Assignment.1

To Study Linux Command

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1.date
This commands gives us today's date

```
student@student-Vostro-3470:~$ date
Tuesday 17 January 2023 08:24:50 AM IST
```

2. who
This command used for to see the name of user

```
student@student-Vostro-3470:~$ who
student  :0           2023-01-17 08:21 (:0)
```

3. pwd
This command prints the current working directory path, starting from the root (/). Use the pwd command to find your way in the Linux file system.

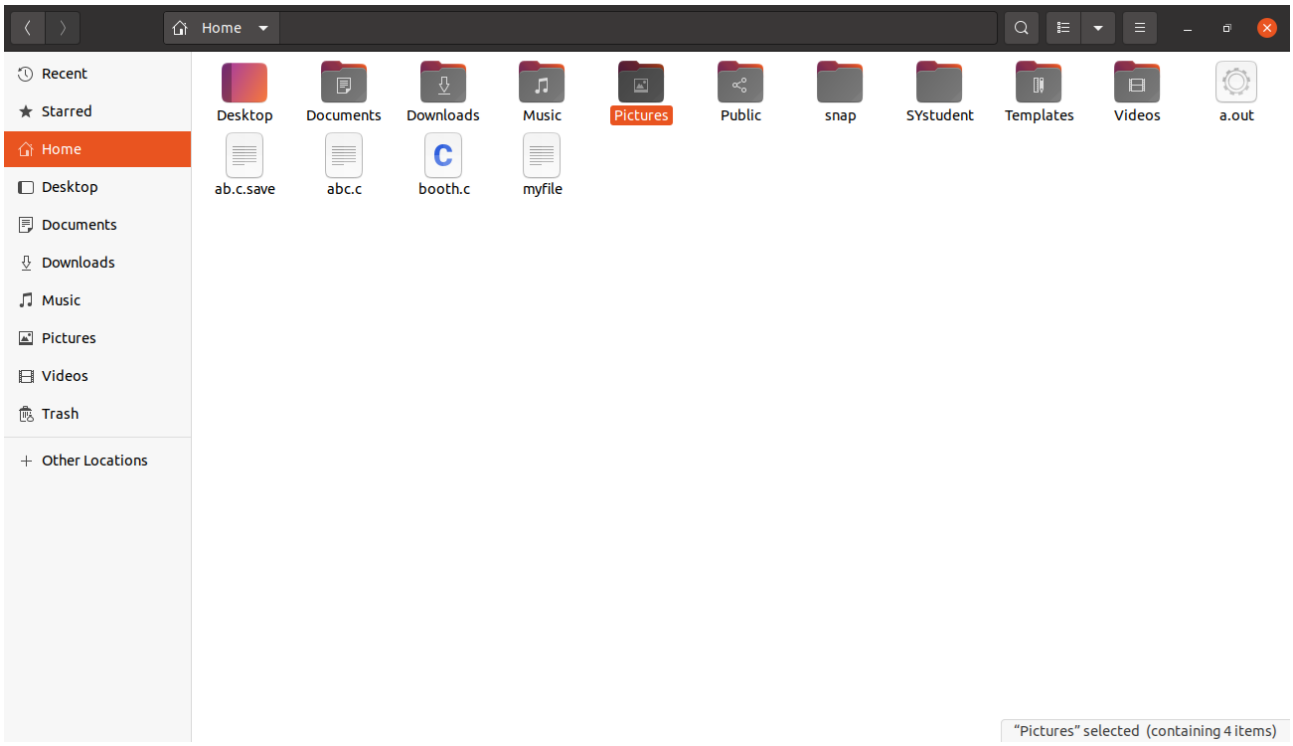
```
student@student-Vostro-3470:~$ pwd
/home/student
```

4. ls
The ls command is used to list files. "ls" on its own lists all files in the current directory except for hidden files. "ls *.

```
student@student-Vostro-3470:~$ ls
abc.c  ab.c.save  a.out  booth.c  Desktop  Documents  Downloads  Music  Pictures  Public  snap  SYstudent  Templates  Videos
```

5. cat > { file name }
Using this command you can quickly create a file and put text into it. To do that, use the > redirect operator to redirect the text in the file. The file is created, and you can begin populating it with text.

```
student@student-Vostro-3470:~$ cat > myfile
```



6. cat { file name }

This command reads each File parameter in sequence and writes it to standard output so that we are able to see text of respective file.

