INTRODUCTION TO LINUX

Operating system

An operating system (OS) is software that manages computer hardware and allows software applications to run. It handles tasks like process management, memory allocation, file handling, and user interface. It provides a bridge between users and the computer's hardware, ensuring efficient resource usage and security. Examples include Windows, Linux, macOS, Android, and iOS. The choice of OS depends on the device and its intended use.

History of Linux

Origins (1991): Linus Torvalds created Linux as a free and open-source operating system kernel in 1991 while studying at the University of Helsinki.

First Release (1991): The first version, Linux 0.01, was released in September 1991, marking the beginning of Linux development.

Open Source: Linux was released under the GNU General Public License (GPL), enabling collaborative development by a global community.

Growth and Development: Linux attracted developers who contributed to its rapid growth, expanding hardware support and functionality.

First Distributions (Mid-1990s): Linux distributions like Slackware and Debian emerged, bundling the Linux kernel with software packages.

Server and Enterprise Markets (Late 1990s - Early 2000s): Linux gained popularity in servers and enterprise environments due to its stability and cost-effectiveness.

Desktop and Mobile (2000s): Linux-based distributions like Ubuntu made efforts to bring Linux to desktop users. Android, based on Linux, became the leading mobile OS.

Supercomputers: Linux is widely used in supercomputers and high-performance computing clusters.

Cloud Computing (2010s - Present): Linux dominates cloud computing environments, powering services like AWS, Google Cloud, and Azure.

Continued Development (Present): Linux is actively maintained and updated by a global developer community, adapting to new technologies.

IoT and Embedded Systems (Present): Linux is prevalent in IoT and embedded systems due to its flexibility and hardware support.

Symbol of Open Source: Linux represents open-source collaboration and is used in a diverse range of devices and systems worldwide.

Linux Commands

Linux Directory Commands

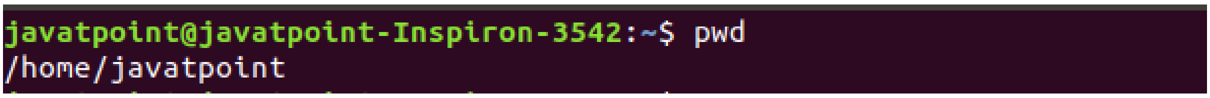
1. pwd Command

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
```

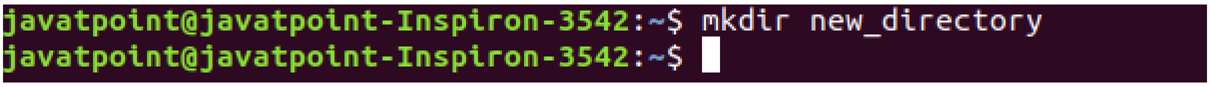
2. mkdir Command

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

Syntax:

1. mkdir <directory name>

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ mkdir new_directory
javatpoint@javatpoint-Inspiron-3542:~$ 
```

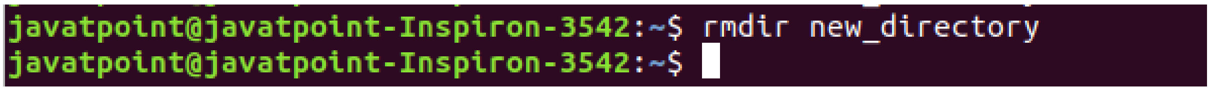
3. rmdir Command

The rmdir command is used to delete a directory.

Syntax:

1. rmdir <directory name>

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ rmdir new_directory
javatpoint@javatpoint-Inspiron-3542:~$
```

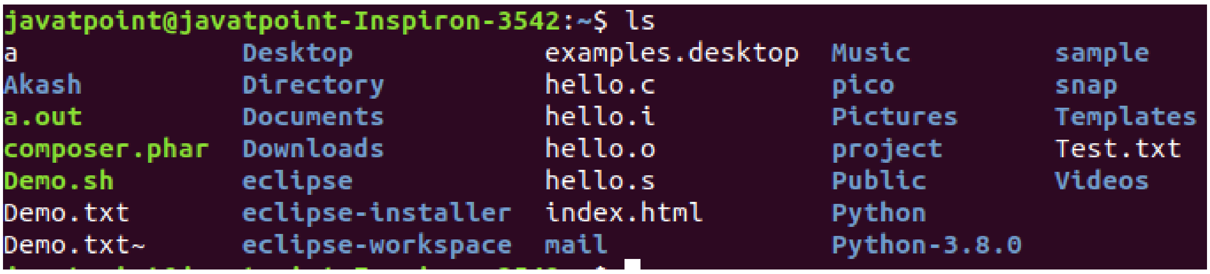
4. ls Command

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

Syntax:

1. ls

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Desktop            examples.desktop  Music         sample
Akash          Directory          hello.c           pico          snap
a.out          Documents          hello.i           Pictures      Templates
composer.phar  Downloads          hello.o           project       Test.txt
Demo.sh        eclipse            hello.s           Public        Videos
Demo.txt       eclipse-installer  index.html        Python
Demo.txt~      eclipse-workspace  mail              Python-3.8.0
```

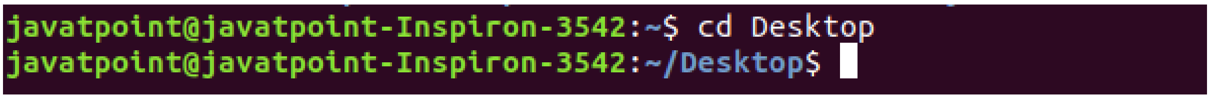
5. cd Command

The cd command is used to change the current directory.

Syntax:

1. cd <directory name>

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ cd Desktop
javatpoint@javatpoint-Inspiron-3542:~/Desktop$
```

Linux File commands

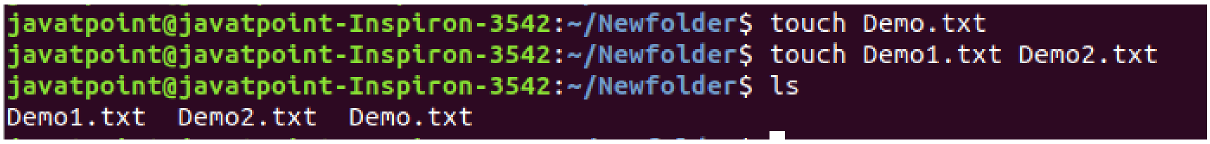
6. touch Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ touch Demo.txt
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ touch Demo1.txt Demo2.txt
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ ls
Demo1.txt  Demo2.txt  Demo.txt
```

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]..

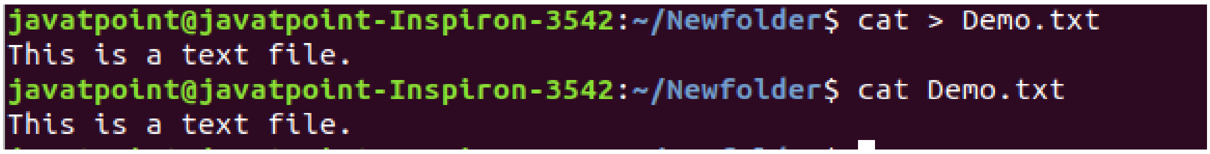
To create a file, execute it as follows:

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:



```
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ cat > Demo.txt
This is a text file.
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ cat Demo.txt
This is a text file.
```

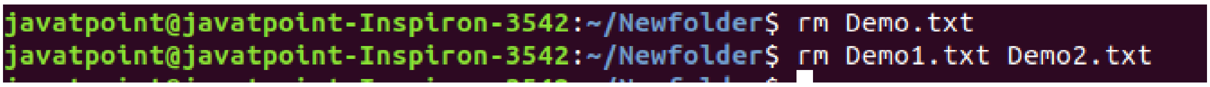
8. rm Command

The rm command is used to remove a file.

Syntax:

rm <file name>

Output:



```
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ rm Demo.txt
javatpoint@javatpoint-Inspiron-3542:~/Newfolder$ rm Demo1.txt Demo2.txt
```

9. cp Command

The cp command is used to copy a file or directory.

