

# **ASSIGNMENT**

# **ON**

Advanced Computer Network Lab

**Submitted to**

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**MCA Department**

**Amal Jyothi College of Engineering**

**Submitted by**

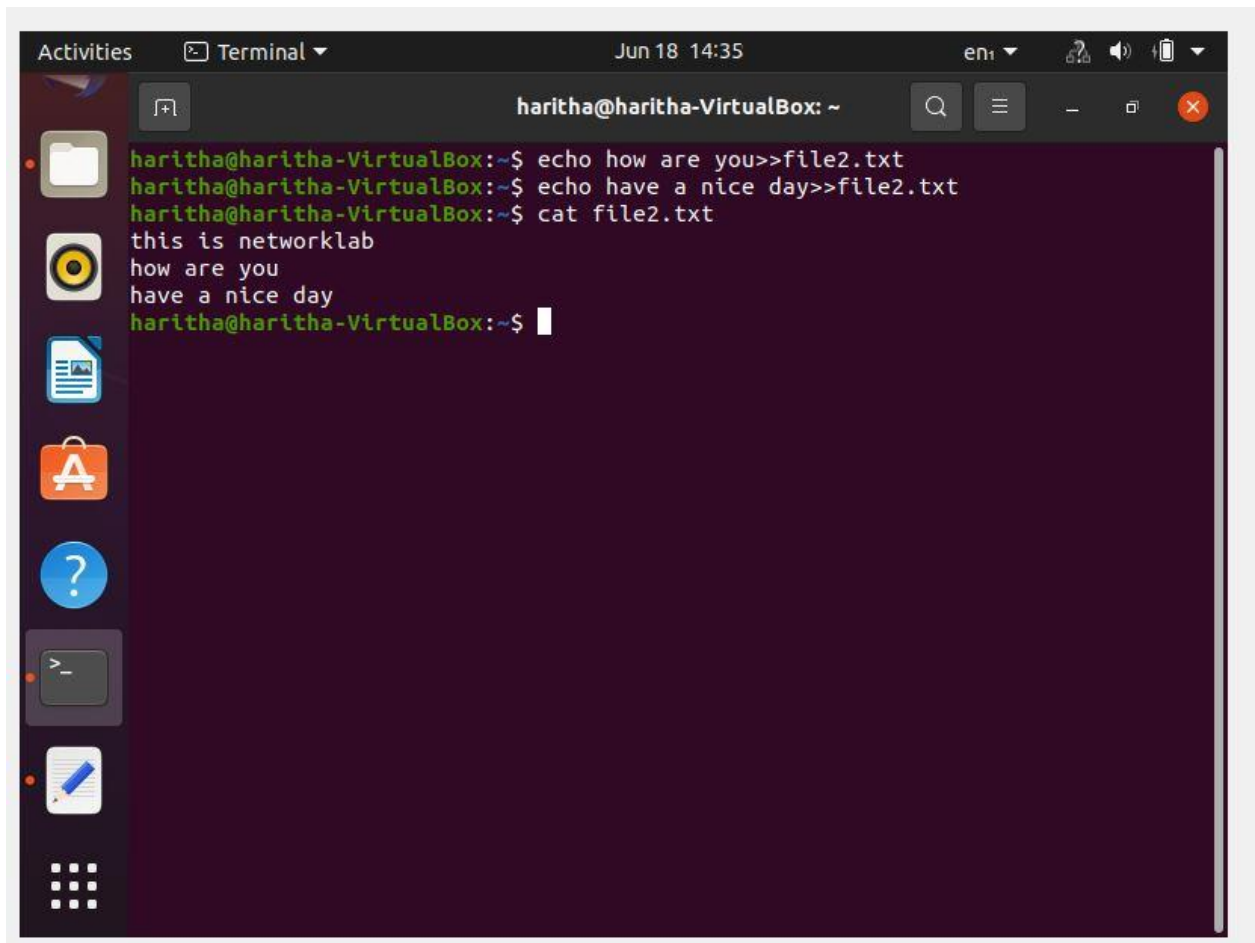
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**MCA S2 A**

**Rollno: 40**

## 1) echo

- to move some data into a file
- to add a text



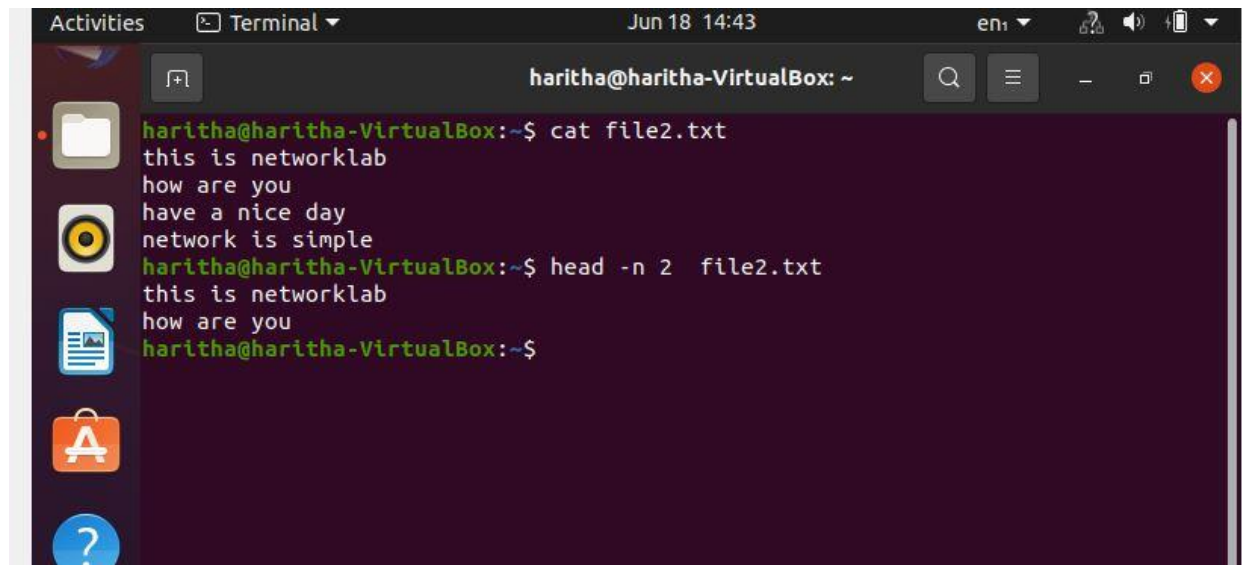
The screenshot shows a terminal window titled "haritha@haritha-VirtualBox: ~". The terminal output is as follows:

```
haritha@haritha-VirtualBox:~$ echo how are you>>file2.txt
haritha@haritha-VirtualBox:~$ echo have a nice day>>file2.txt
haritha@haritha-VirtualBox:~$ cat file2.txt
this is networklab
how are you
have a nice day
haritha@haritha-VirtualBox:~$
```

The terminal window includes a sidebar with application icons (Files, Music, Videos, Documents, Applications, Help, Terminal, and a grid icon) and a top bar with system information (Activities, Terminal, Jun 18 14:35, en1, and system icons).