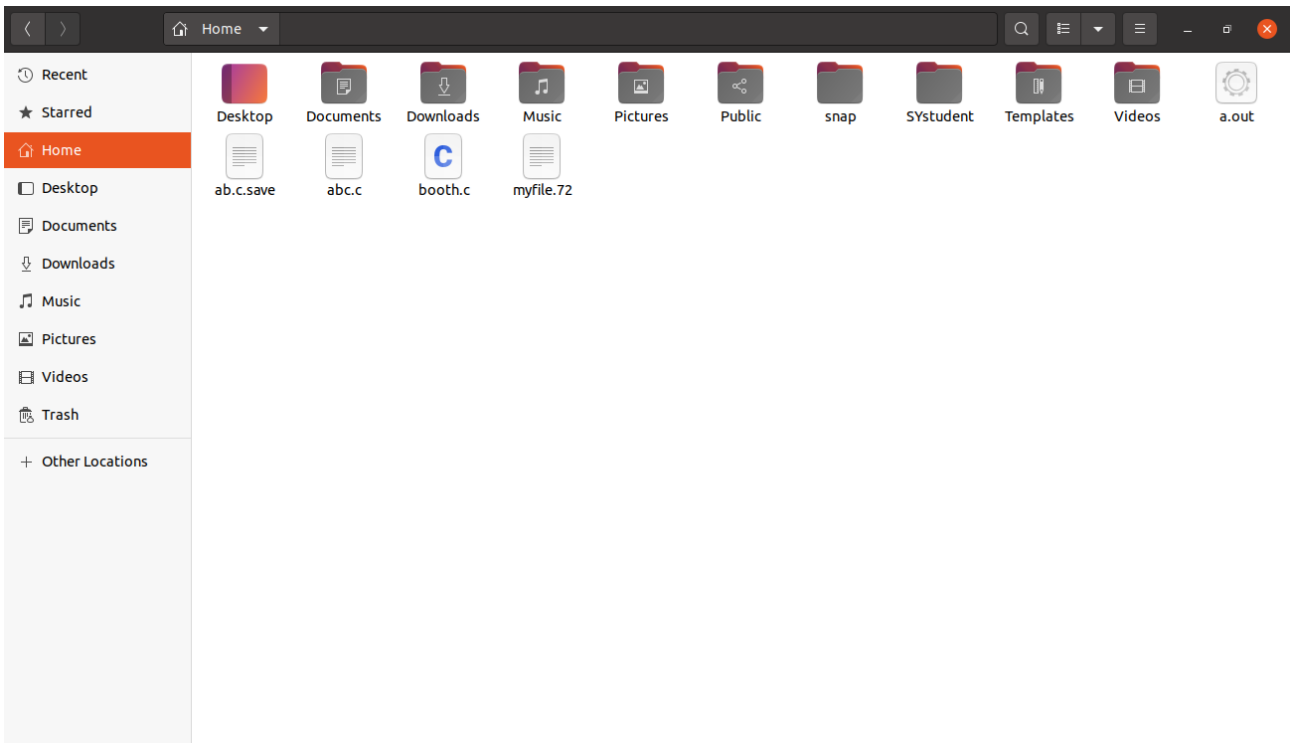
```
student@student-Vostro-3470:~$ cat myfile

Linux Commands
```

7. mv {file 1} {file 2}

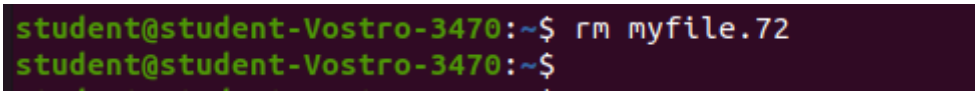
This mv command to move or rename files. For example: mv file1 file2 moves the contents of file1 to file2 and deletes file1.

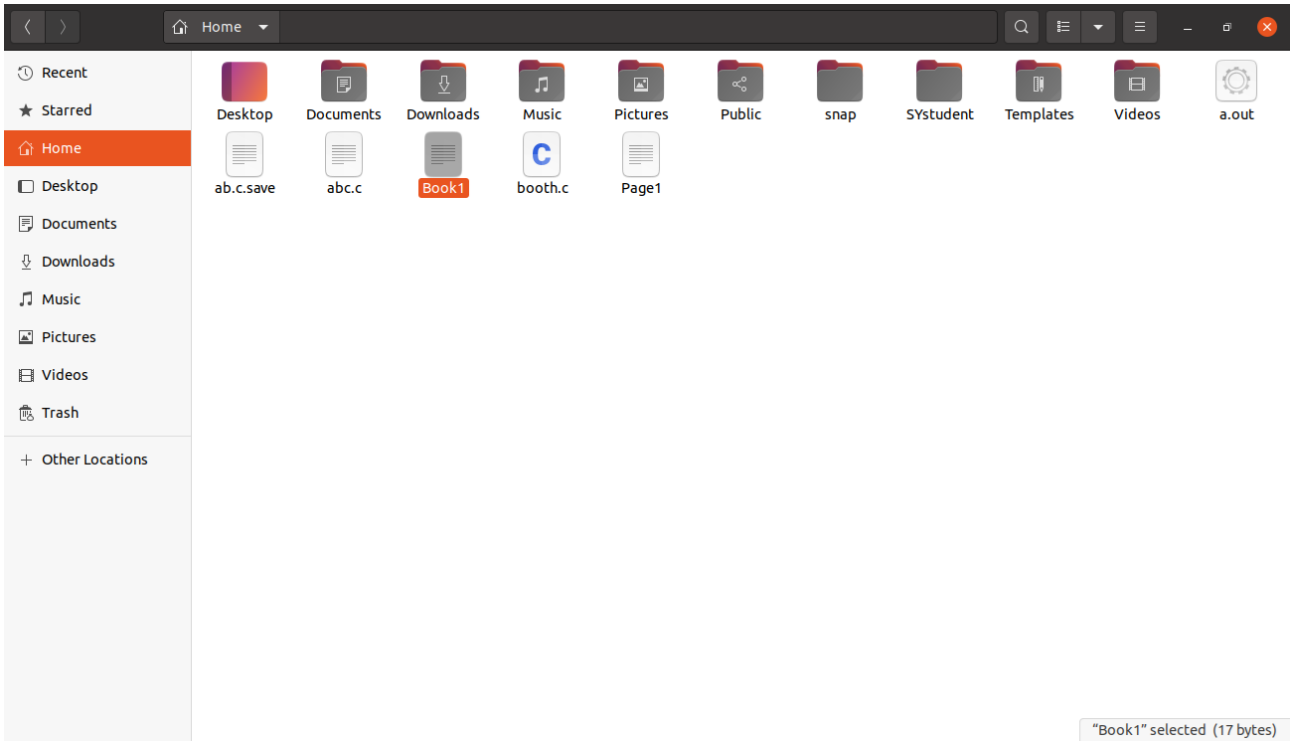
```
student@student-Vostro-3470:~$ mv myfile myfile.72
student@student-Vostro-3470:~$
```