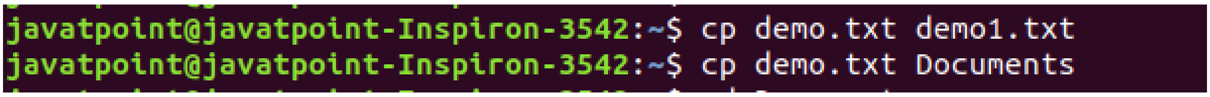
Syntax:

To copy in the same directory:

```
cp <existing file name> <new file name>
```

To copy in a different directory:

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ cp demo.txt demo1.txt
javatpoint@javatpoint-Inspiron-3542:~$ cp demo.txt Documents
```

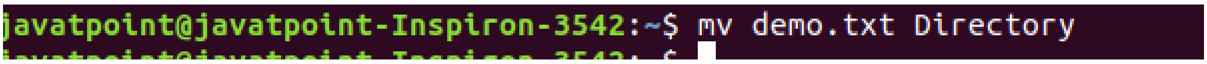
10. mv Command

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

Syntax:

```
mv <file name> <directory path>
```

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ mv demo.txt Directory
```

11. rename Command

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

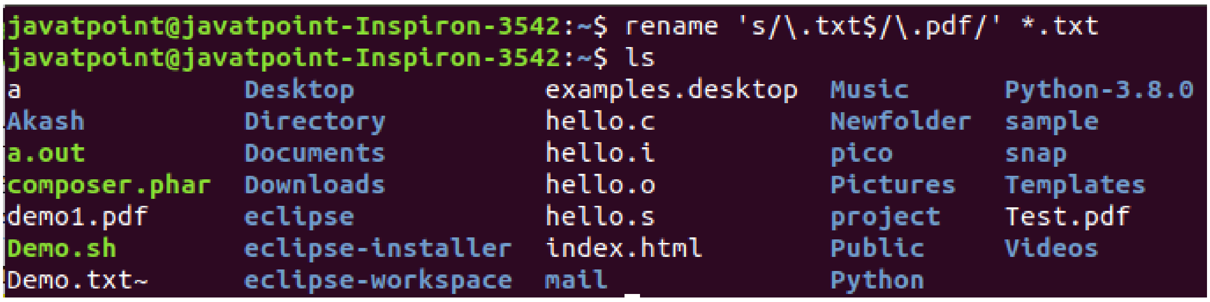
Syntax:

```
rename 's/old-name/new-name/' files
```

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

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ rename 's/\.txt$/\.pdf/' *.txt
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Desktop            examples.desktop  Music      Python-3.8.0
Akash          Directory          hello.c           Newfolder  sample
a.out          Documents          hello.i           pico       snap
composer.phar  Downloads          hello.o           Pictures   Templates
demo1.pdf      eclipse            hello.s           project    Test.pdf
Demo.sh        eclipse-installer  index.html        Public     Videos
Demo.txt~      eclipse-workspace  mail              Python
```

Linux File Content Commands

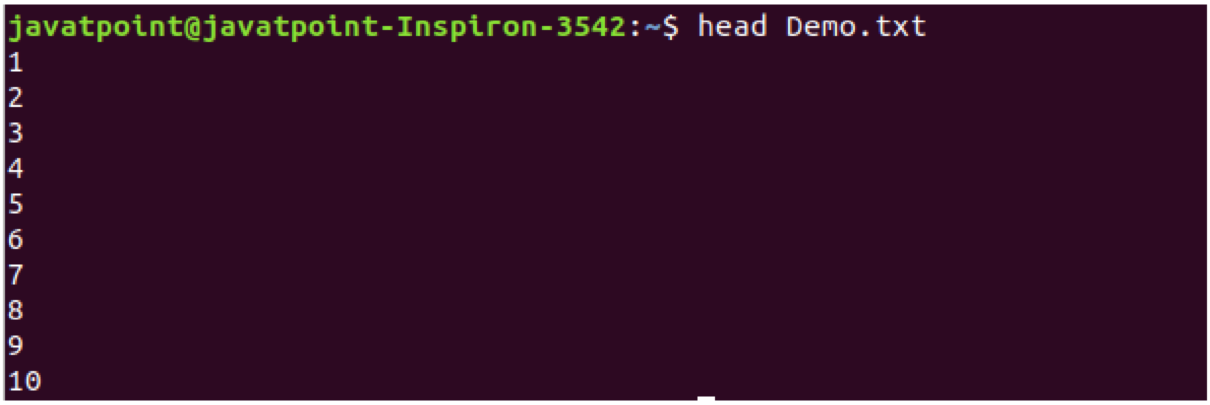
12. head Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ head Demo.txt
1
2
3
4
5
6
7
8
9
10
```

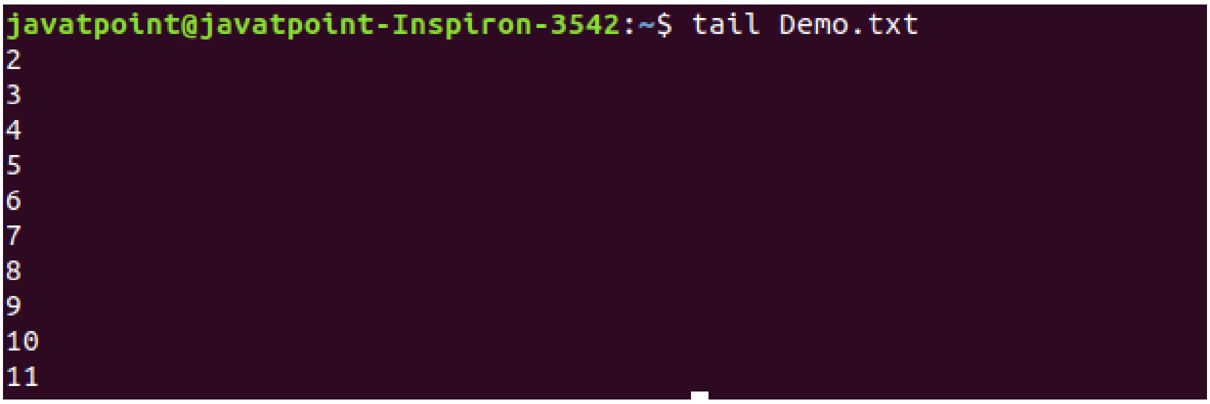
13. tail Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ tail Demo.txt
2
3
4
5
6
7
8
9
10
11
```

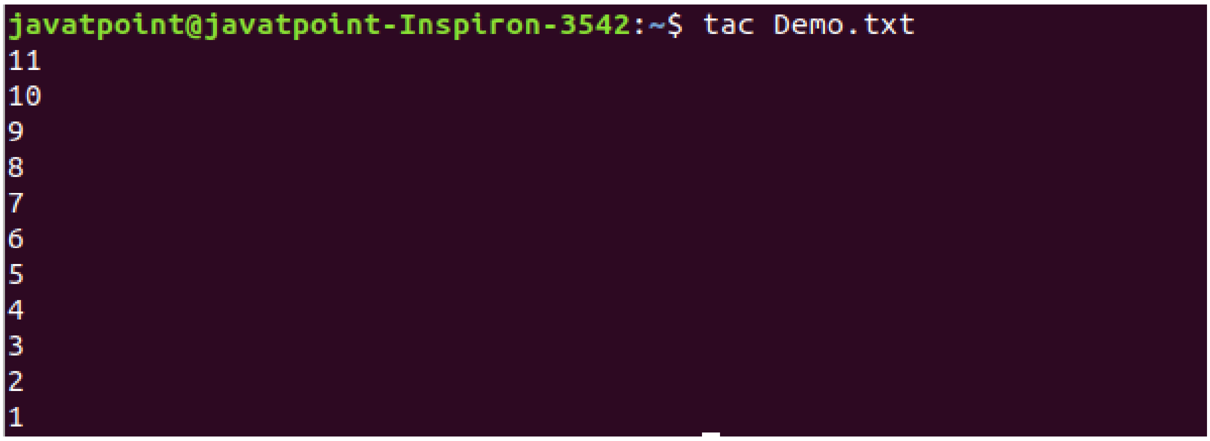
14. tac Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ tac Demo.txt
11
10
9
8
7
6
5
4
3
2
1
```

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.

