Linux Commands with Examples

The Linux command is a utility of the Linux operating system. All basic and advanced tasks can be done by executing commands. The commands are executed on the **Linux terminal**. The terminal is a command-line interface to interact with the system, which is similar to the command prompt in the Windows OS. *Commands in Linux are* ***case-sensitive***.

Linux

provides a powerful command-line interface compared to other operating systems such as Windows

and MacOS. We can do basic work and advanced work through its terminal. We can do some basic tasks such as creating a file, deleting a file, moving a file, and more. In addition, we can also perform advanced tasks such as administrative tasks (including package installation, user management), networking tasks (ssh connection), security tasks, and many more.

Linux terminal is a user-friendly terminal as it provides various support options. To open the Linux terminal, press "**CTRL + ALT + T**" keys together, and execute a command by pressing the '**ENTER**' key.

In this topic, we will discuss the top 50 most frequently used Linux commands with their examples. These commands are very useful for a beginner and professional both. We have divided these commands into following sections so that you can easily identify their usage:

- Linux Directory Commands
- Linux File Commands
- Linux File Content Commands
- Linux User Commands
- Linux Filter Commands

- Linux Utility Commands

- Linux Networking Command

Linux Top 50 Commands

The following are the top 50 Linux commands:

Linux Directory Commands

1. pwd Command

The pwd

command is used to display the location of the current working directory.

Syntax:

1. pwd

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ pwd
/home/javatpoint
```

2. mkdir Command

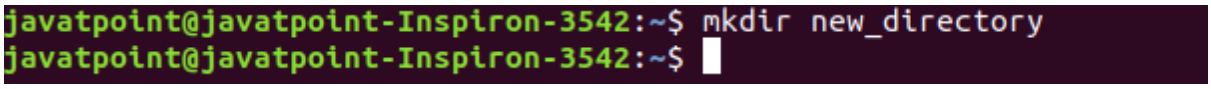
The mkdir

command is used to create a new directory under any directory.

Syntax:

1. mkdir **<directory** name**>**

Output:



3. rmdir Command

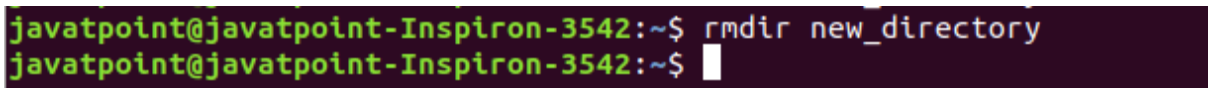
The rmdir

command is used to delete a directory.

Syntax:

1. rmdir **<directory** name**>**

Output:



4. ls Command

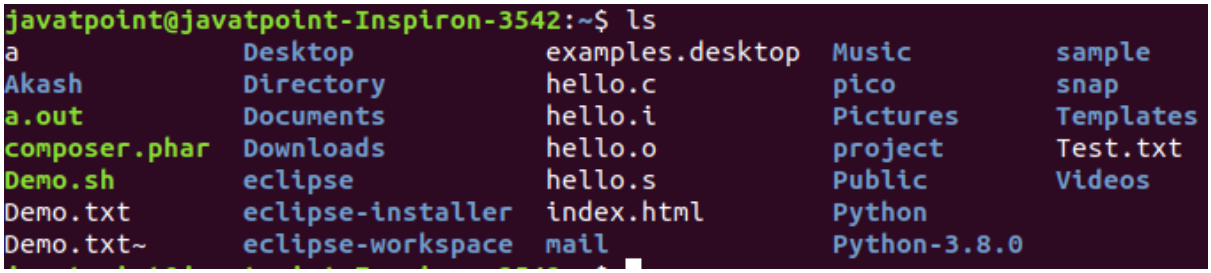
The ls

command is used to display a list of content of a directory.

Syntax:

1. ls

Output:



5. cd Command

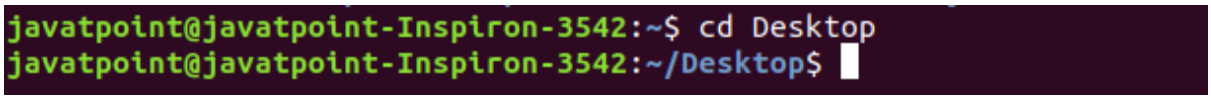
The cd

command is used to change the current directory.

Syntax:

1. cd **<directory** name**>**

Output:



Linux File commands

6. touch Command

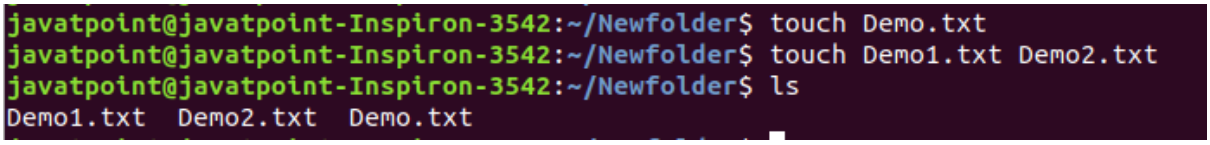
The touch

command is used to create empty files. We can create multiple empty files by executing it once.

Syntax:

1. touch **<file** name**>**
2. touch **<file1>** **<file2>** ....

Output:



7. cat Command

The cat

command is a multi-purpose utility in the Linux system. It can be used to create a file, display content of the file, copy the content of one file to another file, and more.

Syntax:

1. cat [OPTION]... [FILE]..

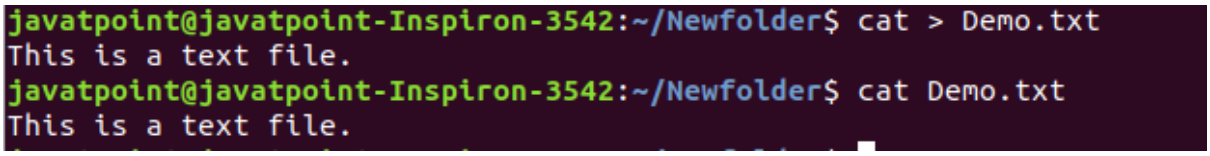
To create a file, execute it as follows:

1. cat **>** **<file** name**>**
2. // Enter file content

Press "**CTRL+ D**" keys to save the file. To display the content of the file, execute it as follows:

1. cat **<file** name**>**

Output:



8. rm Command

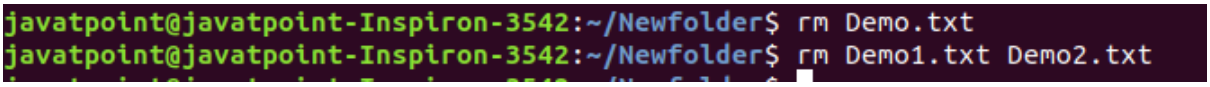
The rm

command is used to remove a file.

Syntax:

rm <file name>

Output:



9. cp Command

The cp

command is used to copy a file or directory.

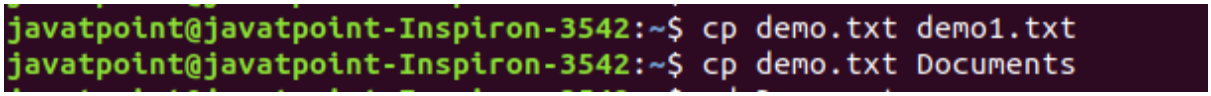
Syntax:

To copy in the same directory:

1. cp **<existing** file name**>** **<new** file name**>**

To copy in a different directory:

Output:



10. mv Command

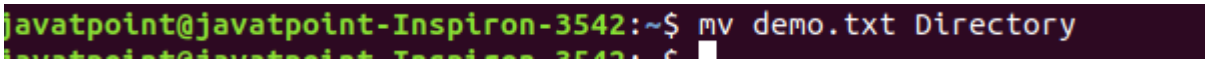
The mv

command is used to move a file or a directory form one location to another location.