## 2) head

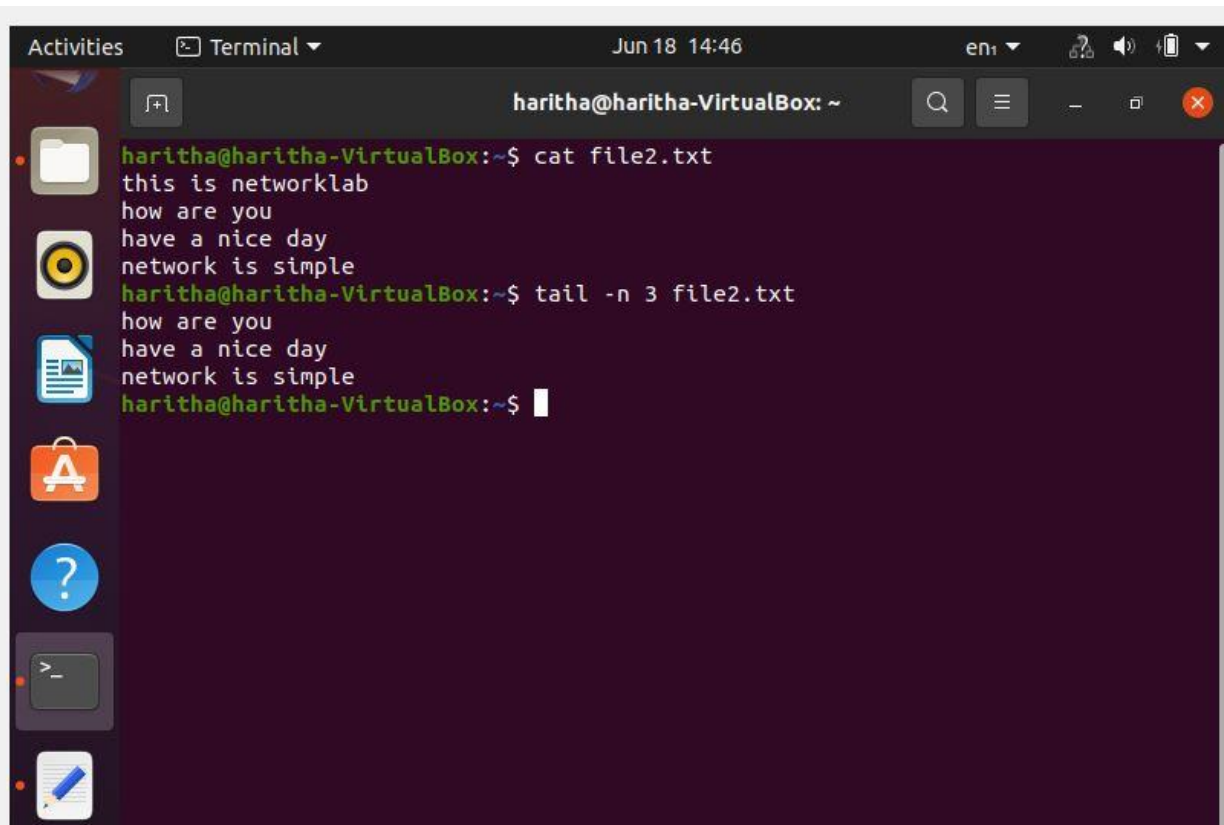
- used to view the first lines of any text file
- default it shows 10 lines

A terminal window titled 'haritha@haritha-VirtualBox: ~' with a dark purple background. The window shows the execution of two commands. First, 'cat file2.txt' is run, displaying the contents of the file: 'this is networklab', 'how are you', 'have a nice day', and 'network is simple'. Then, 'head -n 2 file2.txt' is run, displaying the first two lines: 'this is networklab' and 'how are you'. The prompt 'haritha@haritha-VirtualBox:~\$' is visible at the end of each command line. The window's title bar includes 'Activities', 'Terminal', the date 'Jun 18 14:43', and language 'en'. A sidebar on the left contains icons for a file manager, a media player, a document, an app store, and a help icon.

```
haritha@haritha-VirtualBox:~$ cat file2.txt
this is networklab
how are you
have a nice day
network is simple
haritha@haritha-VirtualBox:~$ head -n 2 file2.txt
this is networklab
how are you
haritha@haritha-VirtualBox:~$
```

### 3) tail

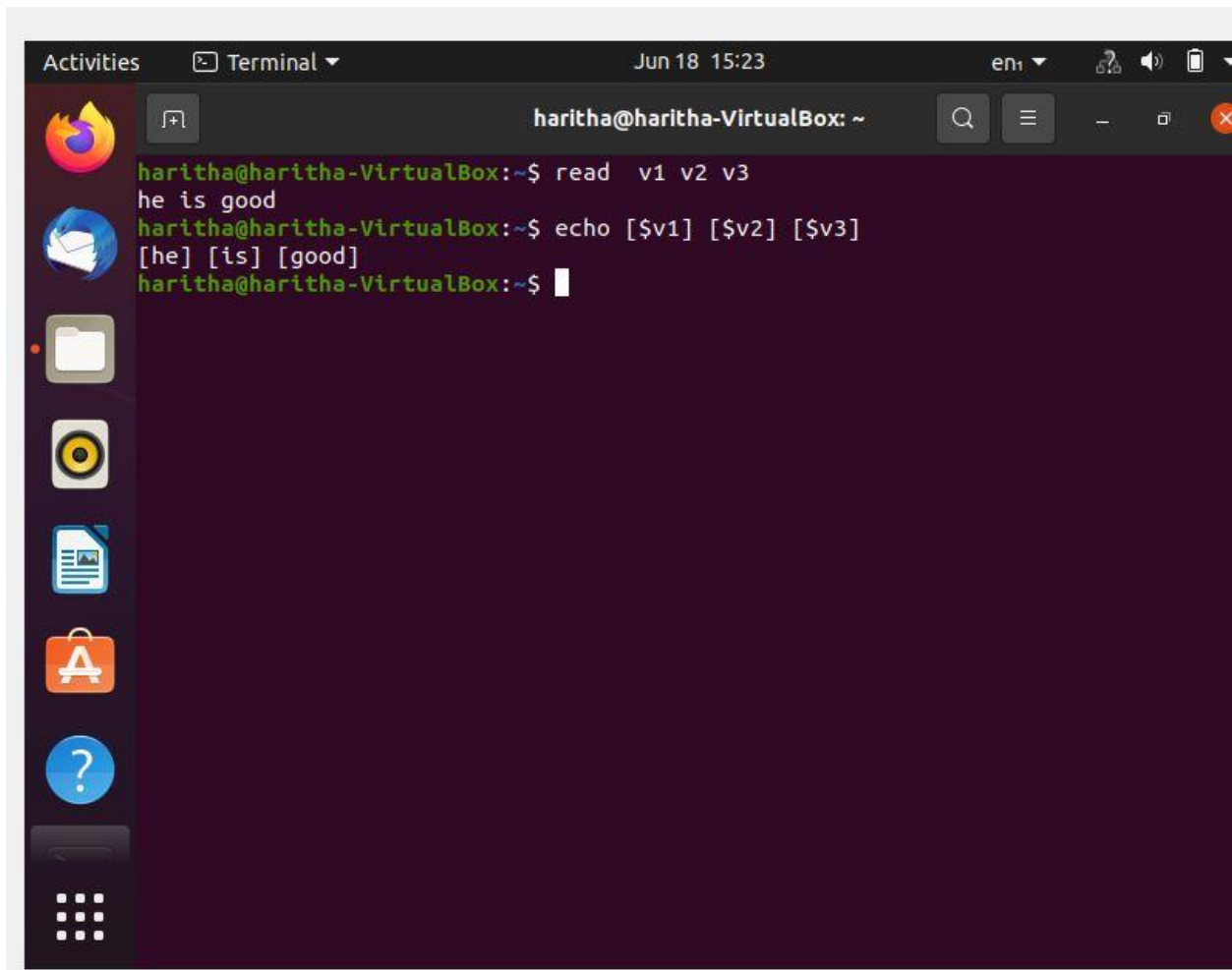
- will display the last ten lines of a text files