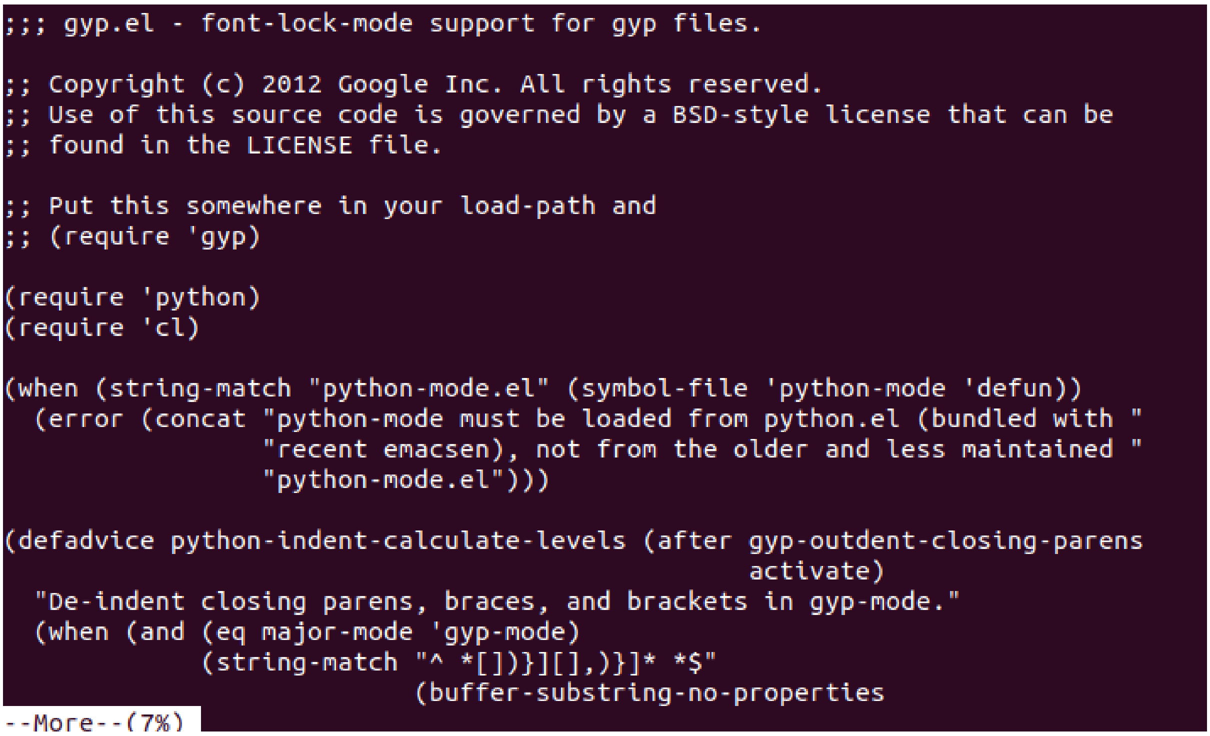
b key: To move to the previous page.

/ key: To search the string.

Syntax:

1. more <file name>

Output:



```
;;; 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)
  "De-indent closing parens, braces, and brackets in gyp-mode."
  (when (and (eq major-mode 'gyp-mode)
             (string-match "^ *[])}][],)}]* *$"
                           (buffer-substring-no-properties
--More--(7%)
```

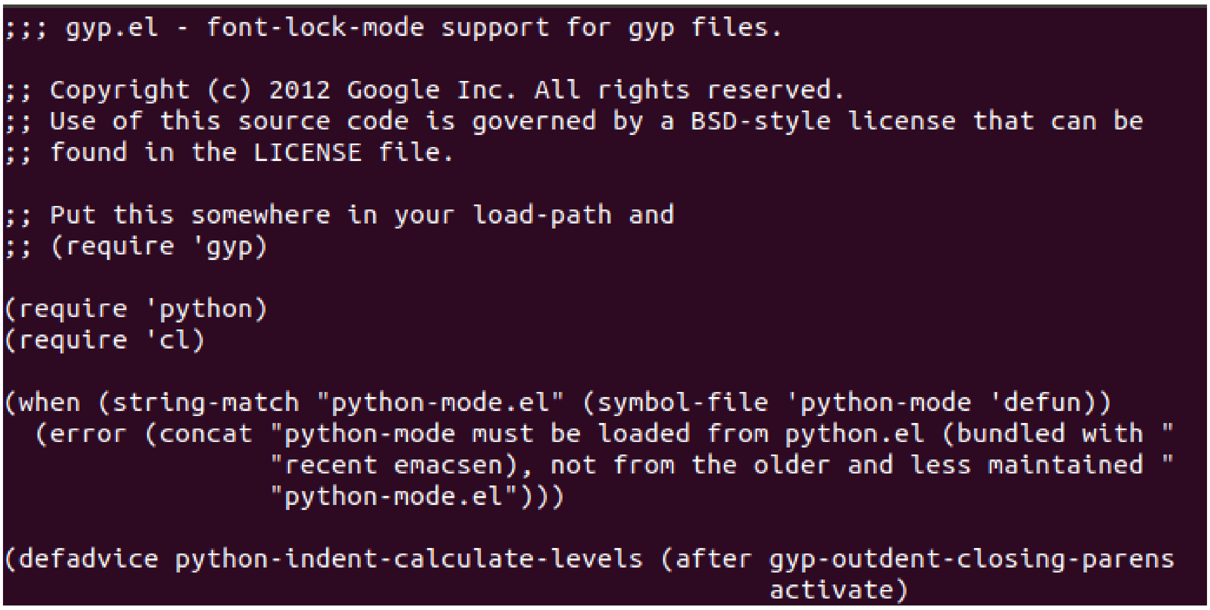
16. less Command

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

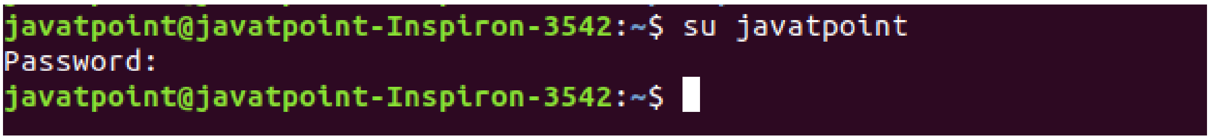
17. su Command

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:~$ 
```

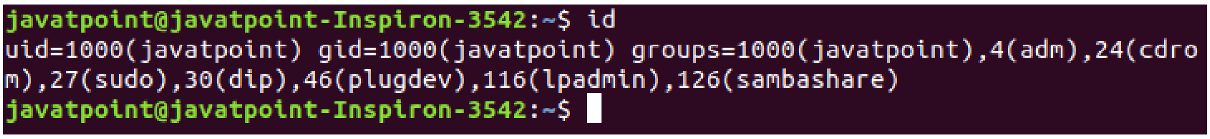
18. id Command

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:~$ 
```

