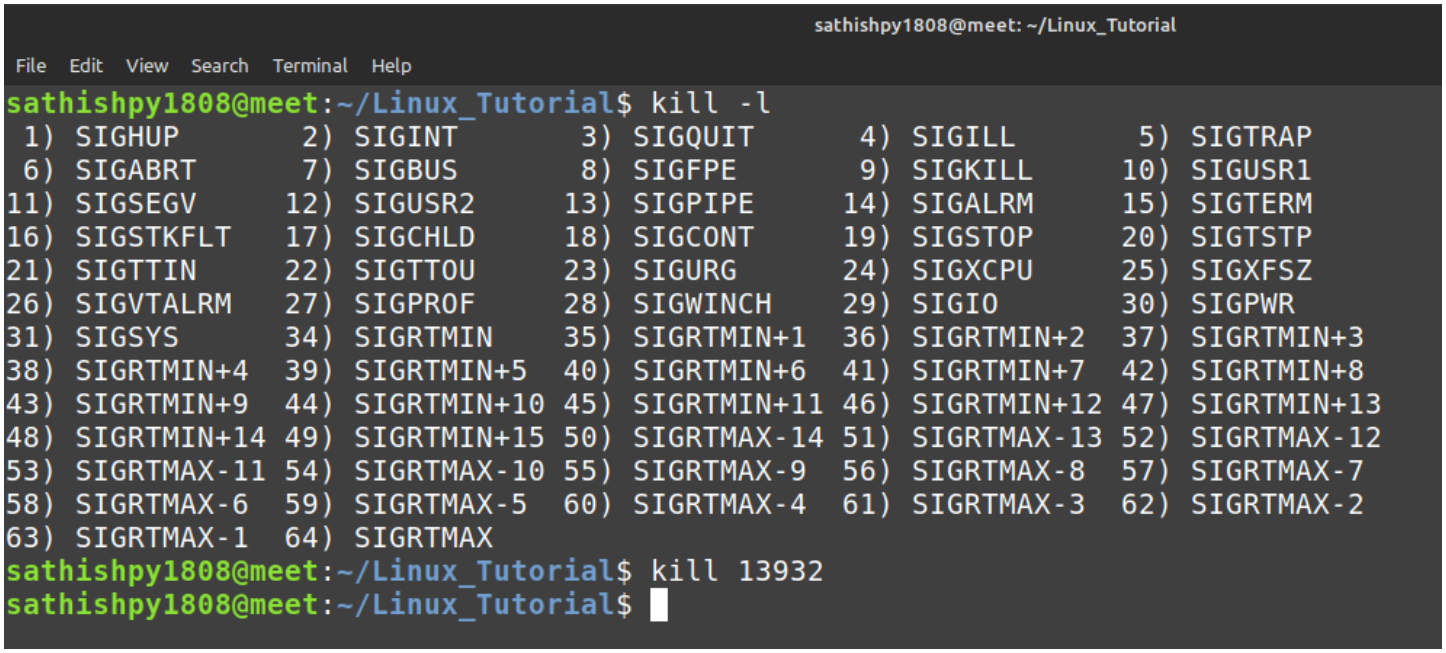
To forcefully kill multiple process

```
$ kill -9 <pid1> <pid2>
```

To find signal name

```
$ kill -l 3 $ kill -l 9 $ kill -l 15
```

5.1 Screenshot



5.2 27. less

less is used to read the contents inside a text file on terminal without opening the file with one page(one screen) at a time To read the text output in to the terminal of a file

```
less filename
```

```
less /proc/cpuinfo
```

5.3 ln

ln - creates the hard and symbolic links between the files. To create hard link with the name sample_link_file.txt

```
ln sample_file.txt sample_hardlink_file1.txt
```

```
ln sample_file.txt sample_hardlink_file2.txt
```

```
ln sample_file.txt sample_hardlink_file3.txt
```