8. rm file name

This command to remove files you no longer need. The rm command removes the entries for a specified file, group of files, or certain select files from a list within a directory.





9. chmod {u|g|o|a} {+|-} {r|w|x} {filename}

The chmod (short for *change mode*) command is used to manage file system access permissions on Unix and Unix-like systems. There are three basic file system permissions, or *modes*, to files and directories:

- read (r)
- write (w)
- execute (x)

Each mode can be applied to these classes:

- user (u)
- group (g)
- other (o)

The **user** is the account that owns the file. The **group** that owns the file may have other accounts on the system as members. The remaining class, **other** (sometimes referred to as *world*), means *all other* accounts on the system.

To give the permission "+" sign used and to remove the permission "-" sign used.

```
student@student-Vostro-3470:~$ chmod u+rwx Page1
student@student-Vostro-3470:~$
```

10. pwd

The pwd command stands for print working directory. When invoked the command prints the complete path of the current working directory.

```
student@student-Vostro-3470:~$ pwd
/home/student
```

11. wc {filename}

The wc command in Linux is short for word count. It's a simple tool that does exactly what its name suggests: it calculates numbers words in a file. It can also count similar things like number of characters, number of lines and number of bytes in a file.

```
student@student-Vostro-3470:~$ wc myfile
0 0 0 myfile
```

12. grep {word-to-lookup} {filename}

If you're looking for a file that contains a certain keyword and you know the name of the file, you can use this command. This command will search recursively through the directory /path/to/search for the file named filename and print out any lines that contain the keyword.

```
student@student-Vostro-3470:~$ grep cloud myfile
cloud computing
```

13. tail -|+ {linenumber} {filename}

As mentioned above, the tail command will show the last ten lines of a file by default. To display a specified number of lines, you need to pair it with the {linenumber}

```
student@student-Vostro-3470:~$ tail +3 myfile
abc
linux command
```

14. cmp {fil1} {file 2}

The tool compares two files byte by byte. As a difference is found, the tool stops and produces an output that tells which line and byte the difference is in.

```
student@student-Vostro-3470:~$ cmp myfile myfile.old
myfile myfile.old differ: byte 1, line 1
```

15. diff {file 1} {file 2}

diff stands for **difference**. This command is used to display the differences in the files by comparing the files line by line.

```
student@student-Vostro-3470:~$ diff myfile myfile.old
1,4c1,2
< cloud computing
< 222 5 88 3 55 9 56 74 23 87
< abc
< linux command
---
> Computer Engineering
> Third year
```

16. pr {filename}

In Linux/Unix pr command is used to **prepare a file for printing** by adding suitable footers, headers, and the formatted text. pr command actually adds 5 lines of margin both at the top and bottom of the page. The header part shows the date and time of the last modification of the file with the file name and the page number.

```
student@student-Vostro-3470:~$ pr myfile


2023-01-21 11:11                    myfile                    Page 1


cloud computing
222 5 88 3 55 9 56 74 23 87
abc
linux command
```

17. ps

The ps command is one of the most commonly used commands when troubleshooting issues on Linux systems.

```
student@student-Vostro-3470:~$ pr myfile


2023-01-21 11:11                    myfile                    Page 1


cloud computing
222 5 88 3 55 9 56 74 23 87
abc
linux command
```