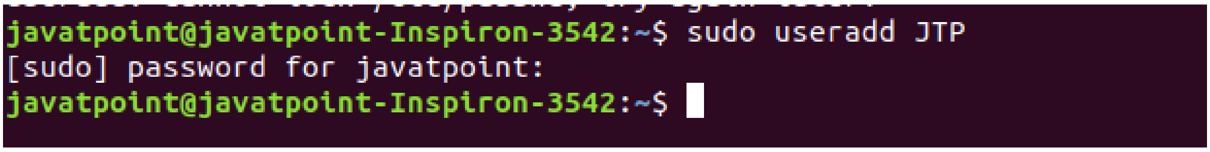
19. useradd Command

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:~$ 
```

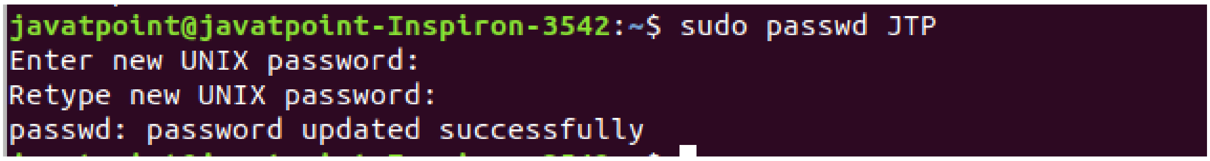
20. passwd Command

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

Syntax:

1. passwd **<username>**

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ sudo passwd JTP
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

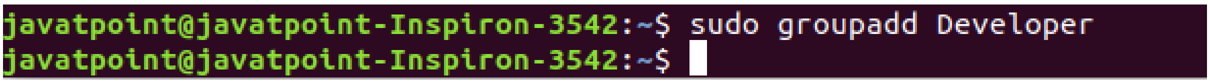
21. groupadd Command

The groupadd command is used to create a user group.

Syntax:

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ sudo groupadd Developer
javatpoint@javatpoint-Inspiron-3542:~$ 
```

Linux Filter Commands

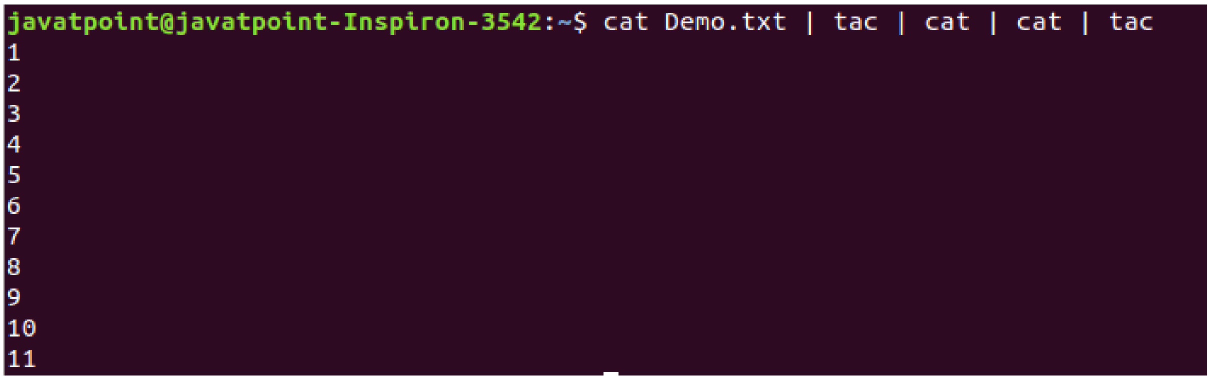
22. cat Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ cat Demo.txt | tac | cat | cat | tac
1
2
3
4
5
6
7
8
9
10
11
```

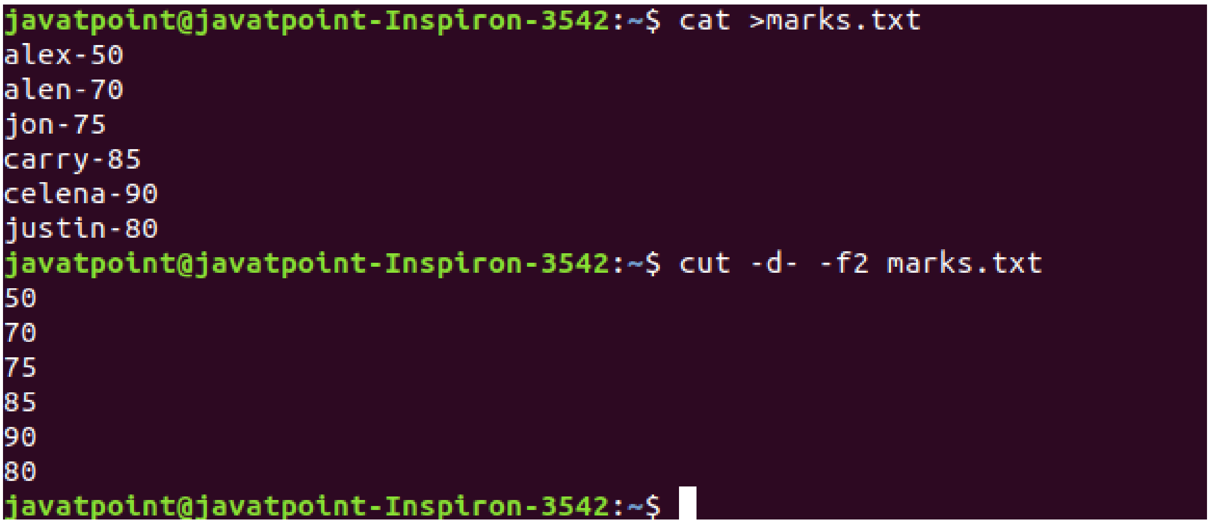
23. cut Command

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:~$
```

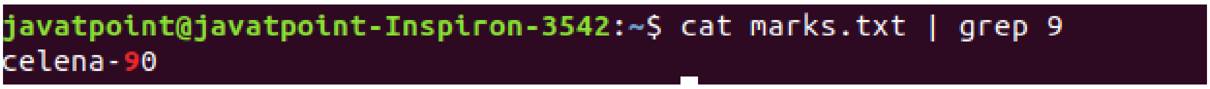
24. grep Command

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
```

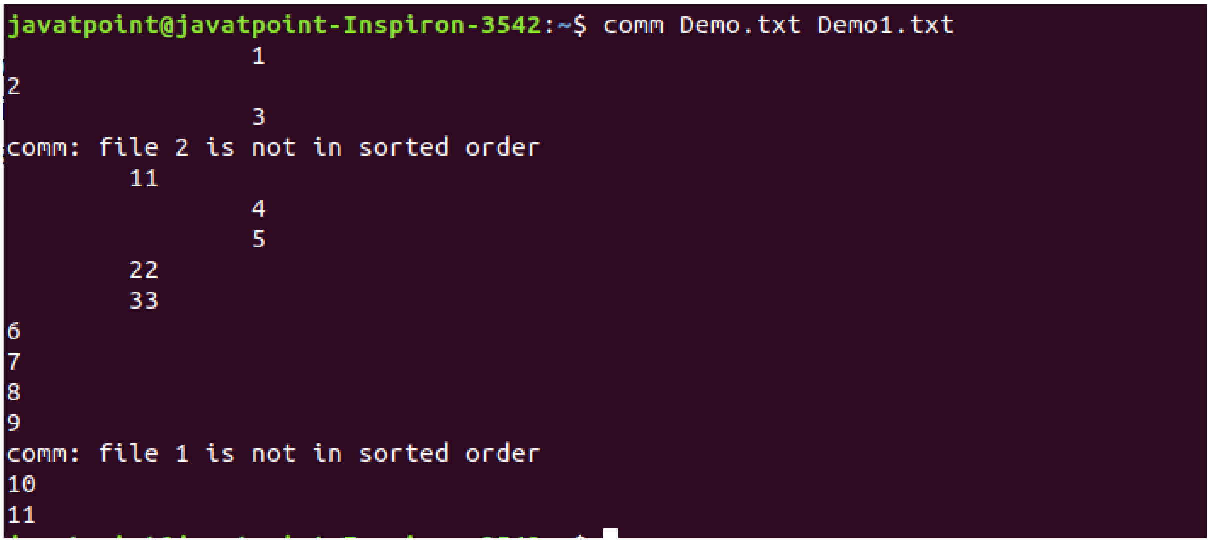
25. comm Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ comm Demo.txt Demo1.txt
                1
2
                3
comm: file 2 is not in sorted order
        11
                4
                5
        22
        33
6
7
8
9
comm: file 1 is not in sorted order
10
11
```