A terminal window titled 'haritha@haritha-VirtualBox: ~' with a dark purple background. The window shows the execution of two commands. First, 'cat file2.txt' is run, displaying the contents of the file: 'this is networklab', 'how are you', 'have a nice day', and 'network is simple'. Then, 'tail -n 3 file2.txt' is run, displaying the last three lines: 'how are you', 'have a nice day', and 'network is simple'. The prompt 'haritha@haritha-VirtualBox:~\$' is visible at the end of each command line. The window's title bar includes 'Activities', 'Terminal', the date 'Jun 18 14:46', and language 'en'. A sidebar on the left contains icons for a file manager, a media player, a document, an app store, a help icon, a terminal icon, and a notepad icon.

```
haritha@haritha-VirtualBox:~$ cat file2.txt
this is networklab
how are you
have a nice day
network is simple
haritha@haritha-VirtualBox:~$ tail -n 3 file2.txt
how are you
have a nice day
network is simple
haritha@haritha-VirtualBox:~$
```

#### 4) read

- read the contents of a line into a variable

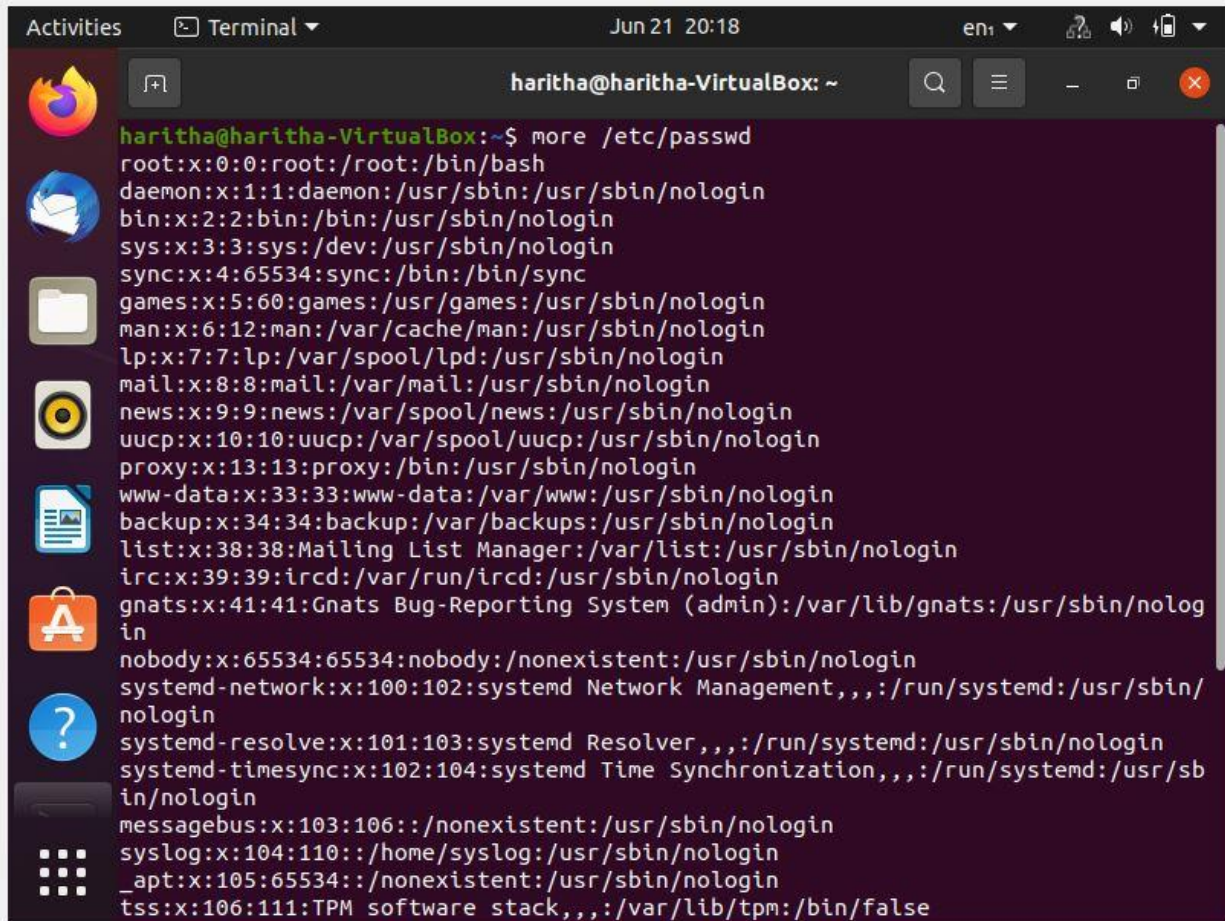


The screenshot shows a terminal window titled "haritha@haritha-VirtualBox: ~". The user has entered the command `read v1 v2 v3` and then typed "he is good". The prompt returns, and the user enters `echo [$v1] [$v2] [$v3]`, which outputs `[he] [is] [good]`. The terminal window is part of a desktop environment with a sidebar containing icons for Firefox, Files, Music, Videos, and Applications.

```
haritha@haritha-VirtualBox:~$ read v1 v2 v3
he is good
haritha@haritha-VirtualBox:~$ echo [$v1] [$v2] [$v3]
[he] [is] [good]
haritha@haritha-VirtualBox:~$
```