18. ps -ag

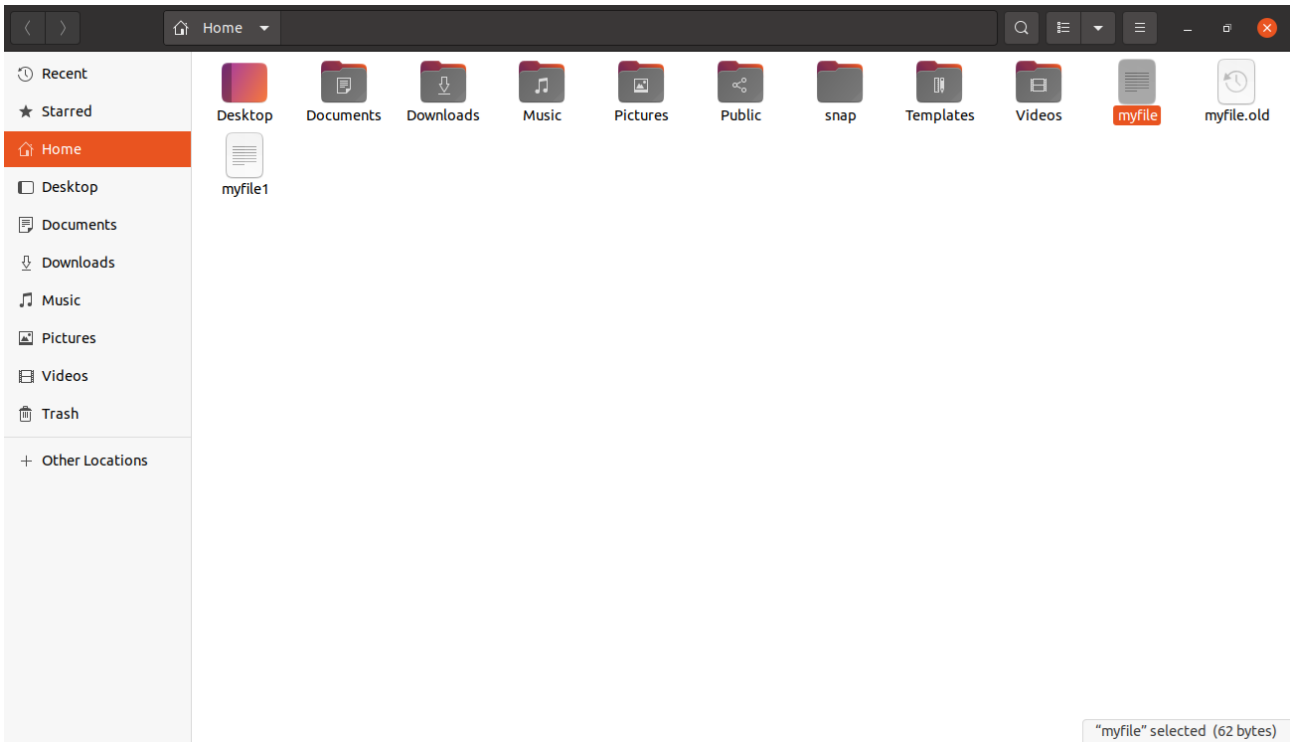
This command gives us all information about running processes.

```
student@student-Vostro-3470:~$ ps -ag
    PID TTY      STAT   TIME COMMAND
   1534 tty2     Ssl+   0:00 /usr/lib/gdm3/gdm-x-session --run-script env GNOME_
   1536 tty2     Sl+    1:18 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user
   1545 tty2     Sl+    0:00 /usr/libexec/gnome-session-binary --systemd --syste
   5717 pts/0    Ss     0:00 bash
   6007 pts/0    T      0:00 cat
   6886 pts/0    T      0:00 cat
   8837 pts/0    R+     0:00 ps -ag
```

19. touch {filename}

It is used to create a file without any content. The file created using touch command is empty. This command can be used when the user doesn't have data to store at the time of file creation.

```
student@student-Vostro-3470:~$ touch myfile1
student@student-Vostro-3470:~$
```



20. clear

clear is a standard Unix computer operating system command that is used to clear the terminal screen.