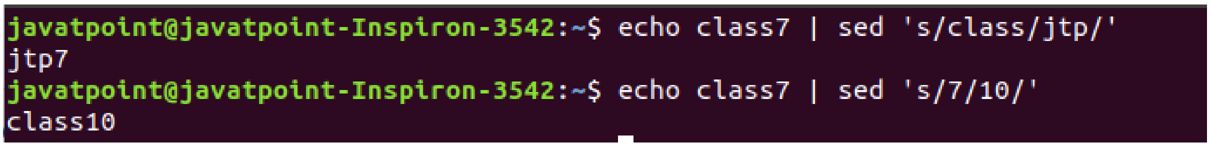
26. sed command

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
```

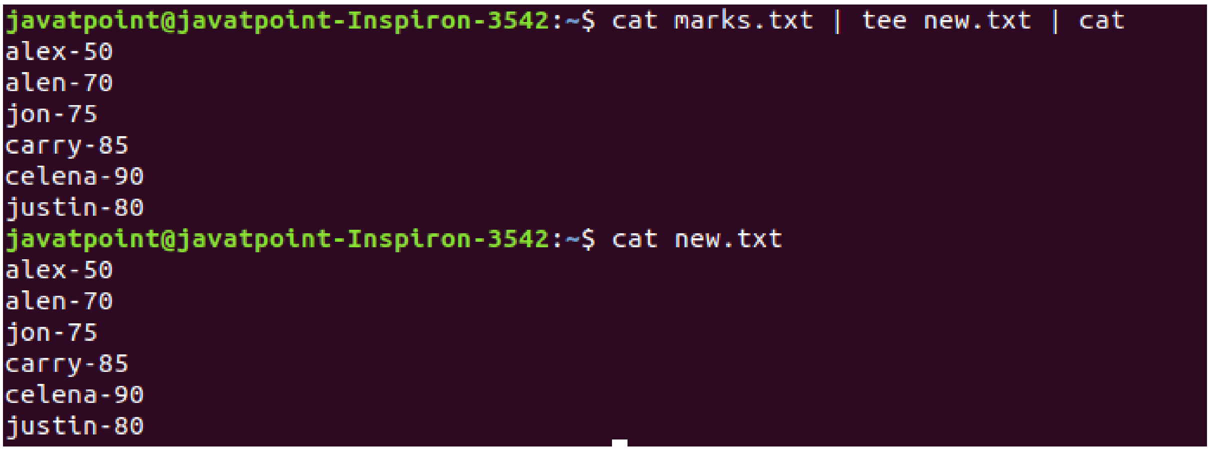
27. tee command

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
```

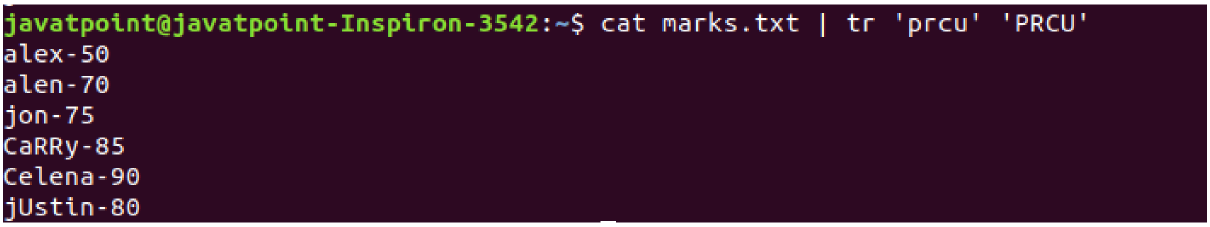
28. tr Command

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
```

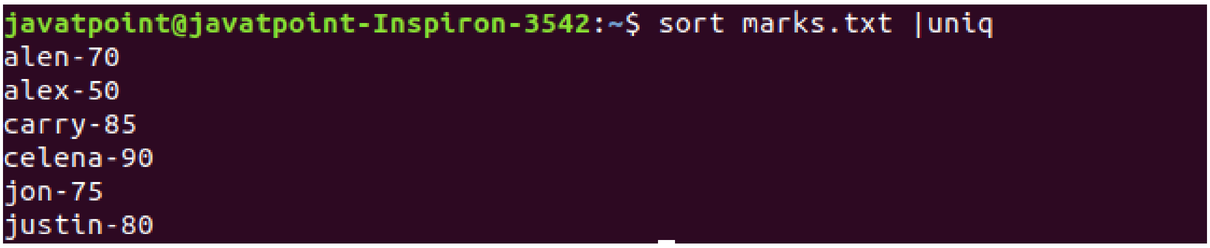
29. uniq Command

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
```

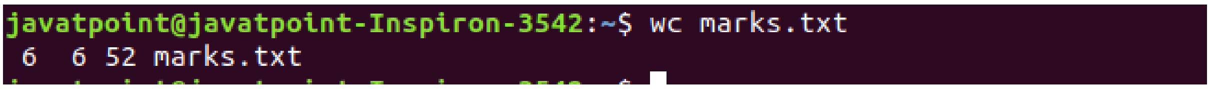
30. wc Command

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

Syntax:

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ wc marks.txt
 6  6 52 marks.txt
```

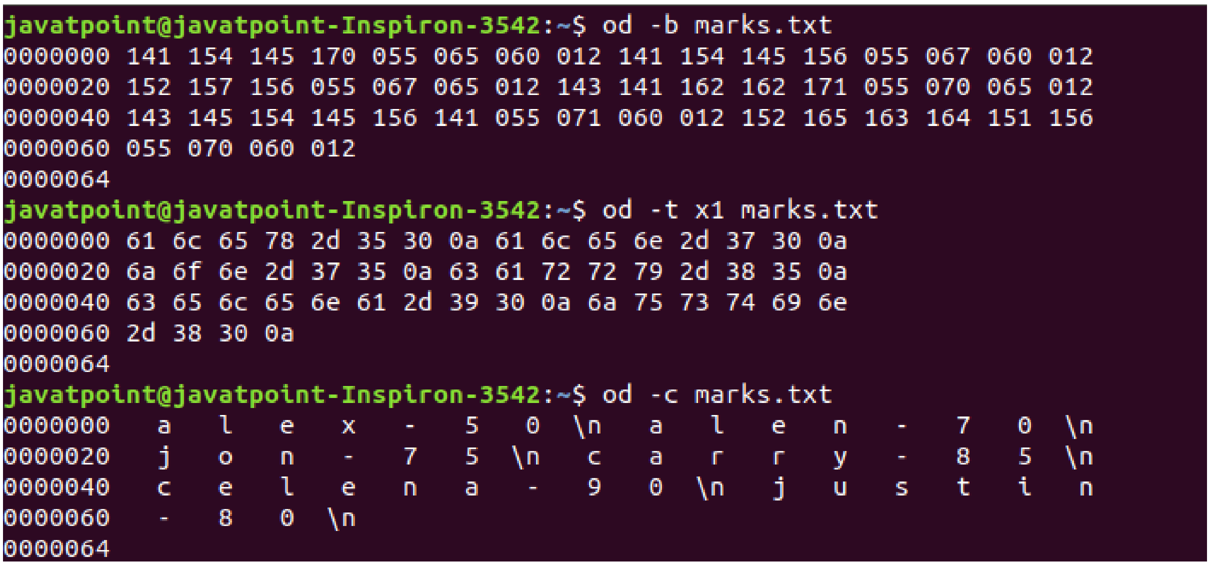
31. od Command

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
```