#### 5) more

- displays content of the file. Only difference is that in case of larger files cat command output will scroll off your screen while more command displays output one screenful at a time.
- Enter key : to scroll down page line by line
- Space bar : to go to next page
- b key : to go to the backward page
- /key : to search string



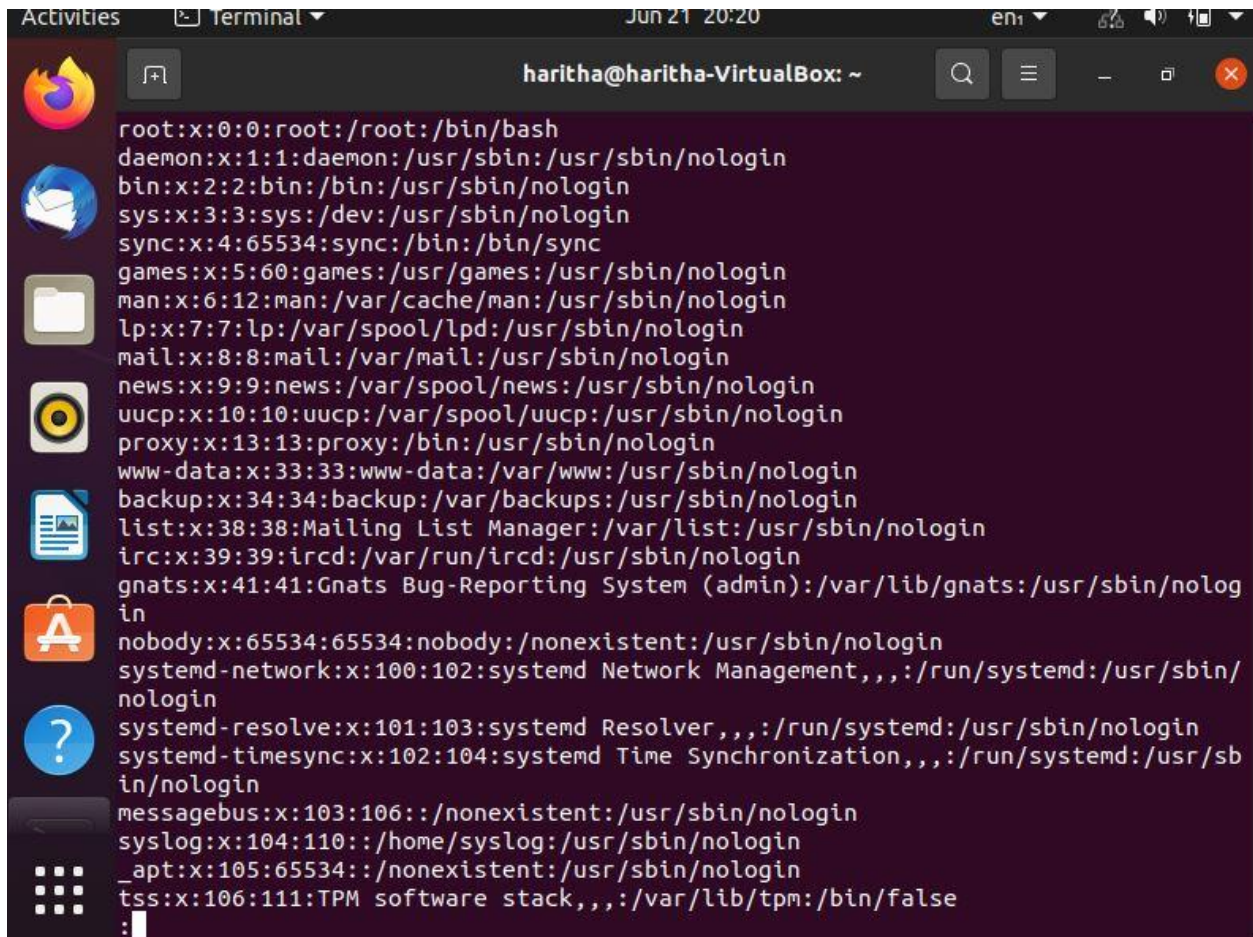
The screenshot shows a terminal window titled "haritha@haritha-VirtualBox: ~" with a dark background. The command `more /etc/passwd` has been executed, displaying the contents of the `/etc/passwd` file. The output lists system and user accounts, each with a username, UID, GID, name, home directory, and shell. The accounts shown are: `root`, `daemon`, `bin`, `sys`, `sync`, `games`, `man`, `lp`, `mail`, `news`, `uucp`, `proxy`, `www-data`, `backup`, `list`, `irc`, `gnats`, `nobody`, `systemd-network`, `systemd-resolve`, `systemd-timesync`, `messagebus`, `syslog`, `_apt`, and `tss`. The terminal window includes a top bar with "Activities", "Terminal", and the date/time "Jun 21 20:18". On the left, there is a vertical sidebar with application icons. The right side of the window has standard window controls and a search icon.

```
haritha@haritha-VirtualBox:~$ more /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:./nonexistent:/usr/sbin/nologin
syslog:x:104:110:./home/syslog:/usr/sbin/nologin
_apt:x:105:65534:./nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
```

