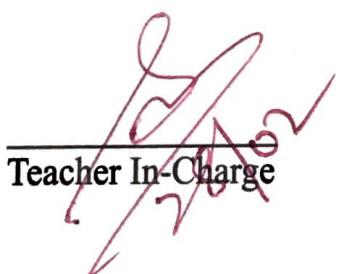


Degree College  
**Computer Journal**  
**CERTIFICATE**

SEMESTER II UID No. \_\_\_\_\_  
 Class FY BGC-CS Roll No. 1864 Year 2019-2020

This is to certify that the work entered in this journal  
 is the work of Mst. / Ms. AKSHATHA SWAMY

who has worked for the year 2019-20 in the Computer  
 Laboratory.

  
 Teacher In-Charge

Head of Department

Date : \_\_\_\_\_

Examiner

★ ★ INDEX ★ ★

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update

as we can suggest you madam as  
available we ask you to record down information  
you will be asked to join website network if  
you do not connected to the internet  
you can get latest update in ubuntu  
you should advise make sure you have enough  
space on your computer to install Ubuntu.  
You should also make sure you have enough  
power source.

### TO INSTALL UBUNTU:-

If your computer doesn't support mathtool do as  
most newer computers can boot from USB. You should  
use a welcome screen prompting you to choose  
your language and giving you option  
to install Ubuntu as you know use  
up the boot menu but the scroll net to hold it  
down than it causes error message.

### CHANGING

### AIM - INSTALLATION OF UBUNTU AND BACKGROUND

### PRACTICAL NO - 1

2.

several ways  
you can now  
choose the way you like

### 3 BEGIN THE INSTALLATION

- Depending on your hardware selection you can now easily choose the way you like to install Ubuntu
- The installation process will begin when you click Install Now button.
- Ubuntu needs about 4.5 GB to install,
- add few extra GB to allow for your files.
- 4 SELECT YOUR LOCATION

• If you are connected to the internet, this should automatically choose location as default

• CUSTOMIZE DESKTOP ENVIRONMENT BY CHANGING DIFFERENT DEFAULT OPTIONS LIKE CHANGING BACKGROUND THEMES, SCREEN SAVERS ETC.

surfing without a doubt!

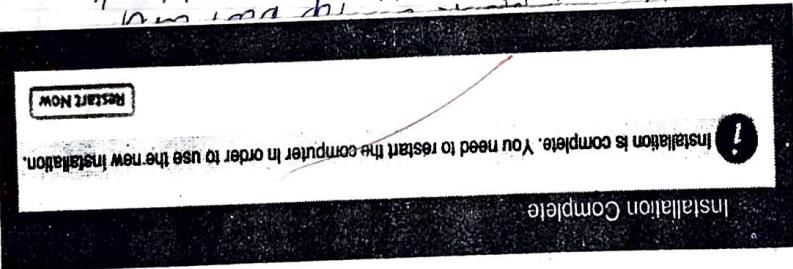
not much effort is required to start your computer & start

ACCESSED APPS/SETTINGS

To access apps/settings in bulk, lots

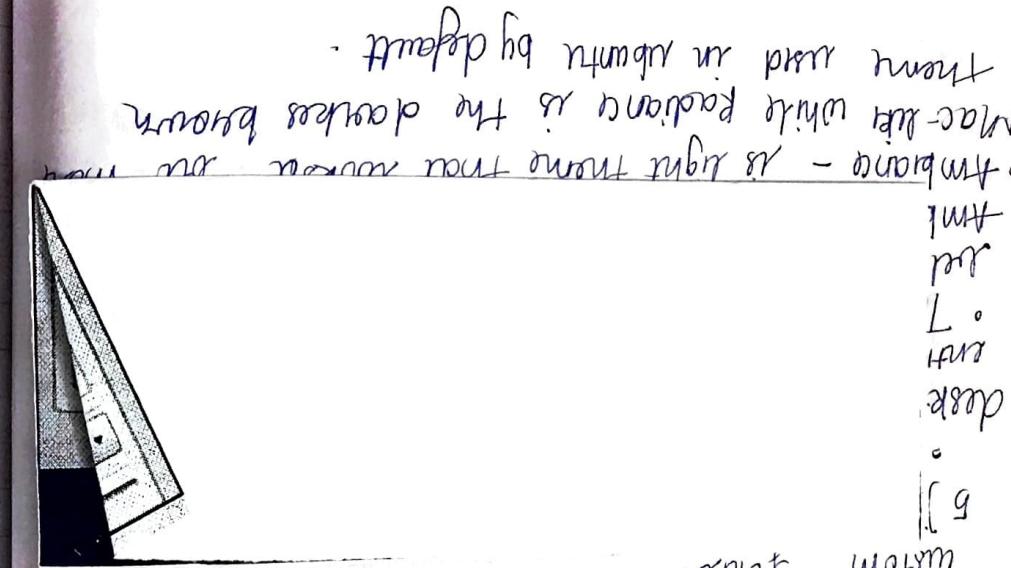
of which (around 100)