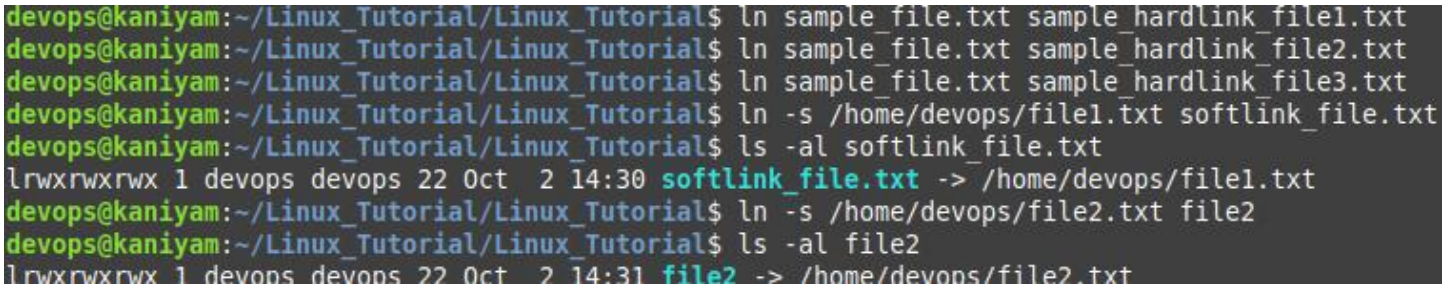
even the original file name sample_file.txt is deleted we can access the file with sample_hardlink_file1.txt, sample_hardlink_file2.txt, sample_hardlink_file3.txt To create symbolic or soft link to a file

```
ln -s /home/venus/Documents/file.txt softlink_file.txt ls -al softlink_file.txt
```

To create symbolic or soft link to a directory

```
ln -s /home/venus/music/ music ls -al music
```

5.4 Screenshot



5.5 locate

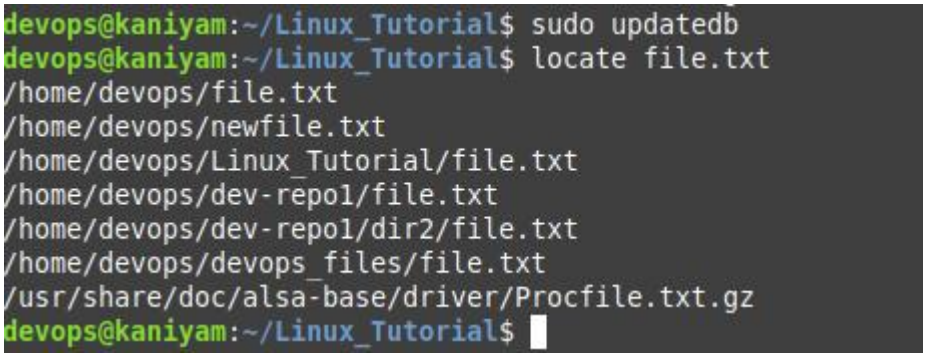
locate - find files by name, quickly To locate a file name

```
sudo updatedb
```

locate file_name create a file secret.txt in somewhere in system

```
locate secret.txt
```

5.6 Screenshot



6. ls

ls commmand is used to view the list of directory contents.