## 6) less

- Automatically adjust with the width and height of terminal window

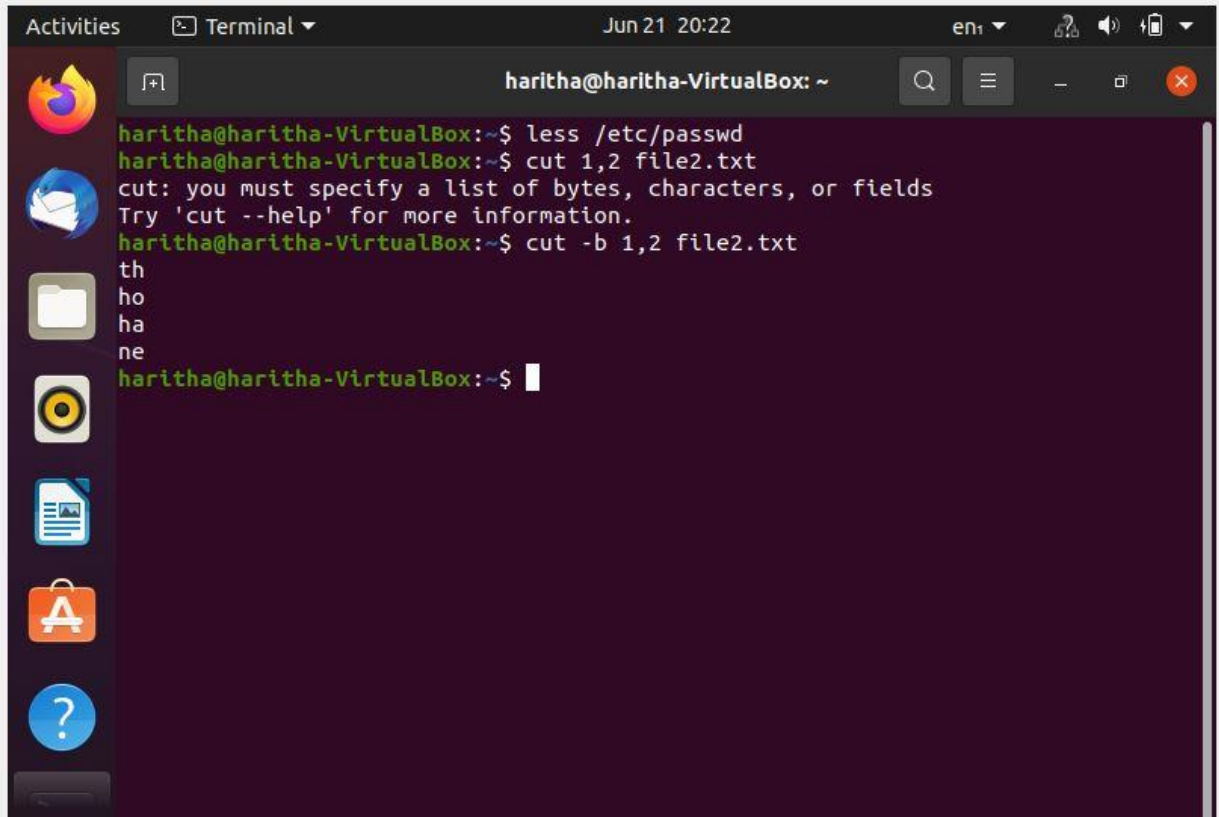




```
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106:,:/nonexistent:/usr/sbin/nologin
syslog:x:104:110:,:/home/syslog:/usr/sbin/nologin
_apt:x:105:65534:,:/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
```

## 7) cut

- used for cutting out the section from each lines of files and writing the standard output.
- It can be used to cut parts of a line by byte position character and field

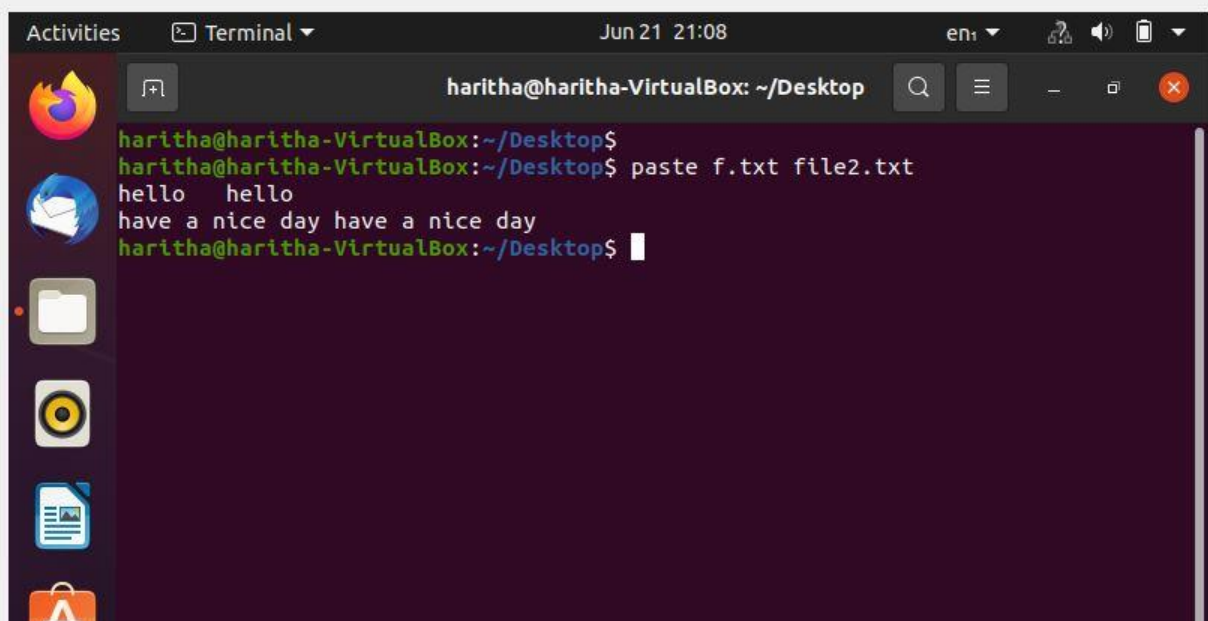


A terminal window titled "Terminal" with a date and time of "Jun 21 20:22". The user is logged in as "haritha" on a machine named "haritha-VirtualBox". The terminal shows the following commands and output:

```
haritha@haritha-VirtualBox:~$ less /etc/passwd
haritha@haritha-VirtualBox:~$ cut 1,2 file2.txt
cut: you must specify a list of bytes, characters, or fields
Try 'cut --help' for more information.
haritha@haritha-VirtualBox:~$ cut -b 1,2 file2.txt
th
ho
ha
ne
haritha@haritha-VirtualBox:~$
```

## 8) paste

- used to join files horizontally by outputting lines consisting of lines from each file specified, separated by tab as delimiter, to the standard output.