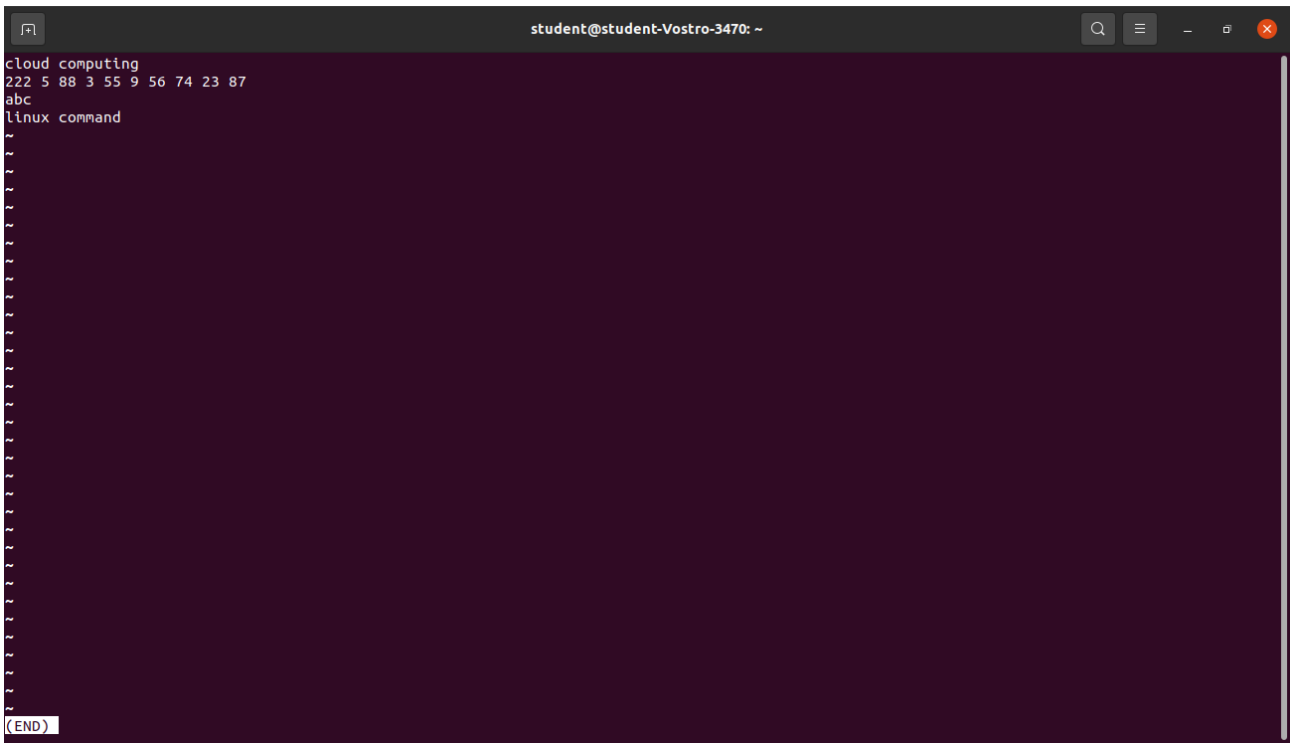
21. echo

The **echo** command is a built-in Linux feature that prints out arguments as the standard output. **echo** is commonly used to display text strings or command results as messages.

```
student@student-Vostro-3470:~$ echo linux
linux
```

22. less {filename}

Less command is a Linux utility that can be used to read the contents of a text file one page(one screen) at a time. It has faster access because if file is large it doesn't access the complete file, but accesses it page by page.



23. man man

man command in Linux is used to display the user manual of any command that we can run on the terminal. It provides a detailed view of the command which includes NAME, SYNOPSIS, DESCRIPTION, OPTIONS, EXIT STATUS, RETURN VALUES, ERRORS, FILES, VERSIONS, EXAMPLES, AUTHORS and SEE ALSO.

24. uname

When we run uname command without any options, it just prints the core operating system name. We can also use -s option to get the same output, it prints the kernel name of the system.

```
student@student-Vostro-3470:~$ uname
Linux
```

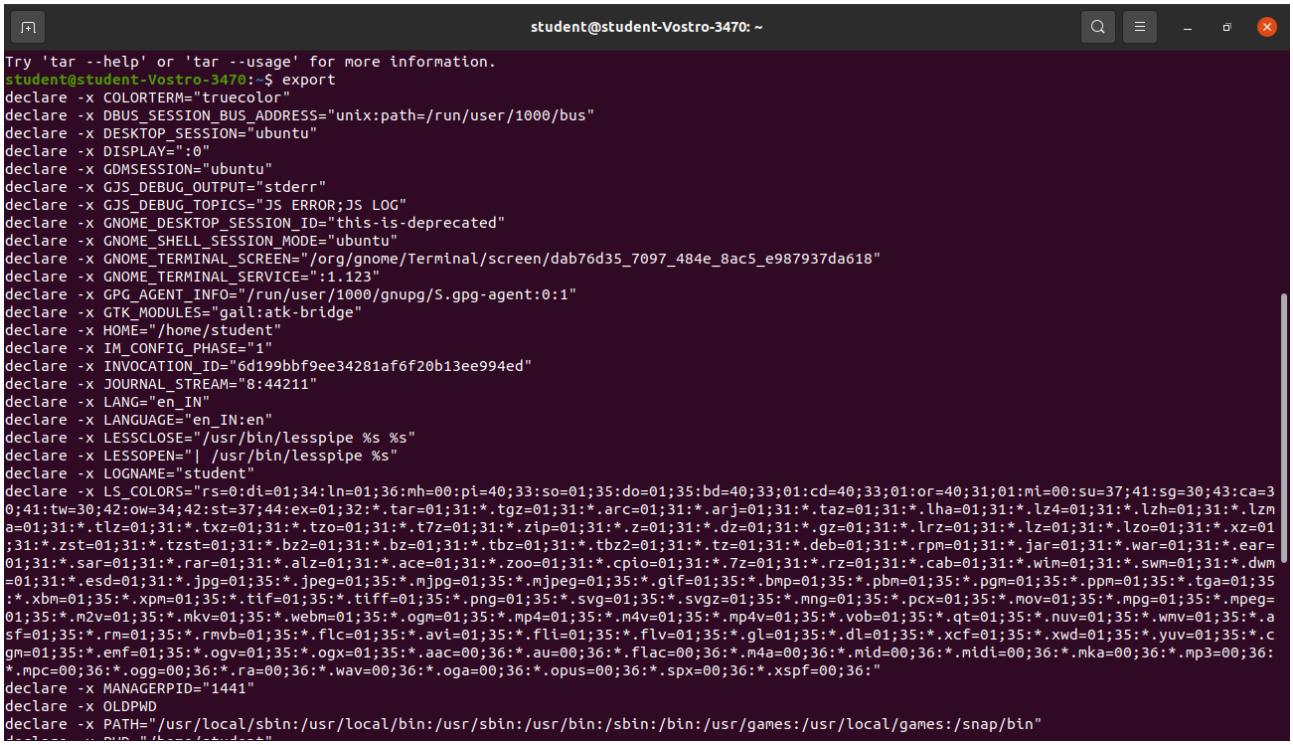
25. whoami

whoami command is used both in *Unix Operating System* and as well as in *Windows Operating System*. It is basically the concatenation of the strings **“who”,”am”,”i”** as **whoami**. It displays the username of the current user when this command is invoked.

```
student@student-Vostro-3470:~$ whoami
student
```

26. export

Export command in Linux without any argument will generate or display all exported variables.