Syntax:

1. mv **<file** name**>** **<directory** path**>**

Output:



11. rename Command

The rename

command is used to rename files. It is useful for renaming a large group of files.

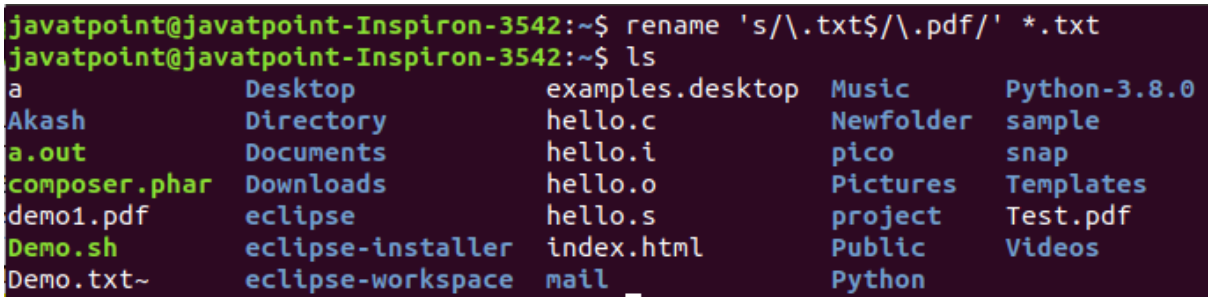
Syntax:

1. rename 's/old-name/new-name/' files

For example, to convert all the text files into pdf files, execute the below command:

1. rename 's/\.txt$/\.pdf/' *.txt

Output:



Linux File Content Commands

12. head Command

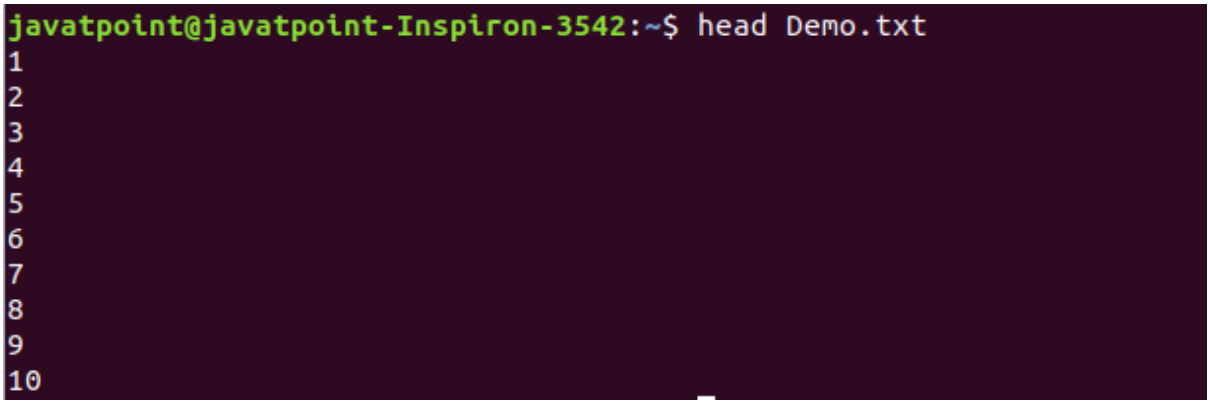
The head

command is used to display the content of a file. It displays the first 10 lines of a file.

Syntax:

1. head **<file** name**>**

Output:



13. tail Command

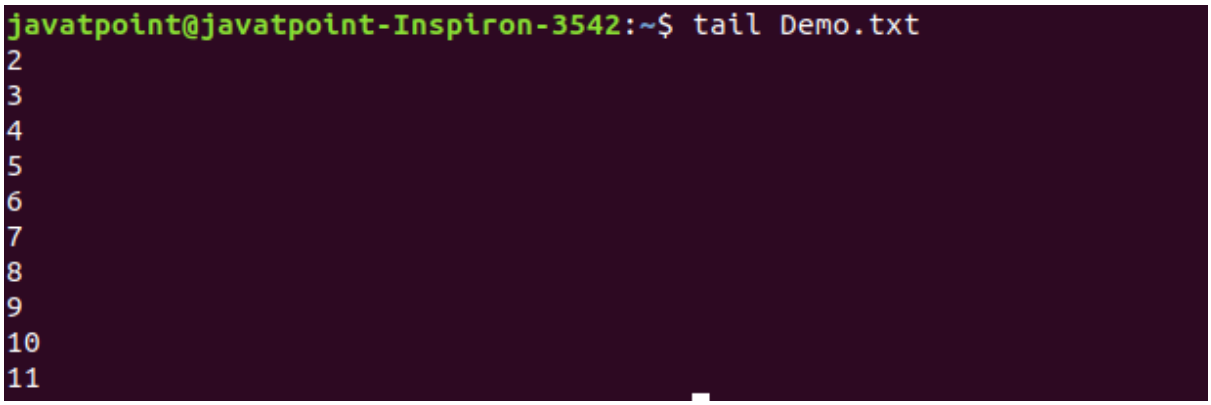
The tail

command is similar to the head command. The difference between both commands is that it displays the last ten lines of the file content. It is useful for reading the error message.

Syntax:

1. tail **<file** name**>**

Output:



14. tac Command

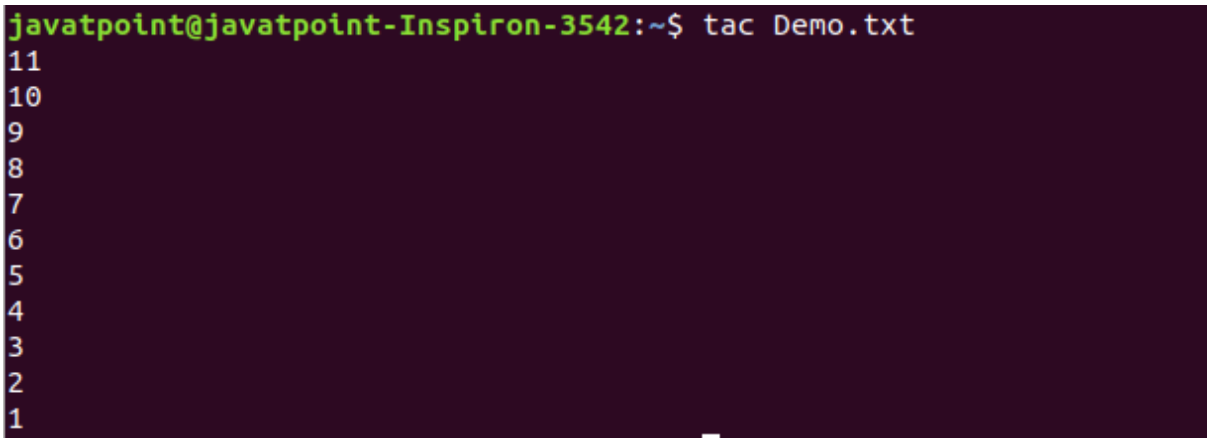
The tac

command is the reverse of cat command, as its name specified. It displays the file content in reverse order (from the last line).

Syntax:

1. tac **<file** name**>**

Output:



15. more command

The more

command is quite similar to the cat command, as it is used to display the file content in the same way that the cat command does. The only difference between both commands is that, in case of larger files, the more command displays screenful output at a time.

In more command, the following keys are used to scroll the page:

ENTER key: To scroll down page by line.

Space bar: To move to the next page.

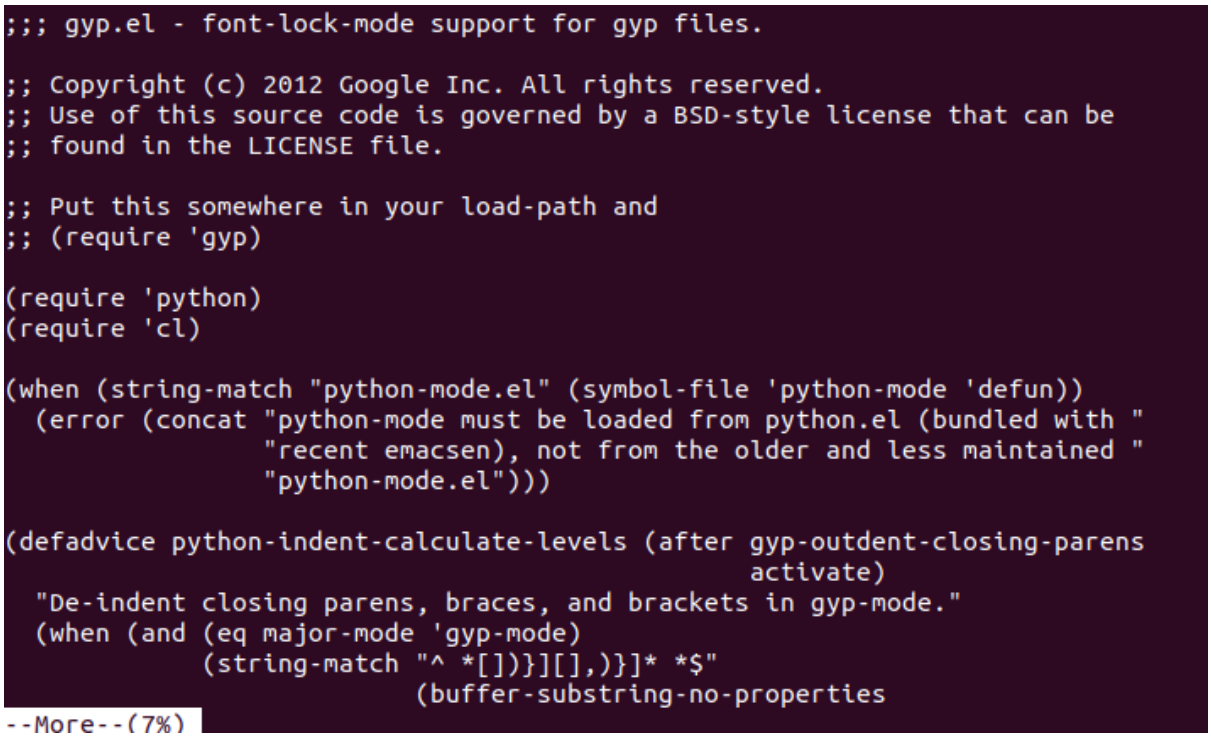
b key: To move to the previous page.

/ key: To search the string.

Syntax:

1. more **<file** name**>**

Output:



16. less Command

The less

command is similar to the more command. It also includes some extra features such as 'adjustment in width and height of the terminal.' Comparatively, the more command cuts the output in the width of the terminal.

Syntax:

1. less **<file** name**>**

Output:

```
;;; gyp.el - font-lock-mode support for gyp files.

;; Copyright (c) 2012 Google Inc. All rights reserved.
;; Use of this source code is governed by a BSD-style license that can be
;; found in the LICENSE file.

;; Put this somewhere in your load-path and
;; (require 'gyp)

(require 'python)
(require 'cl)

(when (string-match "python-mode.el" (symbol-file 'python-mode 'defun))
  (error (concat "python-mode must be loaded from python.el (bundled with "
                 "recent emacsen), not from the older and less maintained "
                 "python-mode.el")))

(defadvice python-indent-calculate-levels (after gyp-outdent-closing-parens
                                                 activate)
```

Linux User Commands

17. su Command

The su

command provides administrative access to another user. In other words, it allows access of the Linux shell to another user.

Syntax:

1. su **<user** name**>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ su javatpoint
Password:
javatpoint@javatpoint-Inspiron-3542:~$
```

18. id Command

The id

command is used to display the user ID (UID) and group ID (GID).

Syntax:

1. id

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ id
uid=1000(javatpoint) gid=1000(javatpoint) groups=1000(javatpoint),4(adm),24(cdro
m),27(sudo),30(dip),46(plugdev),116(lpadmin),126(sambashare)
javatpoint@javatpoint-Inspiron-3542:~$
```

19. useradd Command

The useradd

command is used to add or remove a user on a Linux server.

Syntax:

1. useradd username

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ sudo useradd JTP
[sudo] password for javatpoint:
javatpoint@javatpoint-Inspiron-3542:~$
```

20. passwd Command

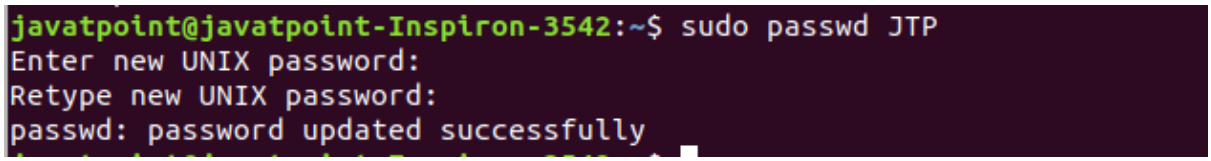
The passwd

command is used to create and change the password for a user.

Syntax:

1. passwd **<username>**

Output:



21. groupadd Command

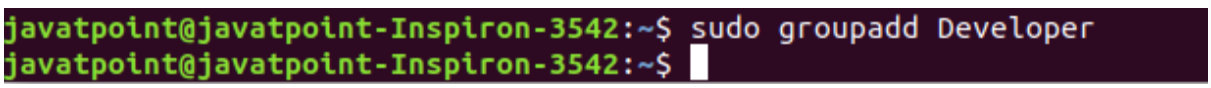
The groupadd

command is used to create a user group.

Syntax:

1. groupadd **<group** name**>**

Output:



Linux Filter Commands

22. cat Command

The cat

command is also used as a filter. To filter a file, it is used inside pipes.

Syntax:

1. cat **<fileName>** | cat or tac | cat or tac |. . .

Output:

23. cut Command

The cut

command is used to select a specific column of a file. The '-d' option is used as a delimiter, and it can be a space (' '), a slash (/), a hyphen (-), or anything else. And, the '-f' option is used to specify a column number.

Syntax:

1. cut -d(delimiter) -f(columnNumber) **<fileName>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ cat >marks.txt
alex-50
alen-70
jon-75
carry-85
celena-90
justin-80
javatpoint@javatpoint-Inspiron-3542:~$ cut -d- -f2 marks.txt
50
70
75
85
90
80
javatpoint@javatpoint-Inspiron-3542:~$
```

24. grep Command

The grep

is the most powerful and used filter in a Linux system. The 'grep' stands for "**global regular expression print**." It is useful for searching the content from a file. Generally, it is used with the pipe.

Syntax:

1. command | grep **<searchWord>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ cat marks.txt | grep 9
celena-90
```