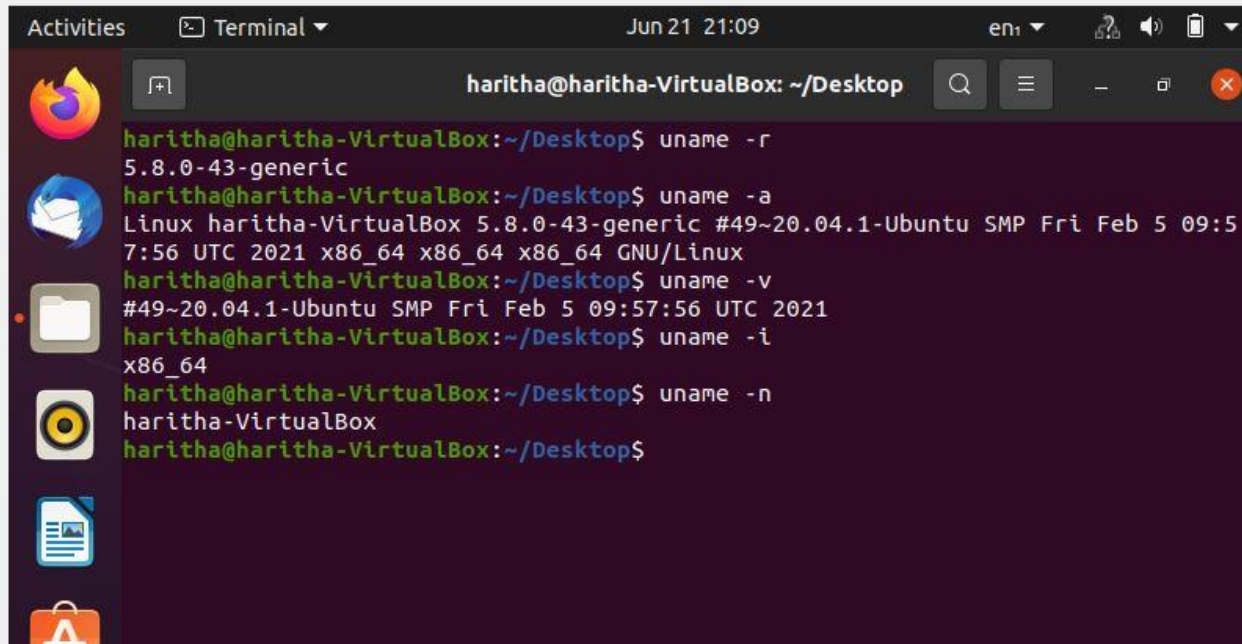


A terminal window titled "Terminal" with a date and time of "Jun 21 21:08". The user is logged in as "haritha" on a machine named "haritha-VirtualBox". The terminal shows the following commands and output:

```
haritha@haritha-VirtualBox:~/Desktop$
haritha@haritha-VirtualBox:~/Desktop$ paste f.txt file2.txt
hello    hello
have a nice day have a nice day
haritha@haritha-VirtualBox:~/Desktop$
```

## 9) uname

- will print detailed information about your linux system like machine name, operating system, kernel etc..



The screenshot shows a terminal window titled "haritha@haritha-VirtualBox: ~/Desktop". The terminal displays the following commands and their outputs:

```
haritha@haritha-VirtualBox:~/Desktop$ uname -r
5.8.0-43-generic
haritha@haritha-VirtualBox:~/Desktop$ uname -a
Linux haritha-VirtualBox 5.8.0-43-generic #49~20.04.1-Ubuntu SMP Fri Feb 5 09:57:56 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
haritha@haritha-VirtualBox:~/Desktop$ uname -v
#49~20.04.1-Ubuntu SMP Fri Feb 5 09:57:56 UTC 2021
haritha@haritha-VirtualBox:~/Desktop$ uname -i
x86_64
haritha@haritha-VirtualBox:~/Desktop$ uname -n
haritha-VirtualBox
haritha@haritha-VirtualBox:~/Desktop$
```

## 10) cp

- used to copy files from the current directory to a different directory
- cp -i ( will ask for user's consent in case of a potential file overwrite.)
- cp -p (will preserve source file mode, ownership and time stamp)
- cp -r (will copy directories recursively)
- cp -u (copies files only if the destination file is not existing or the source file is newer than the destination file)

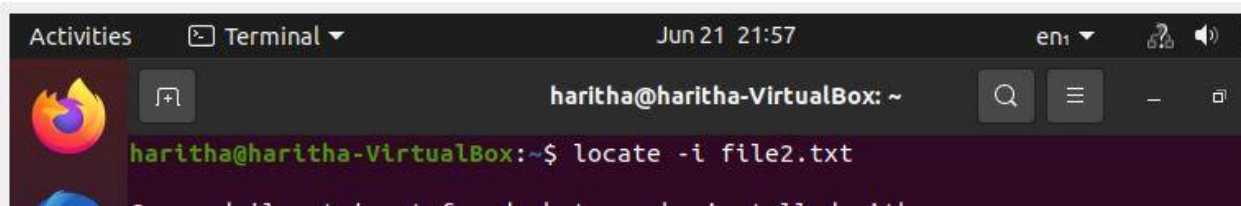
## 11) mv

- to move files
- rename files

## 12) locate



- to find a file
- locate -i filename (make it case insensitive you can search file if you don't remember its exact name)
- \* ( to search for a file that contains two or more words)



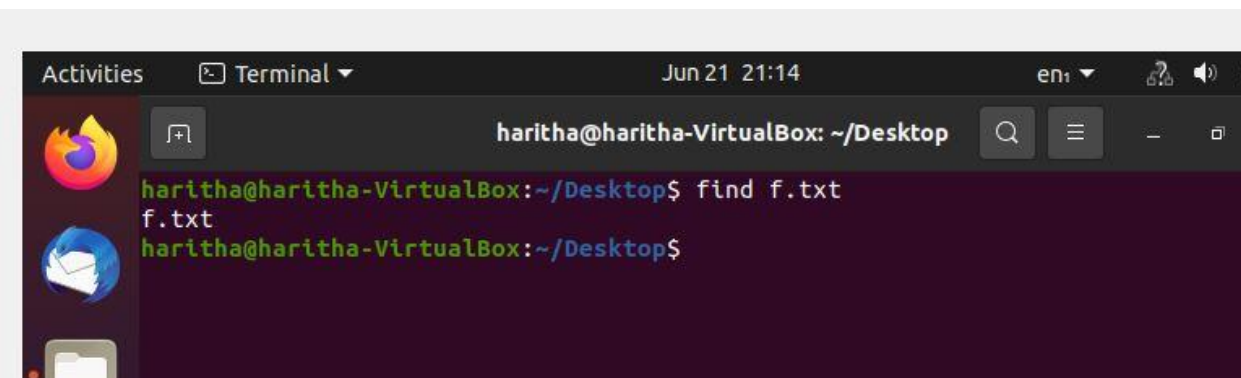
```

Activities  Terminal Jun 21 21:57 en1
haritha@haritha-VirtualBox: ~
haritha@haritha-VirtualBox:~$ locate -i file2.txt

```

### 13) find

- To search for files or directories
- Find. -name filename (to find files in the current directory)