`ls`

To view the long listing of files

`ls -l`

To view the hidden files

`ls -a`

To view the list of files with human readable format

`ls -lh`

To view the list of Subdirectories recursively

`ls -R`

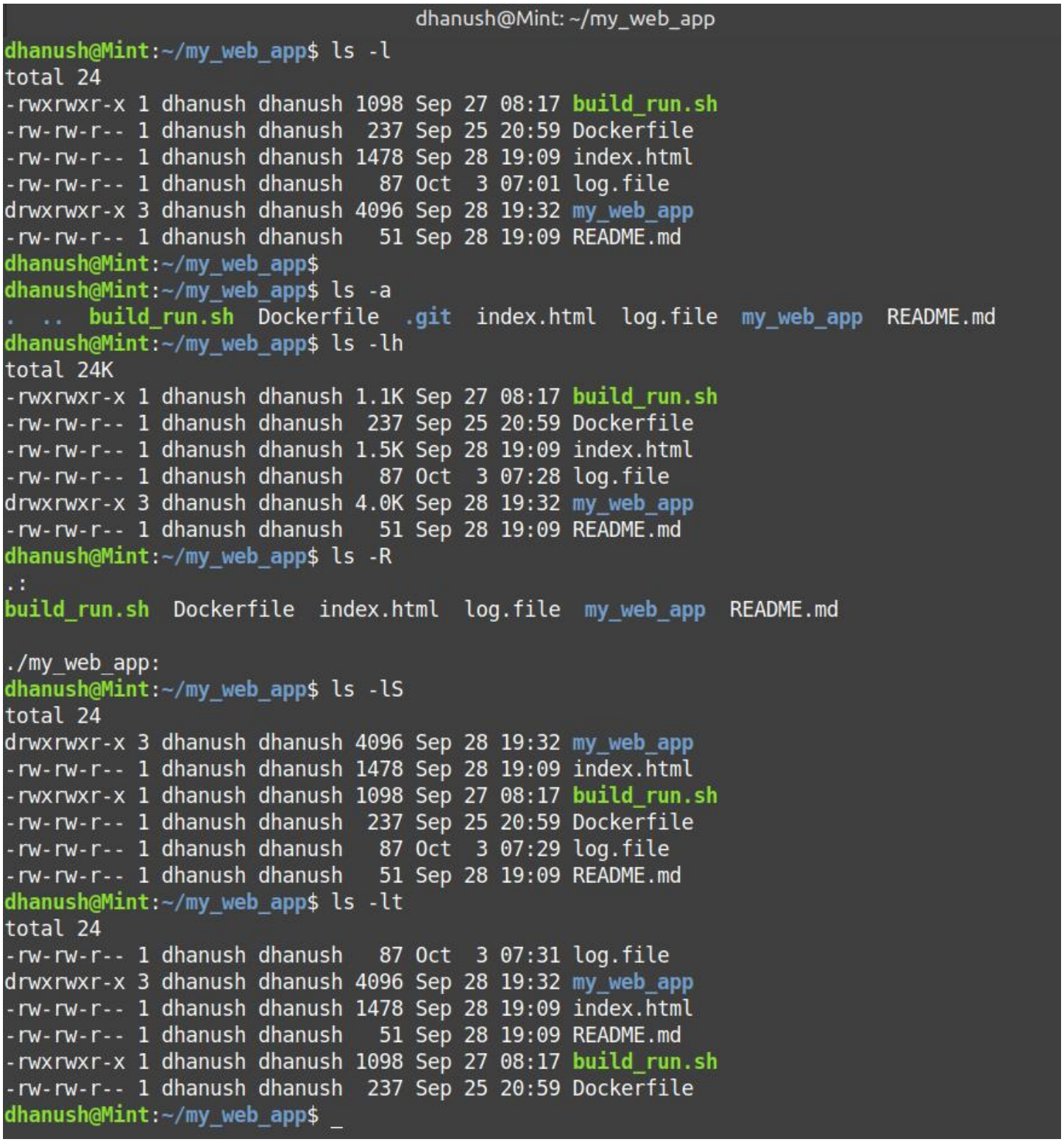
To view sorted files by file size

`ls -ls`

To view the order files based on last modified time

`ls -lt`

6.1 Screenshot

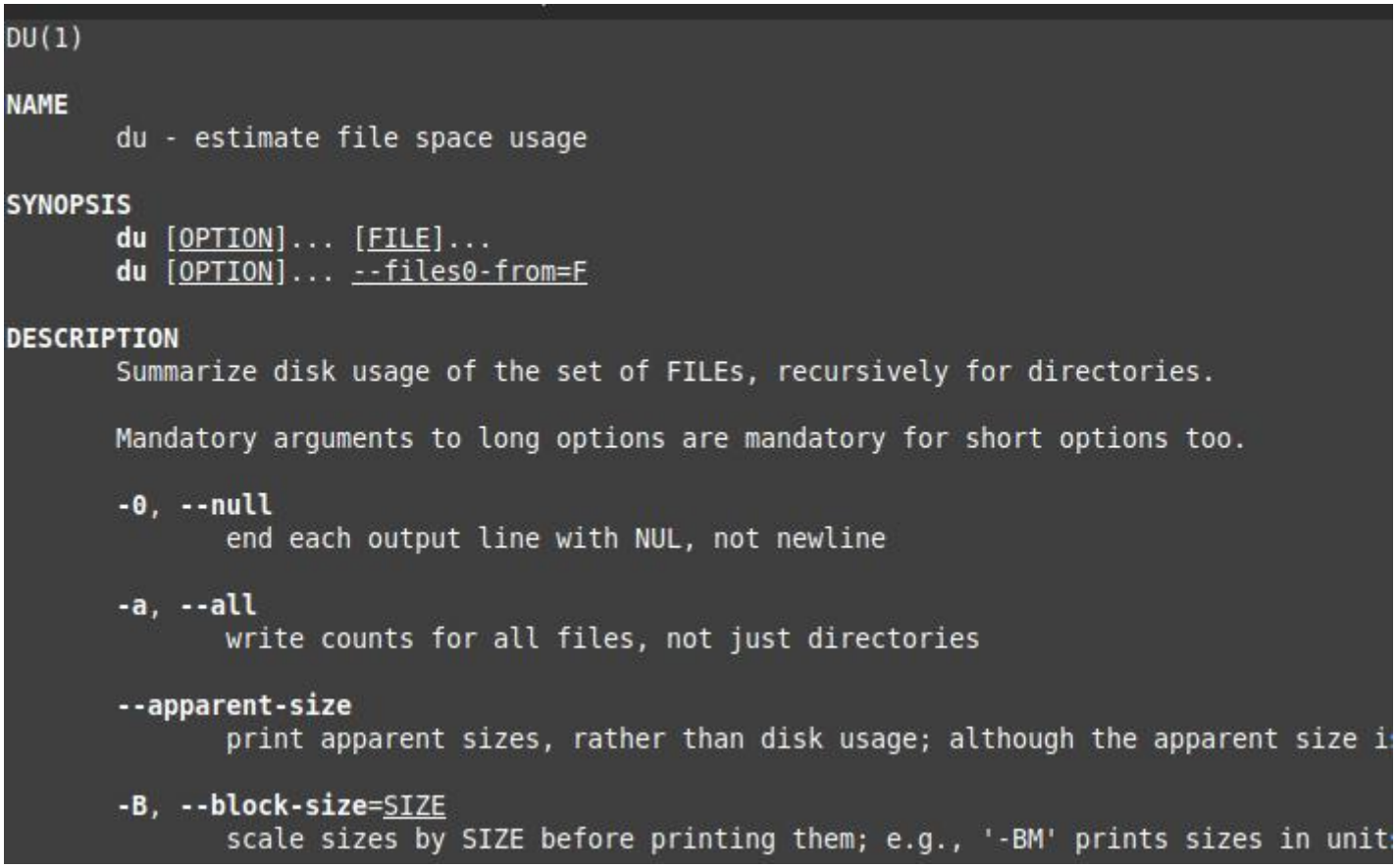


6.2 man

man - an interface to the system reference manuals

`man df man du man uptime`

6.3 Screenshot



6.4 mkdir

mkdir - make directories

To create a directory

```
mkdir dir1
```

To display verbose message for every directory created.

```
mkdir -v directory_1 directory_2 directory_3
```

To create multiple directories

```
mkdir {dir1,dir2,dir3}
```

To create parent directories

```
mkdir -p /dir_1/dir_2/dir_3 mkdir -p -v /dir_1/dir_2/dir_3
```

To set permissions for the directories

```
mkdir -m a=rwx [directory_name] mkdir -m777 dir_1 mkdir -m755 dir_2 mkdir -m766 dir_3
```

6.5 Screenshot

```