25. comm Command

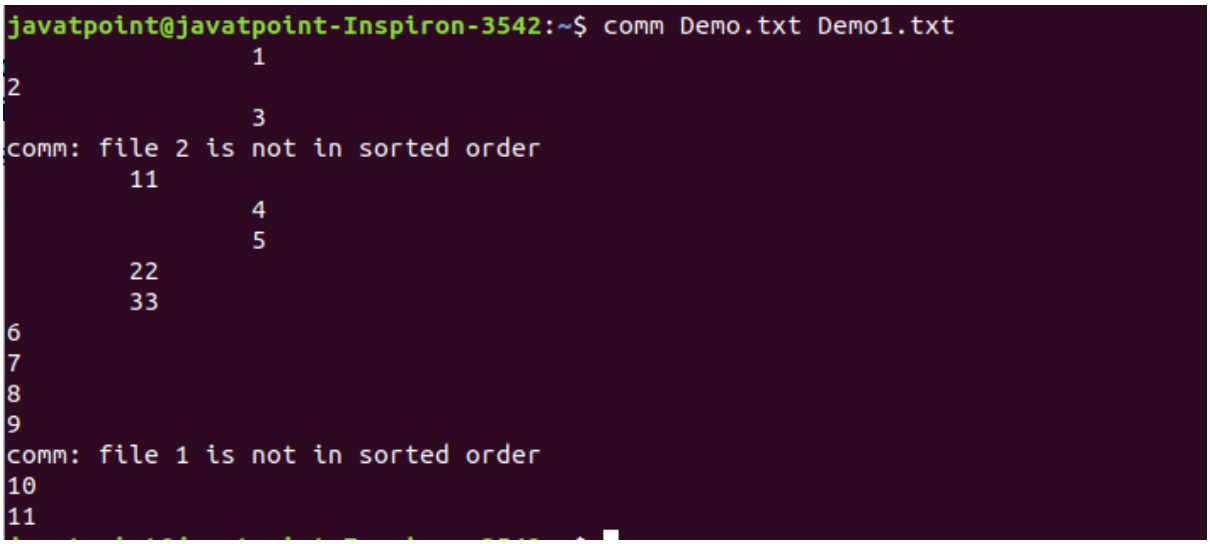
The 'comm'

command is used to compare two files or streams. By default, it displays three columns, first displays non-matching items of the first file, second indicates the non-matching item of the second file, and the third column displays the matching items of both files.

Syntax:

1. comm **<file1> <file2>**

Output:



26. sed command

The sed

command is also known as **stream editor**. It is used to edit files using a regular expression. It does not permanently edit files; instead, the edited content remains only on display. It does not affect the actual file.

Syntax:

1. command | sed 's/**<oldWord>**/**<newWord>**/'

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ echo class7 | sed 's/class/jtp/'
jtp7
javatpoint@javatpoint-Inspiron-3542:~$ echo class7 | sed 's/7/10/'
class10
```

27. tee command

The tee

command is quite similar to the cat command. The only difference between both filters is that it puts standard input on standard output and also write them into a file.

Syntax:

1. cat **<fileName>** | tee **<newFile>** | cat or tac |.....

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ cat marks.txt | tee new.txt | cat
alex-50
alen-70
jon-75
carry-85
celena-90
justin-80
javatpoint@javatpoint-Inspiron-3542:~$ cat new.txt
alex-50
alen-70
jon-75
carry-85
celena-90
justin-80
```

28. tr Command

The tr

command is used to translate the file content like from lower case to upper case.

Syntax:

1. command | tr <'old'> <'new'>

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ cat marks.txt | tr 'prcu' 'PRCU'
alex-50
alen-70
jon-75
CaRRy-85
Celena-90
jUstin-80
```

29. uniq Command

The uniq

command is used to form a sorted list in which every word will occur only once.

Syntax:

1. command **<fileName>** | uniq

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ sort marks.txt |uniq
alen-70
alex-50
carry-85
celena-90
jon-75
justin-80
```

30. wc Command

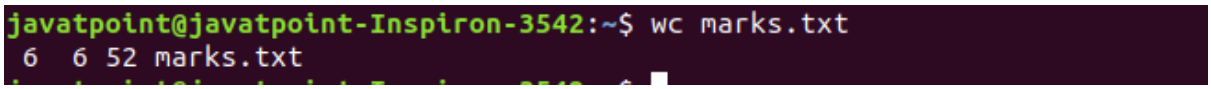
The wc

command is used to count the lines, words, and characters in a file.

Syntax:

1. wc **<file** name**>**

Output:



31. od Command

The od

command is used to display the content of a file in different s, such as hexadecimal, octal, and ASCII characters.

Syntax:

1. od -b **<fileName>** // Octal format
2. od -t x1 **<fileName>** // Hexa decimal format
3. od -c **<fileName>** // ASCII character format

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ od -b marks.txt
0000000 141 154 145 170 055 065 060 012 141 154 145 156 055 067 060 012
0000020 152 157 156 055 067 065 012 143 141 162 162 171 055 070 065 012
0000040 143 145 154 145 156 141 055 071 060 012 152 165 163 164 151 156
0000060 055 070 060 012
0000064
javatpoint@javatpoint-Inspiron-3542:~$ od -t x1 marks.txt
0000000 61 6c 65 78 2d 35 30 0a 61 6c 65 6e 2d 37 30 0a
0000020 6a 6f 6e 2d 37 35 0a 63 61 72 72 79 2d 38 35 0a
0000040 63 65 6c 65 6e 61 2d 39 30 0a 6a 75 73 74 69 6e
0000060 2d 38 30 0a
0000064
javatpoint@javatpoint-Inspiron-3542:~$ od -c marks.txt
0000000   a   l   e   x   -   5   0  \n   a   l   e   n   -   7   0  \n
0000020   j   o   n   -   7   5  \n   c   a   r   r   y   -   8   5  \n
0000040   c   e   l   e   n   a   -   9   0  \n   j   u   s   t   i   n
0000060   -   8   0  \n
0000064
```

32. sort Command

The sort

command is used to sort files in alphabetical order.

Syntax:

1. sort **<file** name**>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ sort marks.txt
alen-70
alex-50
carry-85
celena-90
jon-75
justin-80
```