27. df

we use the df command to find total disk space and available space on a Linux / Unix file system.

```
student@student-Vostro-3470:~$ df
Filesystem     1K-blocks    Used Available Use% Mounted on
udev             1875644       0   1875644   0% /dev
tmpfs             382388    1840    380548   1% /run
/dev/sda2      959786032 9861180 901096644   2% /
tmpfs            1911924       0   1911924   0% /dev/shm
tmpfs               5120       4      5116   1% /run/lock
tmpfs            1911924       0   1911924   0% /sys/fs/cgroup
/dev/loop0           128     128         0 100% /snap/bare/5
/dev/loop1         64896   64896         0 100% /snap/core20/1778
/dev/loop4        354688  354688         0 100% /snap/gnome-3-38-2004/119
/dev/loop3        254848  254848         0 100% /snap/gnome-3-38-2004/99
/dev/loop2         64768   64768         0 100% /snap/core20/1738
/dev/loop5         66816   66816         0 100% /snap/gtk-common-themes/1519
/dev/loop6         93952   93952         0 100% /snap/gtk-common-themes/1535
/dev/loop7         55552   55552         0 100% /snap/snap-store/558
/dev/loop10        51072   51072         0 100% /snap/snapd/17950
/dev/loop9         50816   50816         0 100% /snap/snapd/17883
/dev/loop8         47104   47104         0 100% /snap/snap-store/638
/dev/sda1         523248   30156    493092   6% /boot/efi
tmpfs             382384      48    382336   1% /run/user/1000
```