devops@kaniyam:~/Linux_Tutorial$ mkdir s1
devops@kaniyam:~/Linux_Tutorial$ mkdir sam1 sam2 sam3
devops@kaniyam:~/Linux_Tutorial$ mkdir {sampl1,sampl2,sampl3}
devops@kaniyam:~/Linux_Tutorial$ mkdir -p /sa1/sa2/sa3
devops@kaniyam:~/Linux_Tutorial$ mkdir -p sa1/sa2/sa3
devops@kaniyam:~/Linux_Tutorial$ mkdir -p -v sa1/sa2/sa3
devops@kaniyam:~/Linux_Tutorial$ ls s*
s1:

sa1:
sa2

sam1:

sam2:

sam3:

sampl1:

sampl2:

sampl3:
```

7. nice

Run a program with modified scheduling priority

- ‘nicer’ processes require fewer resources
- Nice value ranges from +19(very nice) to −20 (not very nice)
- Non-root users can only specify values from 1 to 19
- the root user can specify the full range of values

To check all nice values of all processes

```
$ top
```

To check the nice value of htop process

```
$ ps -el | grep htop
```

To set the priority of a process

```
$ nice -n <number><process name> $ nice -10 htop
```

To set the negative priority for a process

```
$ sudo nice --n <number><process name> $ sudo nice --10 htop
```