33. gzip Command

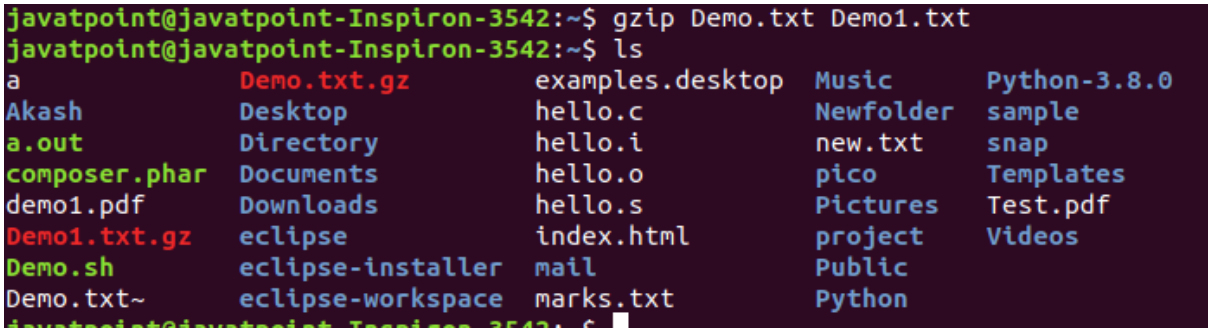
The gzip

command is used to truncate the file size. It is a compressing tool. It replaces the original file by the compressed file having '.gz' extension.

Syntax:

1. gzip **<file1> <file2> <file3>**...

Output:



34. gunzip Command

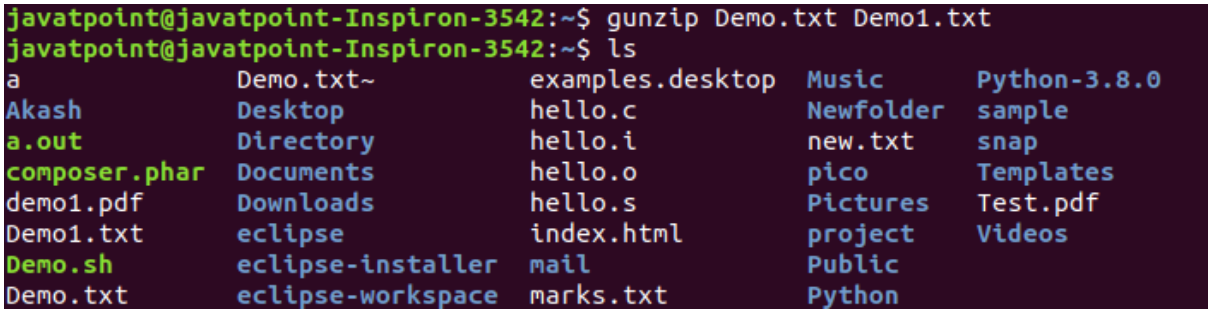
The gunzip

command is used to decompress a file. It is a reverse operation of gzip command.

Syntax:

1. gunzip **<file1> <file2> <file3>**. .

Output:



Linux Utility Commands

35. find Command

The find

command is used to find a particular file within a directory. It also supports various options to find a file such as byname, by type, by date, and more.

The following symbols are used after the find command:

(.) : For current directory name

(/) : For root

Syntax:

1. find . -name "*.pdf"

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ find . -name "*.pdf"
./Test.pdf
./Python-3.8.0/Doc/library/turtle-star.pdf
./Akash/Joomla/Origional Copy/Brochure-Joomla-2019.pdf
./Akash/Joomla/Origional Copy/Joomla-Guide-Final.pdf
./.local/share/Trash/files/2400966-250544e72f817db3bcef-1587140240830.pdf
./.local/share/Trash/files/2400966-3ad982eaa58c5d43fb53-1585763620407.pdf
find: ‘./.anydesk/incoming’: Permission denied
./Downloads/ConfirmationPage_20030070774.pdf
./demo1.pdf
find: ‘./.dbus’: Permission denied
find: ‘./.cache/dconf’: Permission denied
./Directory/demo.pdf
./Directory/demo2.pdf
./Directory/demo1.pdf
```

36. locate Command

The locate

command is used to search a file by file name. It is quite similar to find command; the difference is that it is a background process. It searches the file in the database, whereas the find command searches in the file system. It is faster than the find command. To find the file with the locates command, keep your database updated.

Syntax:

1. locate **<file** name**>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ locate sysctl.conf
/etc/sysctl.conf
/etc/sysctl.d/99-sysctl.conf
/etc/ufw/sysctl.conf
/snap/core/8935/etc/sysctl.conf
/snap/core/8935/etc/sysctl.d/99-sysctl.conf
/snap/core/9066/etc/sysctl.conf
/snap/core/9066/etc/sysctl.d/99-sysctl.conf
/snap/core18/1705/etc/sysctl.d/99-sysctl.conf
/snap/core18/1754/etc/sysctl.d/99-sysctl.conf
/usr/share/doc/procps/examples/sysctl.conf
/usr/share/man/man5/sysctl.conf.5.gz
```

37. date Command

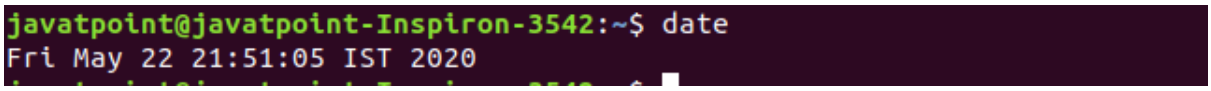
The date

command is used to display date, time, time zone, and more.