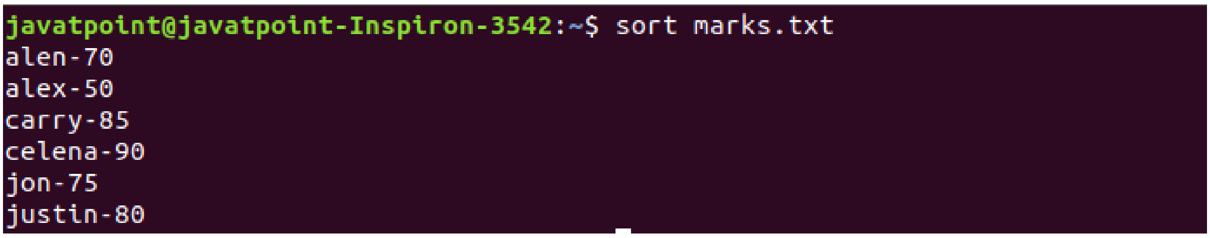
32. sort Command

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
```

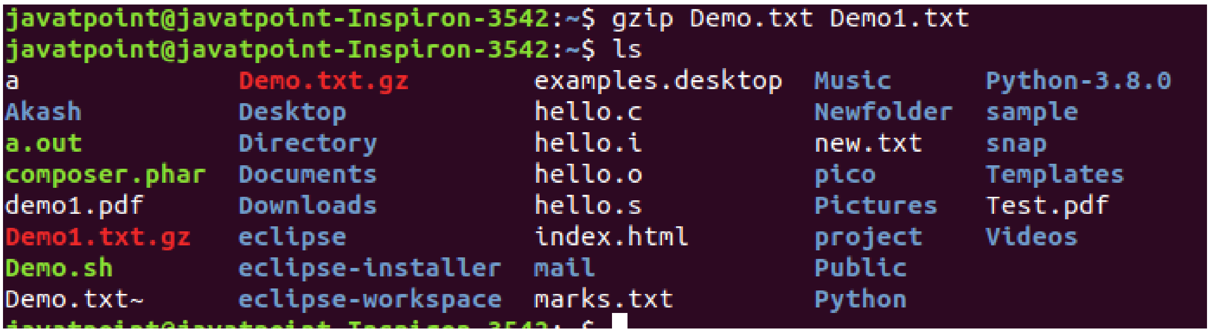
33. gzip Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ gzip Demo.txt Demo1.txt
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Demo.txt.gz        examples.desktop  Music      Python-3.8.0
Akash          Desktop            hello.c           Newfolder  sample
a.out          Directory          hello.i           new.txt    snap
composer.phar  Documents          hello.o           pico       Templates
demo1.pdf      Downloads          hello.s           Pictures   Test.pdf
Demo1.txt.gz   eclipse            index.html        project    Videos
Demo.sh        eclipse-installer  mail              Public
Demo.txt~      eclipse-workspace  marks.txt         Python
javatpoint@javatpoint-Inspiron-3542:~$
```

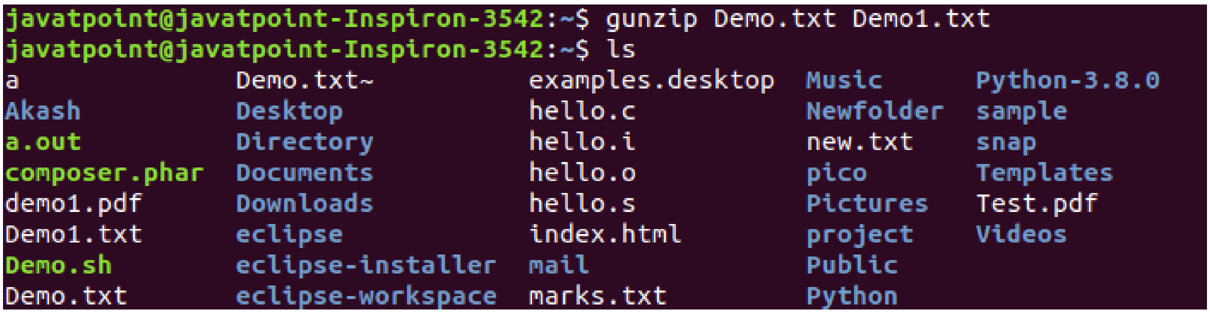
34. gunzip Command

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

Syntax:

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ gunzip Demo.txt Demo1.txt
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Demo.txt~          examples.desktop  Music      Python-3.8.0
Akash          Desktop            hello.c           Newfolder  sample
a.out          Directory          hello.i           new.txt    snap
composer.phar  Documents          hello.o           pico       Templates
demo1.pdf      Downloads          hello.s           Pictures   Test.pdf
Demo1.txt      eclipse            index.html        project    Videos
Demo.sh        eclipse-installer  mail              Public
Demo.txt       eclipse-workspace  marks.txt         Python
```

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:

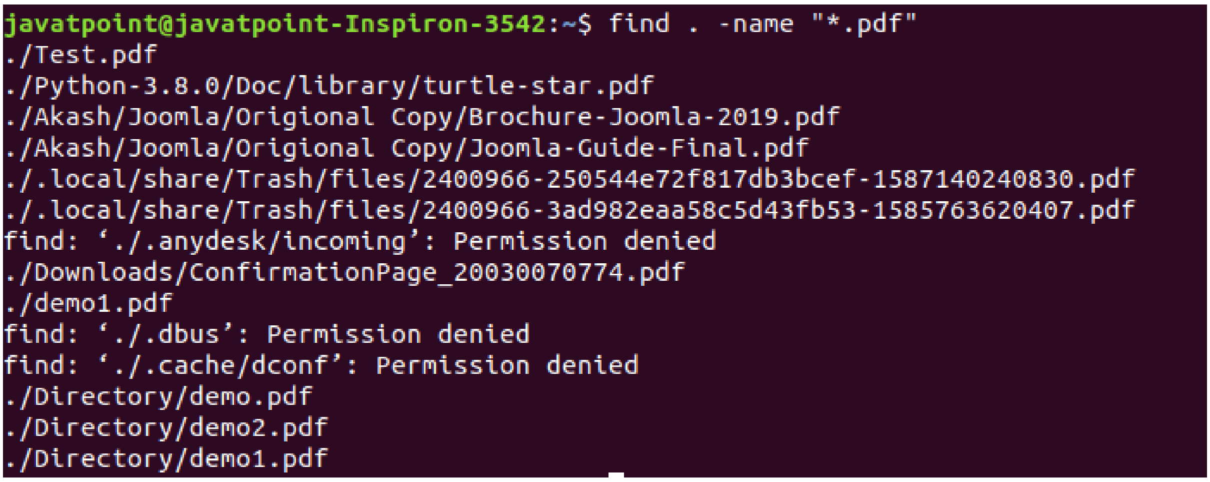
(.) : For current directory name

(/) : 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
```

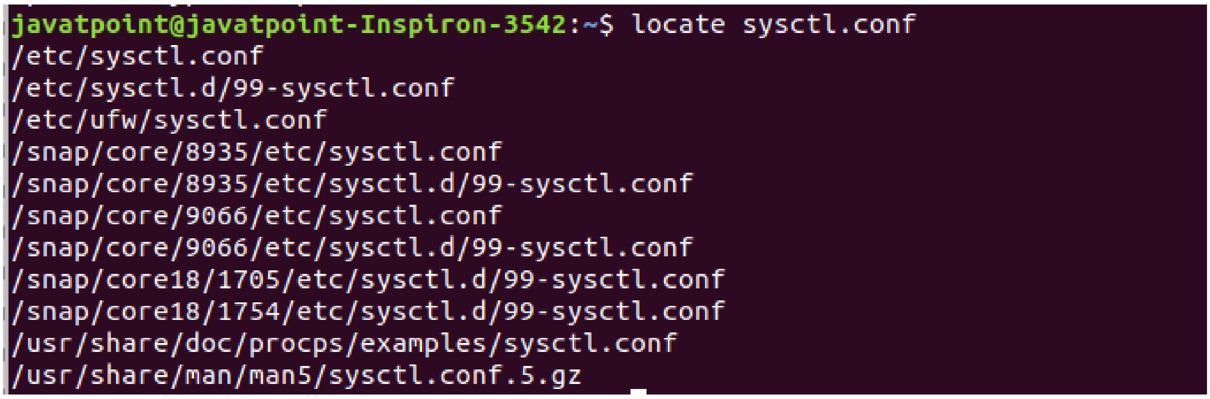
36. locate Command

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
```

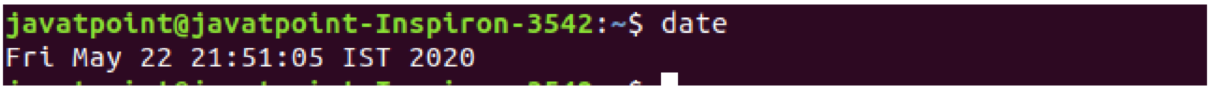
37. date Command

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

Syntax:

1. date

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ date
Fri May 22 21:51:05 IST 2020
```