7.1 Screenshot

nice

8. passwd

- passwd - change user password

To change system user’s password

```
$ passwd
```

To change password for root

```
$ sudo passwd root
```

To display user status Information

```
$ sudo passwd -S <user_name>
```

To display information of all users

```
$ sudo passwd -Sa
```

8.1 Screenshot

9. pidof

find the process ID of a running program

To find the PID of any service

```
$pidof chrome $pidof firefox $pidof top
```

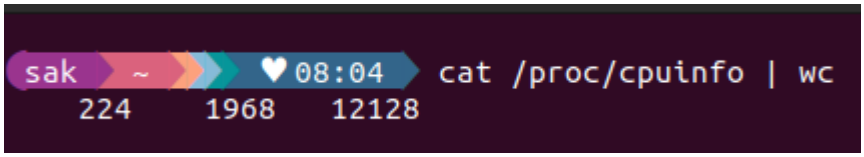
9.1 Screenshot

pidof

1. | piping To find wc of file /proc/cpuinfo

```
cat /proc/cpuinfo | wc
```

9.1.1 Screenshot



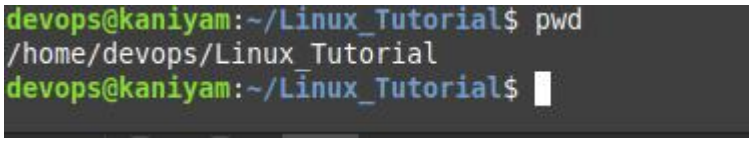
9.2 pwd

pwd - print name of current/working directory

To get working directory path

```
pwd
```

9.3 Screenshot



9.4 rmdir

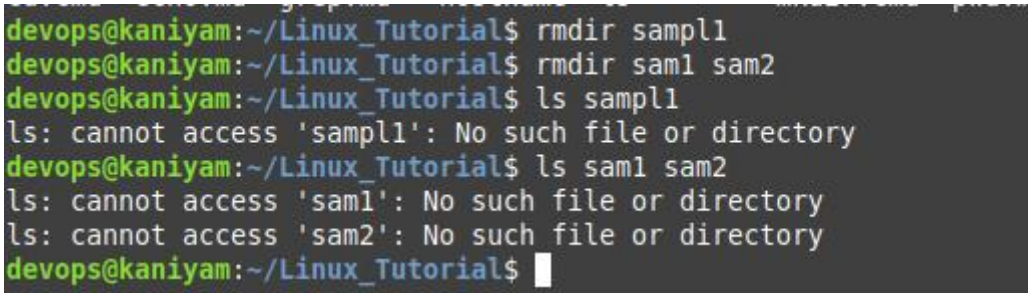
rmdir - remove empty directories To remove a single empty directory

```
rmdir sample_dir1
```

To remove multiple directories using rmdir

```
rmdir sample_dir1 sample_dir2
```

9.5 Screenshot



9.5.1 28. sort

sort command is used to sort the text inside a file and printing the records in a particular order

```
cat >unordered.txt
```

Paste the below texts in terminal after typing above command

```
assam tamilnadu chattisgarh delhi gujarat delhi himachal pradesh kerala bihar
```

To print the output of unordered.txt file sorted in alphabetical order

```
sort unordered.txt
```

To Save the output printed on terminal to a file

```
sort unordered.txt > ordered_output.txt
```

To Sort Multiple Files

```
sort file1.txt file2.txt
```

To Sort in Reverse Order

```
sort -r unordered.txt
```

To Remove Duplicate Entries

```
sort -u unordered.txt
```

9.6 stat

stat - display file or file system status To view the file details

```
stat file.txt
```

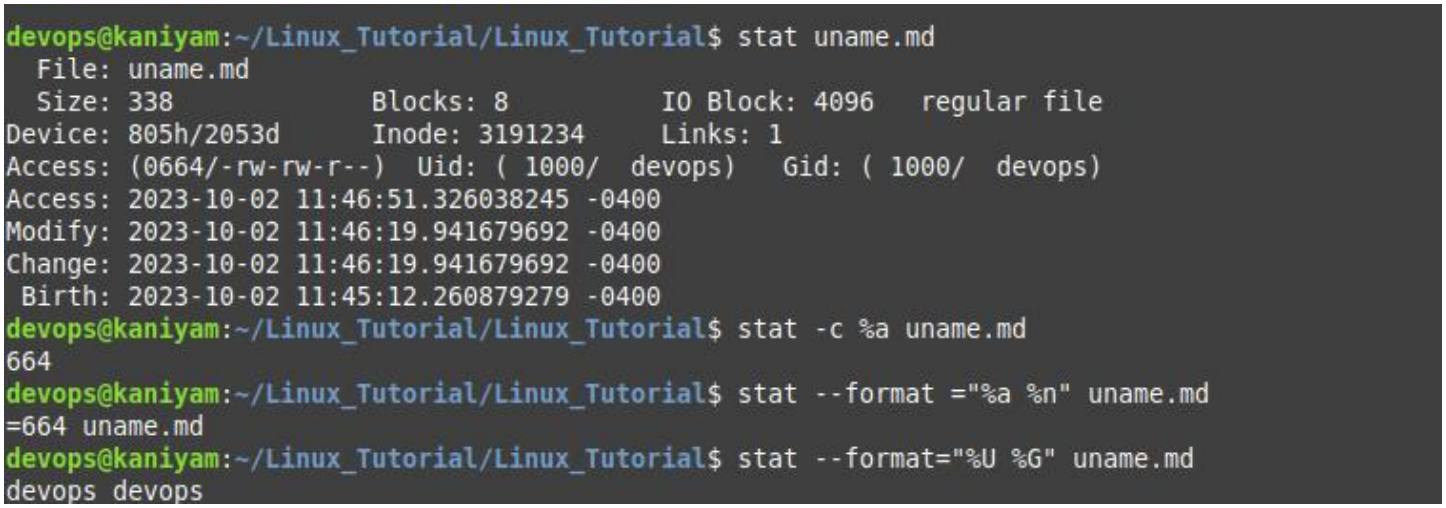
To Show only octal file permissions

```
stat -c %a file.txt stat --format="%a %n" file.txt
```