Syntax:

1. date

Output:



38. cal Command

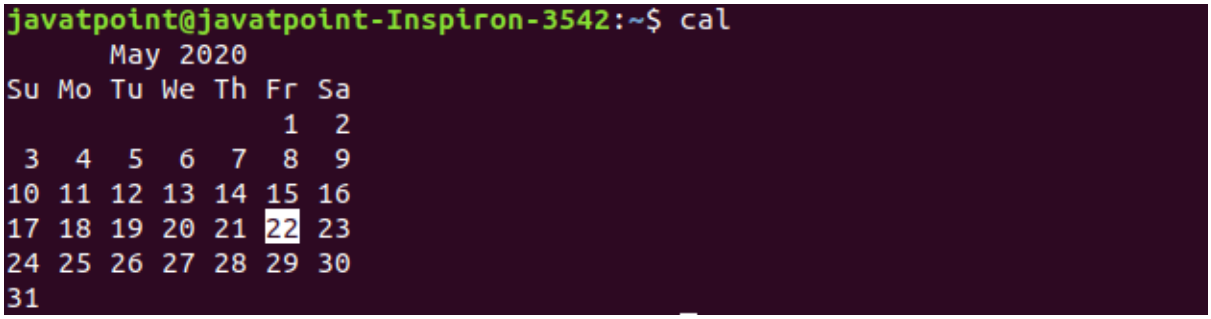
The cal

command is used to display the current month's calendar with the current date highlighted.

Syntax:

1. cal<

Output:



39. sleep Command

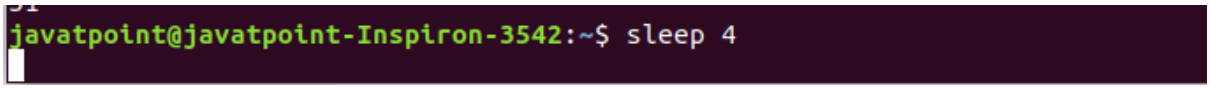
The sleep

command is used to hold the terminal by the specified amount of time. By default, it takes time in seconds.

Syntax:

1. sleep **<time>**

Output:



40. time Command

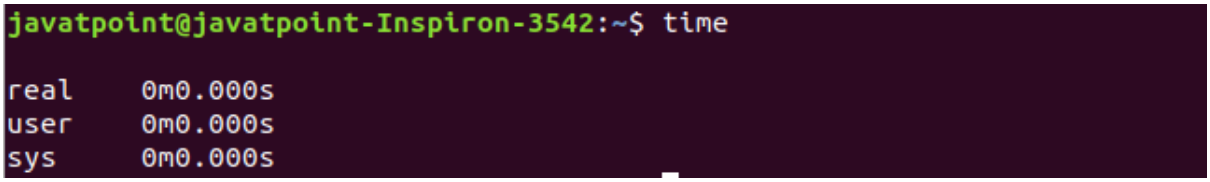
The time

command is used to display the time to execute a command.

Syntax:

1. time

Output:



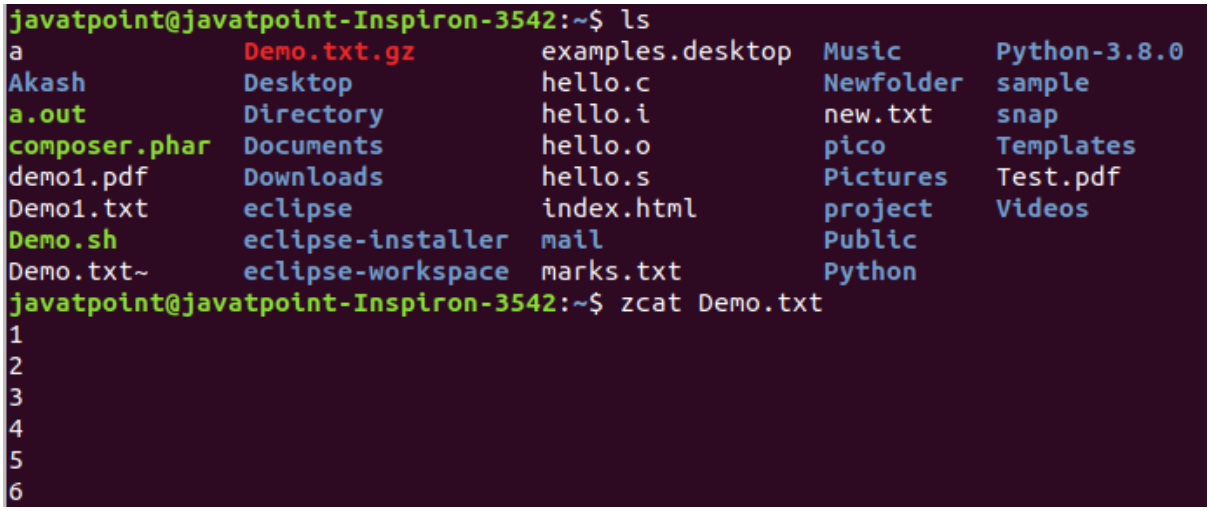
41. zcat Command

The zcat command is used to display the compressed files.

Syntax:

1. zcat **<file** name**>**

Output:



42. df Command

The df

command is used to display the disk space used in the file system. It displays the output as in the number of used blocks, available blocks, and the mounted directory.