28. ifconfig

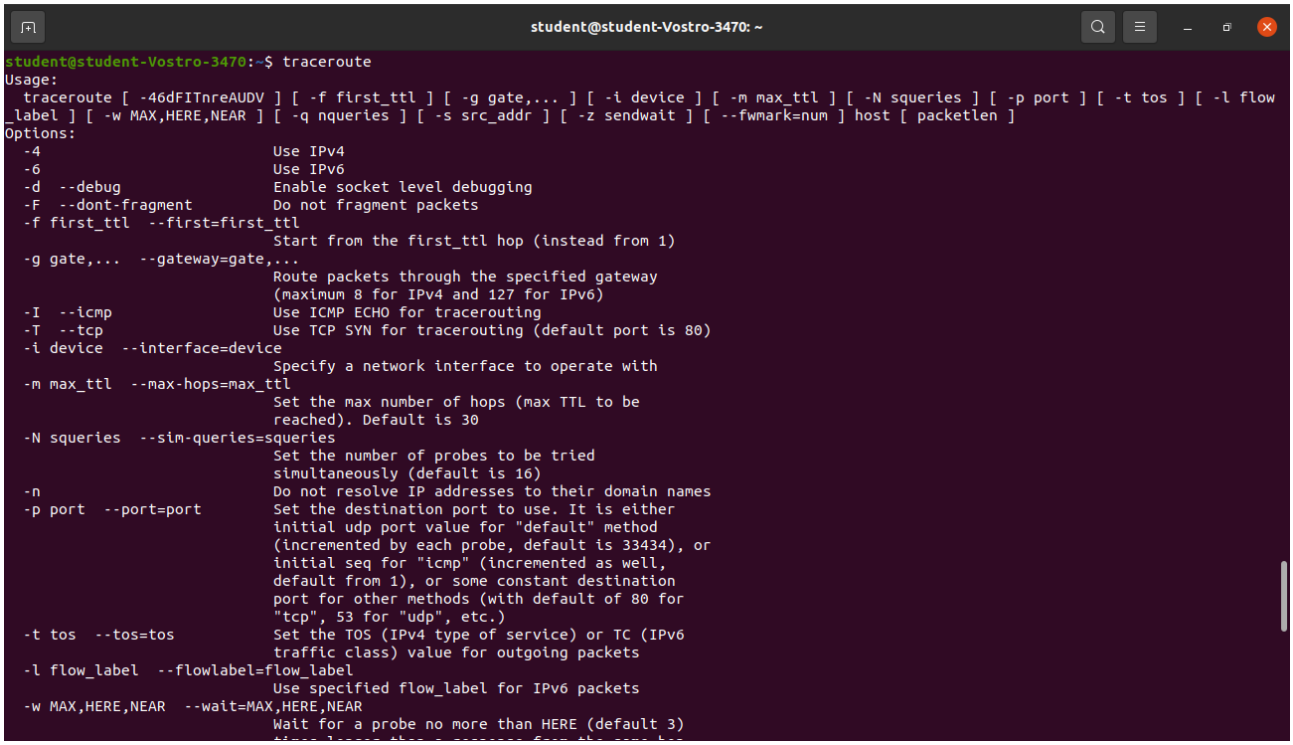
The “ifconfig” command is used for displaying current network configuration information, setting up an ip address, netmask, or broadcast address to a network interface, creating an alias for the network interface, setting up hardware address, and enable or disable network interfaces.

```
student@student-Vostro-3470:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 172.16.23.33  netmask 255.255.255.0  broadcast 172.16.23.255
        inet6 fe80::a1f9:3189:2649:4232  prefixlen 64  scopeid 0x20<link>
        ether e4:54:e8:a7:5c:13  txqueuelen 1000  (Ethernet)
        RX packets 24583  bytes 28533774 (28.5 MB)
        RX errors 0  dropped 87  overruns 0  frame 0
        TX packets 12857  bytes 1827525 (1.8 MB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 2035  bytes 199306 (199.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 2035  bytes 199306 (199.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

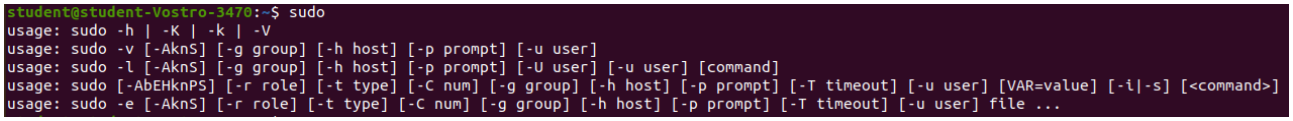
29. traceroute

traceroute command in Linux prints the route that a packet takes to reach the host. This command is useful when you want to know about the route and about all the hops that a packet takes.



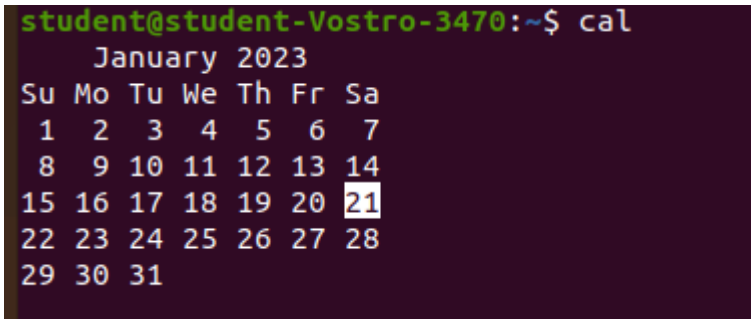
30. sudo

Sudo stands for SuperUser DO and is used to access restricted files and operations. By default, Linux restricts access to certain parts of the system preventing sensitive files from being compromised. The sudo command temporarily elevates privileges allowing users to complete sensitive tasks without logging in as the root user.



31. cal

To see a basic calendar of the current month, just give following command.



32. alias

alias are like custom shortcuts used to represent a command (or set of commands) executed with or without custom options. It is like a shortcut command which will have same functionality as if we are writing the whole command.

Without arguments, alias prints the list of aliases in the reusable form alias Name=Value on standard output.

```
student@student-Vostro-3470:~$ alias
alias alert='notify-send --urgency=low -i "$([ $? = 0 ] && echo terminal || echo error)" "$(history|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//;s/[
;&|]\s*alert$//'\'')"'
alias egrep='egrep --color=auto'
alias fgrep='fgrep --color=auto'
alias grep='grep --color=auto'
alias l='ls -CF'
alias la='ls -A'
alias ll='ls -alF'
alias ls='ls --color=auto'
```

33. whatis

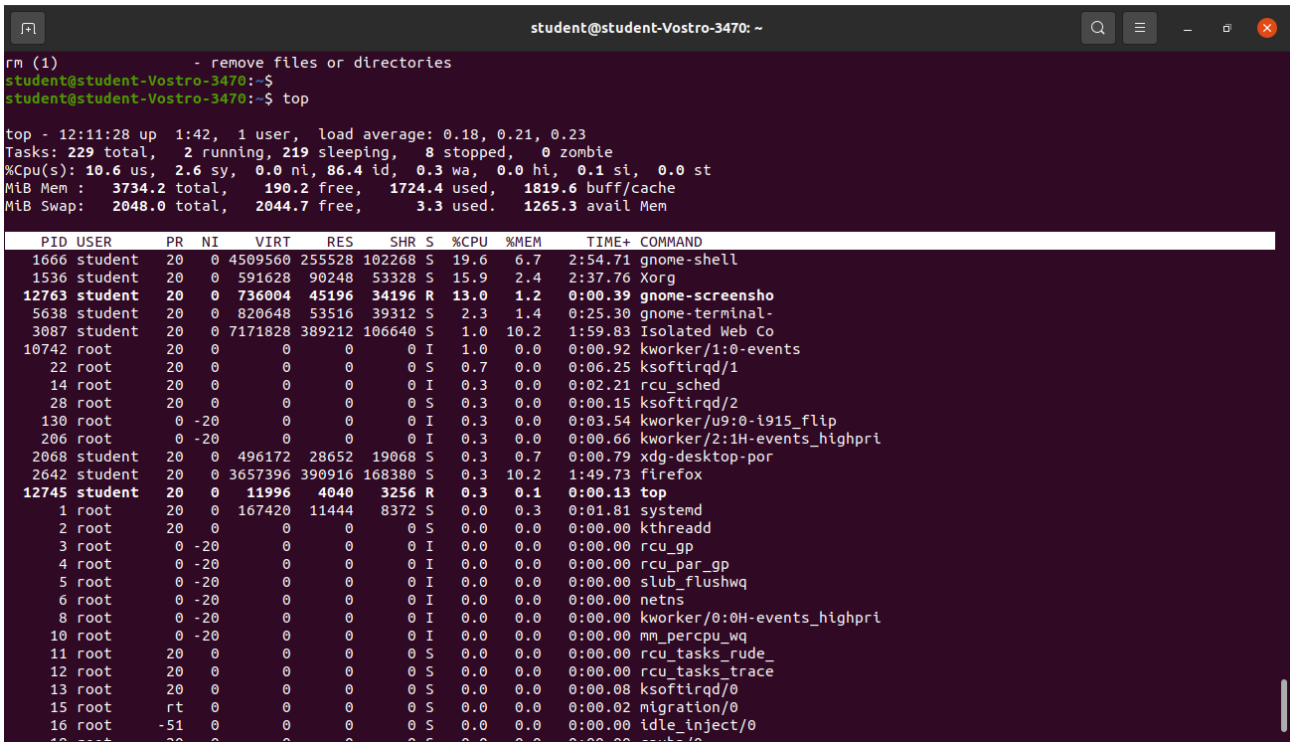
The whatis command may be used to provide a brief manual page description of multiple of Linux commands