To Show the owner and group of a file

```
stat --format="%U %G" file.txt
```

9.7 Screenshot



9.8 uname

uname - print system information

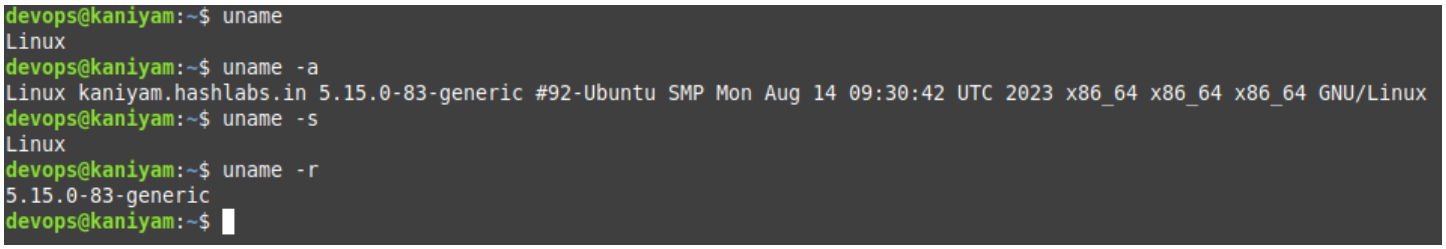
To print uname without options

`uname`

To print all information

`uname -a`

9.9 Screenshot`



9.9.1 29. uniq

`uniq` is used to print or filter out repeated values in a file.

```
cat raw.txt
```

copy and paste the below text after printing above command into the terminal

```
redhat debian ubuntu ubuntu centos fedora fedora fedora fedora
```

To print or filter out for repeated or duplicate texts

```
uniq uniq.txt
```

To only print unique non-repeated lines or text

```
uniq -u uniq.txt
```

To count the number of occurrences of a value/text

```
uniq -c uniq.txt
```

To only print duplicate lines with their number of occurrence

```
uniq -d uniq.txt
```

To print all duplicate lines/text values alone

```
uniq -D demo.txt
```

9.10 unlink

unlink - call the unlink function to remove the specified file

syntax

```
unlink filename unlink dir_name
```

To create hard link with the name sample_link_file.txt

```
ln sample_file.txt sample_hardlink_file1.txt
```

To delete the hardlink

```
unlink sample_hardlink_file1.txt
```

To create symbolic or soft link to a file

```
ln -s /home/venus/Documents/file.txt softlink_file.txt
```

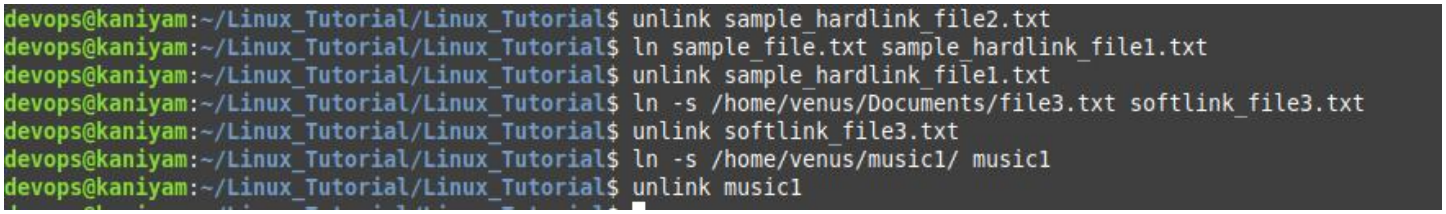
To delete the symbolic link

```
unlink softlink_file.txt
```

To delete the symbolic link for directory

```
ln -s /home/venus/music/ music unlink music
```