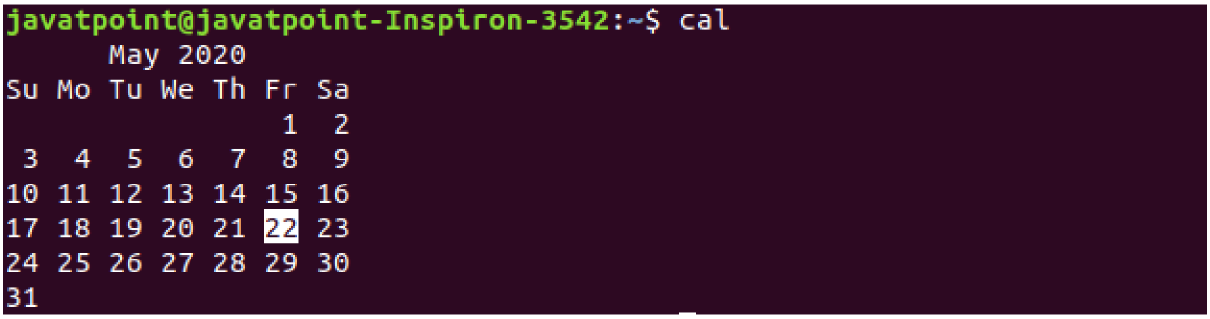
38. cal Command

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

Syntax:

1. cal<

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ cal
      May 2020
Su Mo Tu We Th Fr Sa
                1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
```

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:

```
javatpoint@javatpoint-Inspiron-3542:~$ sleep 4
```

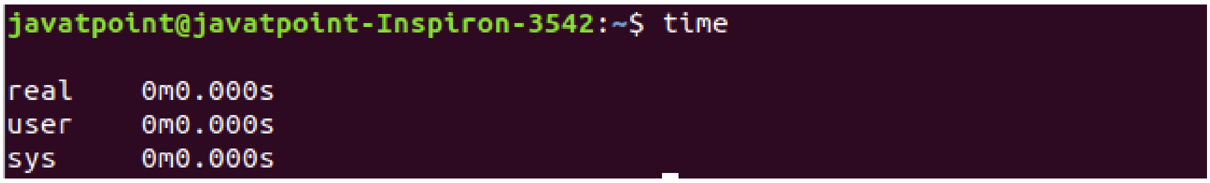
40. time Command

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

Syntax:

1. time

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ time

real    0m0.000s
user    0m0.000s
sys     0m0.000s
```

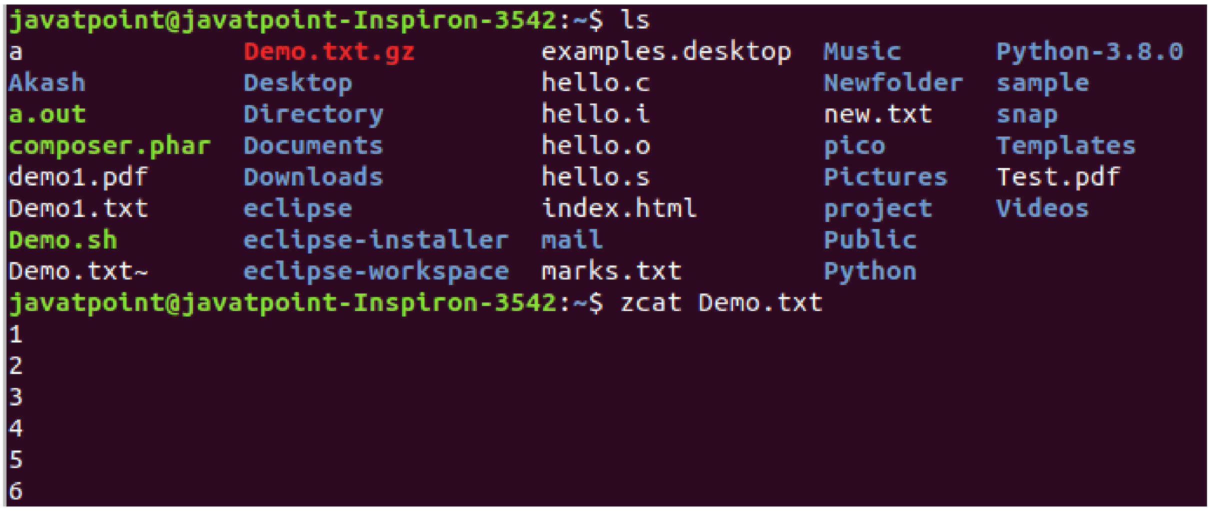
41. zcat Command

The zcat command is used to display the compressed files.

Syntax:

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Demo.txt.gz         examples.desktop  Music      Python-3.8.0
Akash          Desktop             hello.c           Newfolder  sample
a.out          Directory           hello.i           new.txt    snap
composer.phar  Documents           hello.o           pico       Templates
demo1.pdf      Downloads           hello.s           Pictures   Test.pdf
Demo1.txt      eclipse             index.html        project    Videos
Demo.sh        eclipse-installer   mail              Public
Demo.txt~      eclipse-workspace   marks.txt         Python
javatpoint@javatpoint-Inspiron-3542:~$ zcat Demo.txt
1
2
3
4
5
6
```

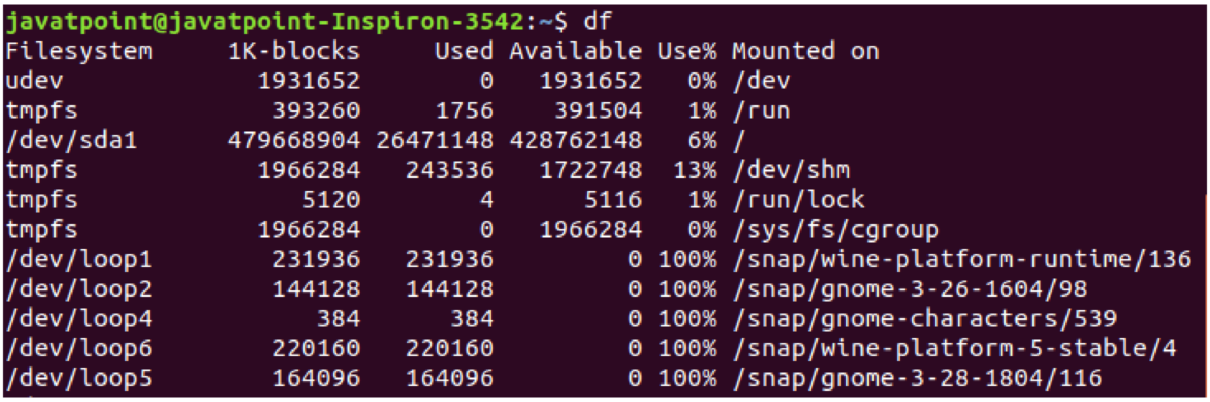
42. df Command

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
```