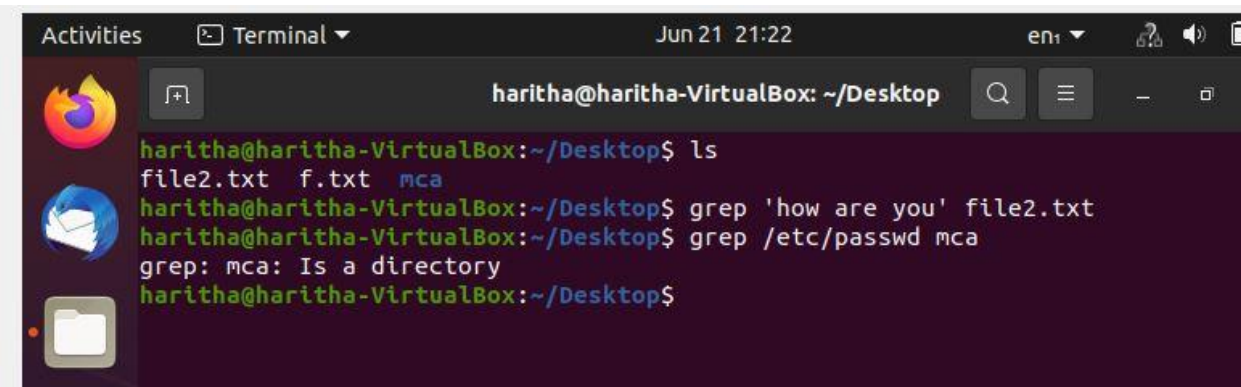
```

Activities  Terminal Jun 21 21:14 en1
haritha@haritha-VirtualBox: ~/Desktop
haritha@haritha-VirtualBox:~/Desktop$ find f.txt
f.txt
haritha@haritha-VirtualBox:~/Desktop$

```

### 14) grep

- Search through all the text in a given file



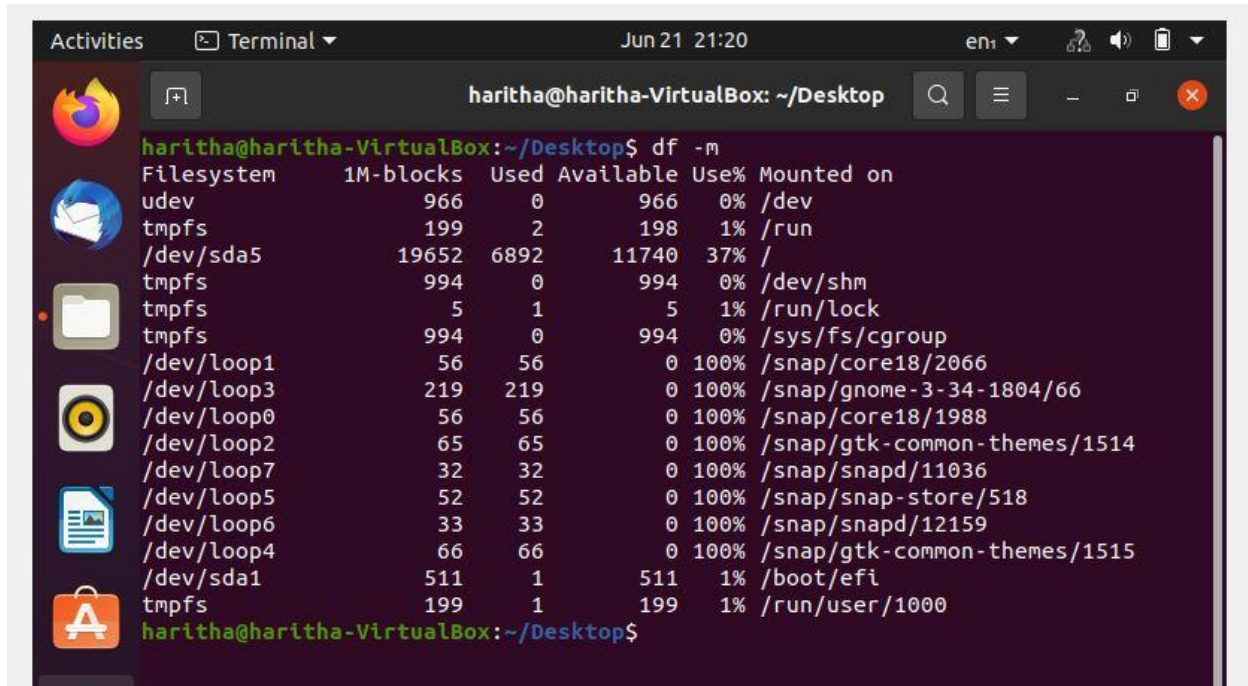
```

Activities  Terminal Jun 21 21:22 en1
haritha@haritha-VirtualBox: ~/Desktop
haritha@haritha-VirtualBox:~/Desktop$ ls
file2.txt f.txt mca
haritha@haritha-VirtualBox:~/Desktop$ grep 'how are you' file2.txt
haritha@haritha-VirtualBox:~/Desktop$ grep /etc/passwd mca
grep: mca: Is a directory
haritha@haritha-VirtualBox:~/Desktop$

```

### 15) df

- To get report on the system's disk space usage shows in percentage and kbs.

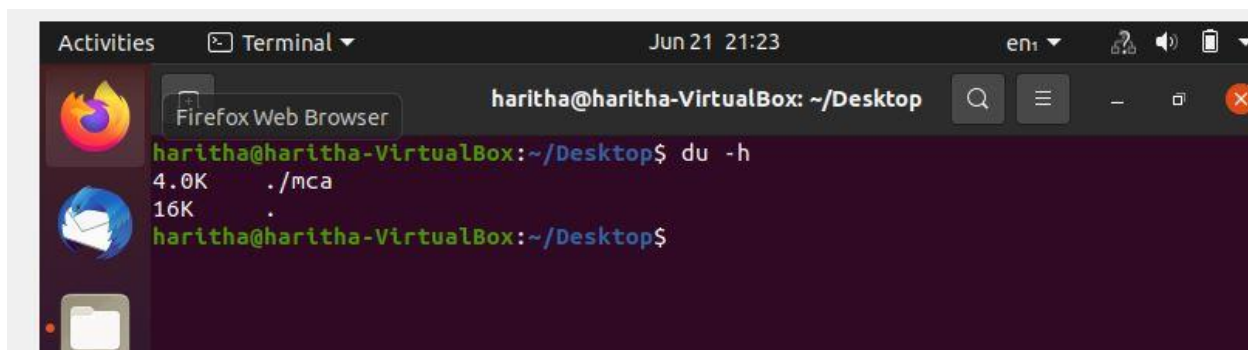


A terminal window titled "haritha@haritha-VirtualBox: ~/Desktop" showing the output of the command `df -m`. The output is a table with columns: Filesystem, 1M-blocks, Used, Available, Use%, and Mounted on. The table lists various filesystems including `udev`, `tmpfs`, `/dev/sda5`, `/dev/shm`, `/run/lock`, `/sys/fs/cgroup`, and several `/dev/loop` devices, along with their respective disk usage statistics.

```
haritha@haritha-VirtualBox:~/Desktop$ df -m
Filesystem      1M-blocks    Used Available Use% Mounted on
udev              966         0       966   0% /dev
tmpfs             199         2       198   1% /run
/dev/sda5       19652     6892    11740  37% /
tmpfs             994         0       994   0% /dev/shm
tmpfs              5         1         5   1% /run/lock
tmpfs            994         0       994   0% /sys/fs/cgroup
/dev/loop1         56         56         0 100% /snap/core18/2066
/dev/loop3        219        219         0 100% /snap/gnome-3-34-1804/66
/dev/loop0         56         56         0 100% /snap/core18/1988
/dev/loop2         65         65         0 100% /snap/gtk-common-themes/1514
/dev/loop7         32         32         0 100% /snap/snapd/11036
/dev/loop5         52         52         0 100% /snap/snap-store/518
/dev/loop6         33         33         0 100% /snap/snapd/12159
/dev/loop4         66         66         0 100% /snap/gtk-common-themes/1515
/dev/sda1        511         1       511   1% /boot/efi
tmpfs             199         1       199   1% /run/user/1000
```

### 16) du

- to check how many space a file or directory takes.