9.11 Screenshot



9.12 uptime

uptime -It tells how long the system has been running

uptime command without any options

```
uptime
```

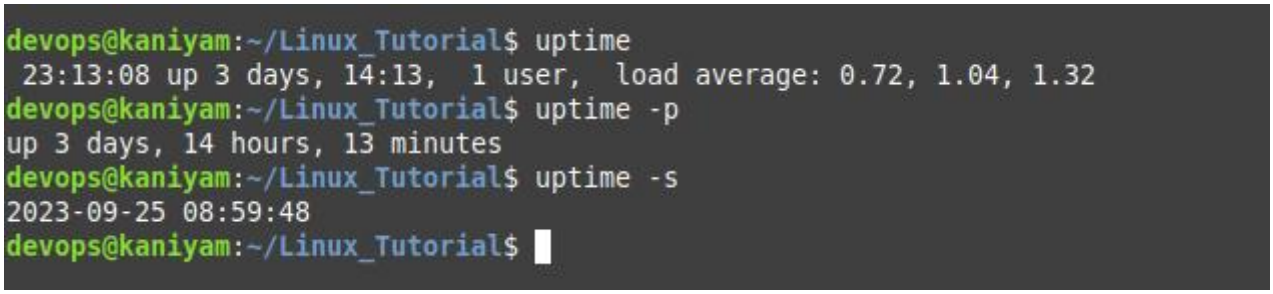
To show uptime in pretty format

```
uptime -p
```

To display the date/time since when the system has been running

```
uptime -s
```