```
student@student-Vostro-3470:~$ whatis mkdir
mkdir (1)            - make directories
student@student-Vostro-3470:~$ whatis rm
rm (1)               - remove files or directories
```

34. top

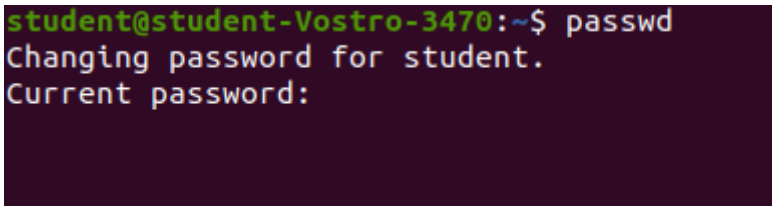
The output displays the summary area (the dashboard with resource usage stats) and the task area (a list of all processes). top updates the information every three seconds by default.

If the process list is long, scroll through it using the **Up** and **Down** arrows and **Page Up** and **Page Down** keys. To quit **top**, press **q**.



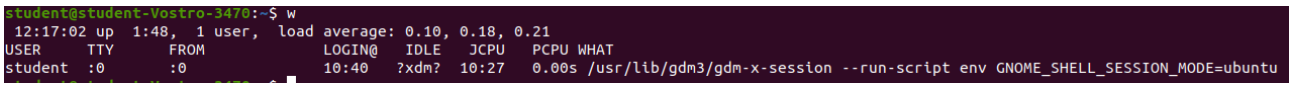
35. passwd

This command in Linux is used to change the user account passwords. The root user reserves the privilege to change the password for any user on the system, while a normal user can only change the account password for his or her own account.



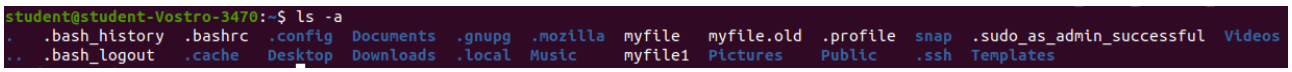
36. w

The w command displays a list of all logged in to the server and what they are doing. This command is similar to who command, but ends up displaying more information about logged in users.



37. ls -a

It will gives us all hidden files present into directory.



38. ls -l

This command used to list information about files and directories within the file system.

```
student@student-Vostro-3470:~$ ls -l
total 44
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Desktop
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Documents
drwxr-xr-x 2 student student 4096 Jan 21 10:48 Downloads
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Music
-rw-rw-r-- 1 student student   62 Jan 21 11:11 myfile
-rw-rw-r-- 1 student student    0 Jan 21 11:31 myfile1
-rw-rw-r-- 1 student student   32 Jan 21 11:17 myfile.old
drwxr-xr-x 2 student student 4096 Jan 21 12:19 Pictures
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Public
drwx------ 3 student student 4096 Dec 20 13:26 snap
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Templates
drwxr-xr-x 2 student student 4096 Dec  2 20:26 Videos
```

39. rm -rf

Linux rm -rf command **deletes directory forcefully**. It means a file or directory will be deleted anyhow even if it has read-only permission. To delete a file forcefully, use command: rm -f <file name>

```
student@student-Vostro-3470:~$ rm -rf myfile
student@student-Vostro-3470:~$
```

40. who | sort

Output of who command is given as input to sort command So that it will print sorted list of users.

```
student@student-Vostro-3470:~$ who | sort
student  :0           2023-01-21 10:40 (:0)
```