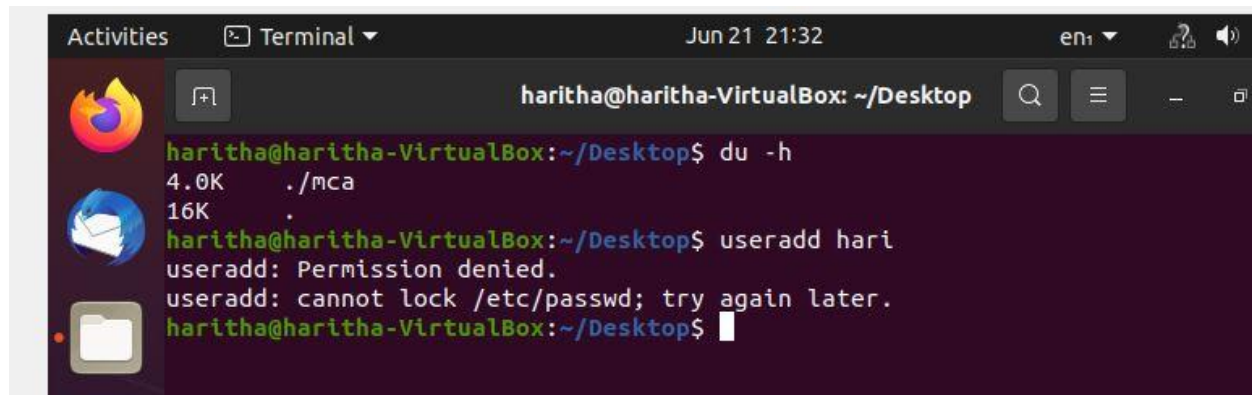


A terminal window titled "haritha@haritha-VirtualBox: ~/Desktop" showing the output of the command `du -h`. The output shows the disk usage for the current directory (`.`) and a subdirectory (`./mca`).

```
haritha@haritha-VirtualBox:~/Desktop$ du -h
4.0K    ./mca
16K     .
```

### 17) useradd

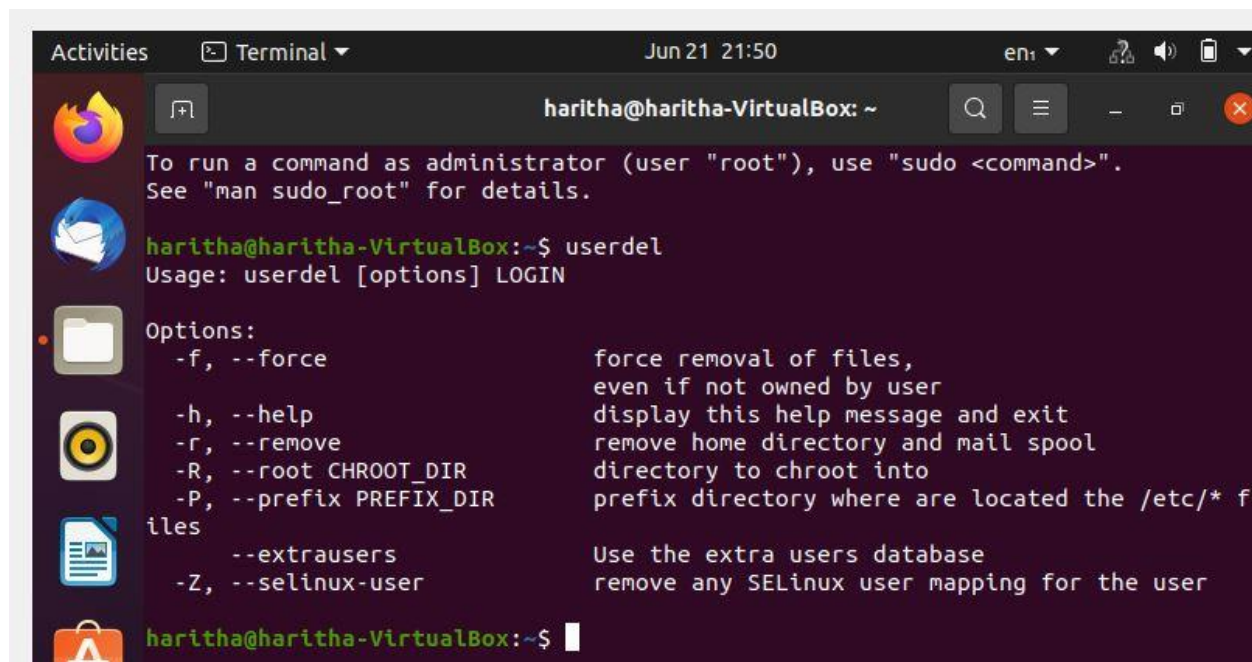
- available only for system admins.
- To create new user



```
haritha@haritha-VirtualBox: ~/Desktop
haritha@haritha-VirtualBox:~/Desktop$ du -h
4.0K    ./mca
16K     .
haritha@haritha-VirtualBox:~/Desktop$ useradd hari
useradd: Permission denied.
useradd: cannot lock /etc/passwd; try again later.
haritha@haritha-VirtualBox:~/Desktop$
```

## 18) userdel

- remove user or delete user account



```
haritha@haritha-VirtualBox: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
haritha@haritha-VirtualBox:~$ userdel
Usage: userdel [options] LOGIN

Options:
  -f, --force                force removal of files,
                             even if not owned by user
  -h, --help                display this help message and exit
  -r, --remove              remove home directory and mail spool
  -R, --root CHROOT_DIR    directory to chroot into
  -P, --prefix PREFIX_DIR  prefix directory where are located the /etc/* files
  --extrausers              Use the extra users database
  -Z, --selinux-user        remove any SELinux user mapping for the user

haritha@haritha-VirtualBox:~$
```

## 19) sudo

- SuperUserDo ,enables you to perform tasks that require administrative or root permissions.

**20) passwd**

- to change passwords for user account.