9.13 Screenshot



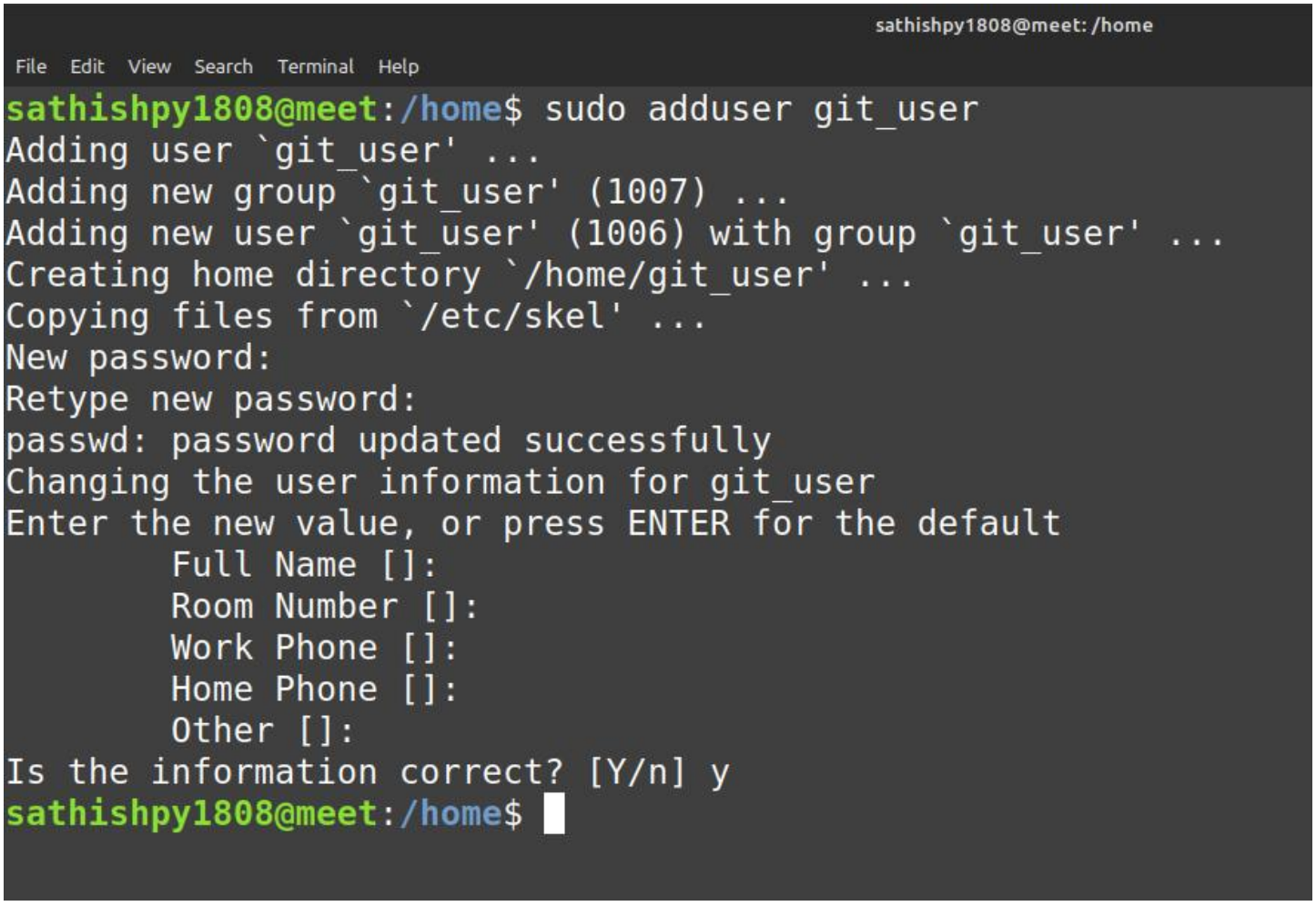
10. adduser

- add a user to the system

To add a new user

```
$ adduser user_name
```

10.1 Screenshot



11. userdel

- userdel - delete a user account and related files

To delete a user account

```
$ sudo userdel user_name
```

To remove the user's home directory and mail spool

```
$ sudo userdel -r user_name
```

To forcefully remove the user account

```
$ sudo userdel -f user_name
```

11.1 Screenshot

11.2 usermod

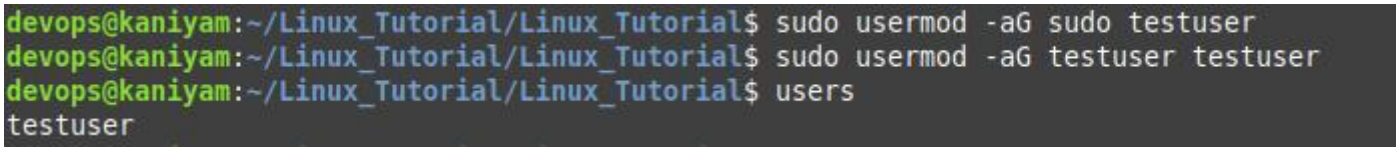
usermod - modify a user account To add a user to sudo group

```
sudo usermod -aG sudo <user_name>
```

To add group to an existing user

```
sudo usermod -aG group_name user_name
```

11.3 Screenshot



11.4 22 vim - Vi IMproved, a programmer's text editor

To create a file from your terminal, type

```
vim filename
```

Vim has two mode "visual" & "editing" mode

To go into insert/editing mode press key "i"

Once in insert/edit mode, start writing the content in the file. when done editing, press "Esc" Key to bring back to visual mode.

Then, press keys in order `:wq!` to save and exit the file or (simple alternate keys to save & exit) after switching to visual mode type `:x`

To quit from the file without saving, after switching to visual mode `:q!`

11.4.1 Screenshot

vim

11.5 wc

wc - print newline, word, and byte counts for each file wc without options will display (number of lines),(number of words) and (number of bytes) of the file

`wc file.txt`

To Count Number of Lines

`wc -l file.txt`

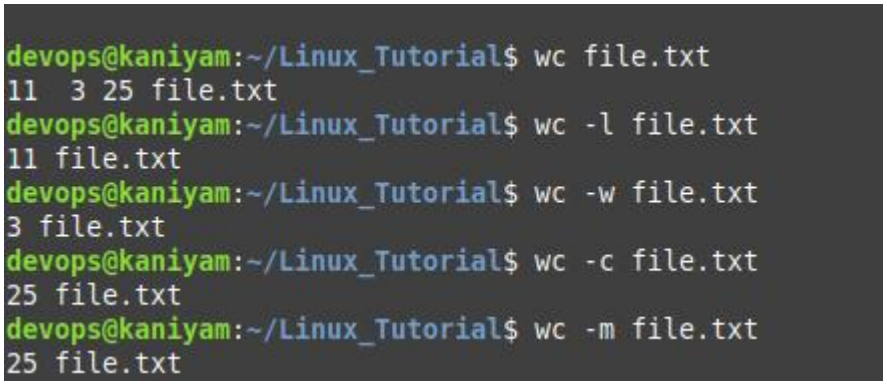
To Display Number of Words

`wc -w file.txt`

To Count Number of Bytes and Characters

`wc -c file.txt wc -m file.txt`

11.6 Screenshot



11.7 who

who - show who is logged on To print who command output without options

`who`

To print same as -b -d --login -p -r -t -T -u

`who -a`

To check the current runlevel

`who -r`

To view the time of last system boot

`who -b`

11.8 Screenshot