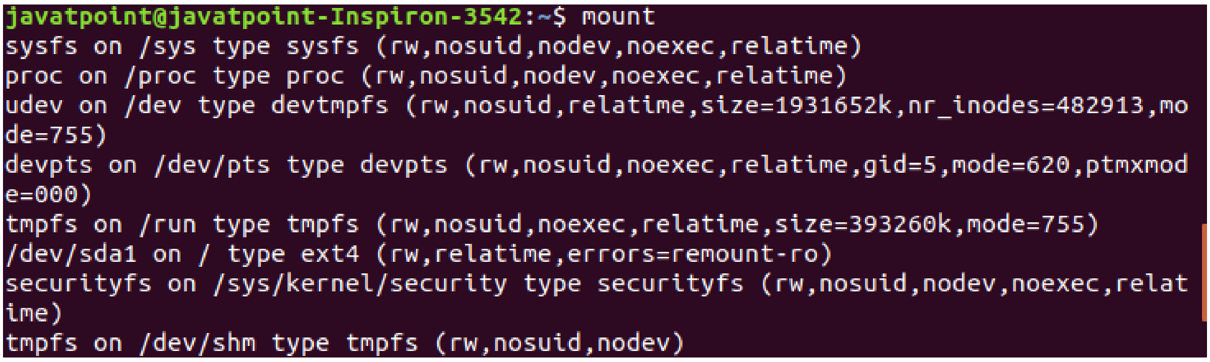
43. mount Command

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)
```

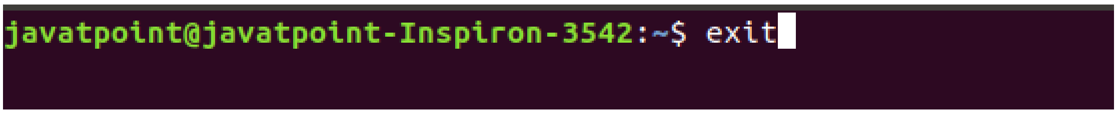
44. exit Command

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:



```
javatpoint@javatpoint-Inspiron-3542:~$ exit
```

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

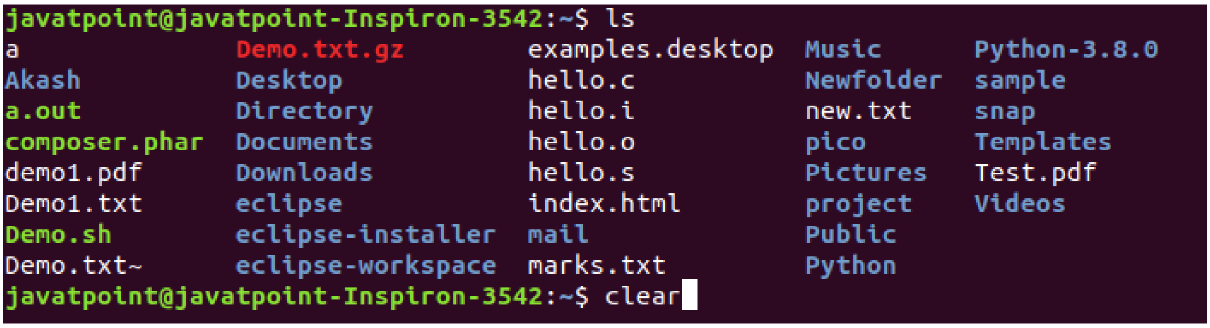
45. clear Command

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

Syntax:

1. clear

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ ls
a              Demo.txt.gz          examples.desktop  Music      Python-3.8.0
Akash          Desktop              hello.c           Newfolder  sample
a.out          Directory            hello.i           new.txt    snap
composer.phar  Documents            hello.o           pico       Templates
demo1.pdf      Downloads            hello.s           Pictures   Test.pdf
Demo1.txt      eclipse              index.html        project    Videos
Demo.sh        eclipse-installer    mail              Public
Demo.txt~      eclipse-workspace    marks.txt         Python
javatpoint@javatpoint-Inspiron-3542:~$ clear
```

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

Linux Networking Commands

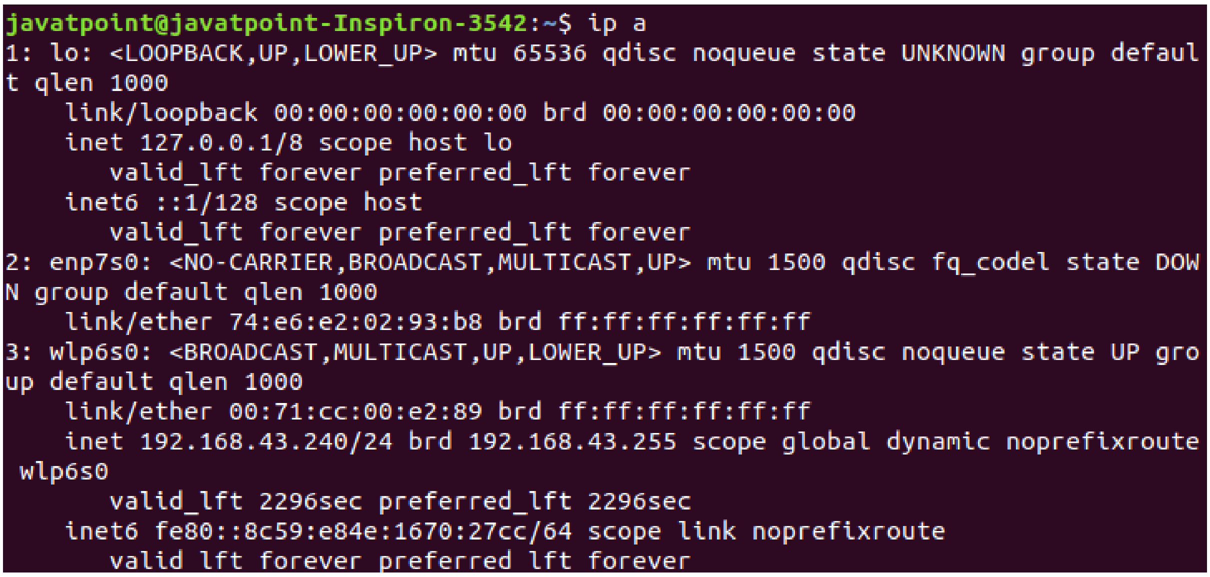
46. ip Command

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>

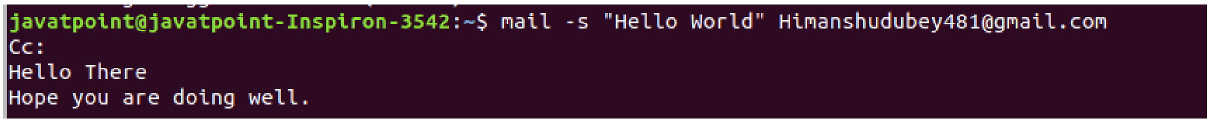
48. mail Command

The mail command is used to send emails from the command line.

Syntax:

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

Output:



```
javatpoint@javatpoint-Inspiron-3542:~$ mail -s "Hello World" Himanshudubey481@gmail.com
Cc:
Hello There
Hope you are doing well.
```

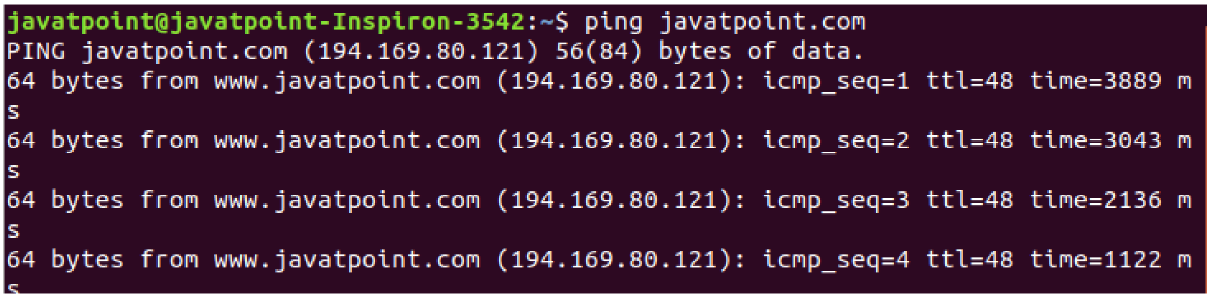
49. ping Command

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
```

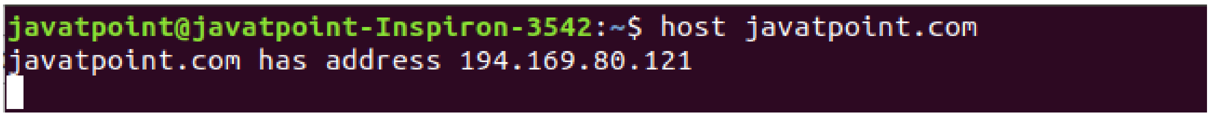
50. host Command

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
```