Syntax:

1. df

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev             1931652        0   1931652   0% /dev
tmpfs             393260     1756    391504   1% /run
/dev/sda1      479668904 26471148 428762148   6% /
tmpfs            1966284   243536   1722748  13% /dev/shm
tmpfs               5120        4      5116   1% /run/lock
tmpfs            1966284        0   1966284   0% /sys/fs/cgroup
/dev/loop1        231936   231936         0 100% /snap/wine-platform-runtime/136
/dev/loop2        144128   144128         0 100% /snap/gnome-3-26-1604/98
/dev/loop4           384      384         0 100% /snap/gnome-characters/539
/dev/loop6        220160   220160         0 100% /snap/wine-platform-5-stable/4
/dev/loop5        164096   164096         0 100% /snap/gnome-3-28-1804/116
```

43. mount Command

The mount

command is used to connect an external device file system to the system's file system.

Syntax:

1. mount -t type **<device> <directory>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ mount
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime)
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)
udev on /dev type devtmpfs (rw,nosuid,relatime,size=1931652k,nr_inodes=482913,mo
de=755)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmod
e=000)
tmpfs on /run type tmpfs (rw,nosuid,noexec,relatime,size=393260k,mode=755)
/dev/sda1 on / type ext4 (rw,relatime,errors=remount-ro)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relat
ime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev)
```

44. exit Command

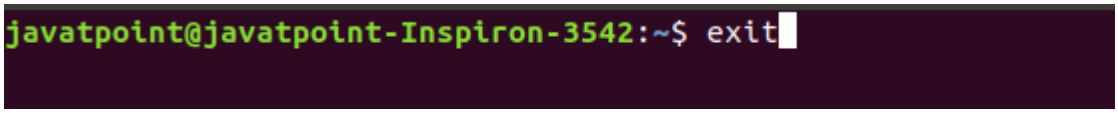
Linux exit

command is used to exit from the current shell. It takes a parameter as a number and exits the shell with a return of status number.

Syntax:

1. exit

Output:



After pressing the ENTER key, it will exit the terminal.

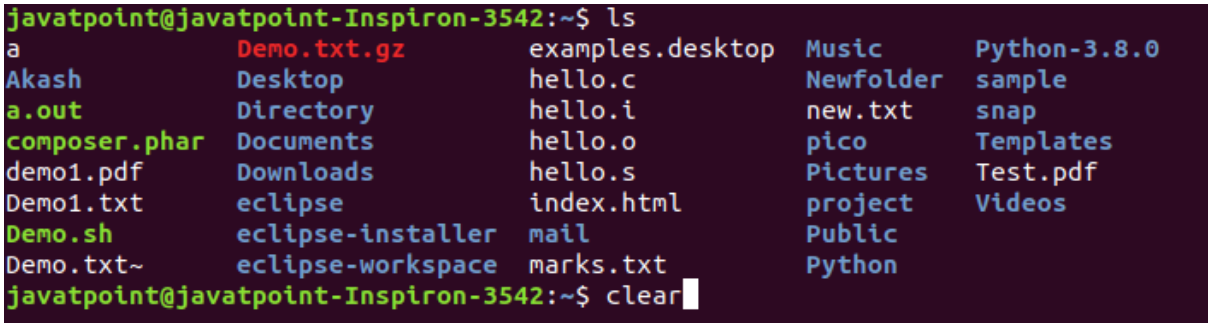
45. clear Command

Linux **clear** command is used to clear the terminal screen.

Syntax:

1. clear

Output:



After pressing the ENTER key, it will clear the terminal screen.

Linux Networking Commands

46. ip Command

Linux ip

command is an updated version of the ipconfig command. It is used to assign an IP address, initialize an interface, disable an interface.

Syntax:

1. ip a or ip addr

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group defaul
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: enp7s0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc fq_codel state DOW
N group default qlen 1000
    link/ether 74:e6:e2:02:93:b8 brd ff:ff:ff:ff:ff:ff
3: wlp6s0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP gro
up default qlen 1000
    link/ether 00:71:cc:00:e2:89 brd ff:ff:ff:ff:ff:ff
    inet 192.168.43.240/24 brd 192.168.43.255 scope global dynamic noprefixroute
 wlp6s0
       valid_lft 2296sec preferred_lft 2296sec
    inet6 fe80::8c59:e84e:1670:27cc/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
```

47. ssh Command

Linux ssh

command is used to create a remote connection through the ssh protocol.

Syntax:

1. ssh user_name@host(IP/Domain_name)</p>

48. mail Command

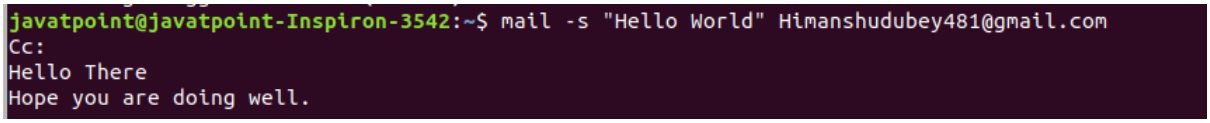
The mail

command is used to send emails from the command line.

Syntax:

1. mail -s "Subject" <recipient address>

Output:



49. ping Command

The ping

command is used to check the connectivity between two nodes, that is whether the server is connected. It is a short form of "Packet Internet Groper."

Syntax:

1. ping **<destination>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ ping javatpoint.com
PING javatpoint.com (194.169.80.121) 56(84) bytes of data.
64 bytes from www.javatpoint.com (194.169.80.121): icmp_seq=1 ttl=48 time=3889 m
s
64 bytes from www.javatpoint.com (194.169.80.121): icmp_seq=2 ttl=48 time=3043 m
s
64 bytes from www.javatpoint.com (194.169.80.121): icmp_seq=3 ttl=48 time=2136 m
s
64 bytes from www.javatpoint.com (194.169.80.121): icmp_seq=4 ttl=48 time=1122 m
s
```

50. host Command

The host

command is used to display the IP address for a given domain name and vice versa. It performs the DNS lookups for the DNS Query.

Syntax:

1. host **<domain** name**>** or **<ip** address**>**

Output:

```
javatpoint@javatpoint-Inspiron-3542:~$ host javatpoint.com
javatpoint.com has address 194.169.80.121
```