1. Click the icon in the system tray.
  2. Open System display.
  3. If you have multiple displays and they are mirrored across, you can have different displays on each display. Select display in settings bar and select system settings.
  4. If you want to change how up appears by changing the rotation.
- Things
- En
- our
- ip
- CURRENT



1. After the time is set, click 'TIME SET'.
2. At first the time will be set for 30 seconds before resuming back. That way,

If you want to do this for softether & susestunnel  
powerset you do need to softether & susestunnel  
powerset to apply. The hour setting will be applied by  
30 seconds before resuming back. That way,



1. To add wallpaper that is in another folder, just double click it in pop-up window, select the path to your folder, then double click it again and choose the picture you like.
2. You will see all the pictures folders as wallpaper thumbnails. Then you can select them as wallpaper.
3. To add wallpaper that is in another folder, just double click it in pop-up window, select the path to your folder, then double click it again and choose the picture you like.
4. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.
5. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.

Any thumbnail ever wallpaper will be changed right away, with a fading effect.

1. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.
2. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.
3. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.
4. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.
5. If you want to build wallpaper from your pictures folders, open it and select the picture you want to use - draw new.

NOW TO UNINITIALL GCC COMPILER.

In gcc 5.1.0, although there is no do  
and summarize some differences, do  
have it in forthwhile gcc so you can do,

Type: cd build/gcc  
sudo make uninitiall

This doesn't make source similarly anything  
that was installed, but it removes many others.  
That was surprised like gcc, g++, c++  
structured language contradict  
in that already.

~~10/10~~

Aim - Installing and running Software  
BB PRACTICAL-2

Step 1: Type, gcc -V, To know fr your how  
already installed gcc examples. as not  
if the current is built than it  
means that you can't use gcc  
unless you install gcc first.

Step 2: Type, sudo apt-get, unshat gcc; it  
will try building following command  
sudo apt-get, unshat gcc;

Step 3: Type, sudo apt-get instal build-  
programm language  
all the libraries required for C or  
C++.

and copy them to a new archive.

← `copy(-u)` → Select entries in an existing archive

delete them

← `delete(-d)` → Select entries in an existing archive and remove them

Output ← Name

list directory structures themselves, not their contents

-d, --directory

-c, -l list entries by columns  
classifiers

print (-s) file accepts for non-binary

-b, --escape

-A, -almost-all  
do not just output end

-a, -all  
do not ignore entries starting with

descriptions

dry runs is ← is [OPTION] ... [FILE]

Output Name ← is - list directory contents

without more summarized form of showing up is the command to be used to command line. The command is shown as follows:

(back space = down) (up)  
You can also scroll through pages using space up) &

displayed onto your screen.  
After typing this command following output will be

Open the terminal (`Ctrl+Alt+T`) and type: info grep

grep command: this gives you about the

tips: To find info about any command is the command for info  
is used to get information about any command.

Downward arrow: brings up the page for the command  
Upward arrow: brings up the page for the command  
Esc key: brings up the page for the command  
Boring up: brings up the page for the command  
Boring down: brings up the page for the command  
Boring left: brings up the page for the command  
Boring right: brings up the page for the command

Aim - Utilization of grep, man commands

049

These are certain forms that have different pages

in different sections (e.g. part 1 is a command

of 50)

choose which one you want as the main - a show  
section no. to the main before the page name &  
appears in section 1 as a std lib function appears in  
section 3). In class like that you can pass the

main (command name),

the: To use the main, command simply type

[6] Finding main pages from the end like: Body up the main to the is, Command  
library defines the page, command

Now we are going to find the main for  
simply type, main is,  
Now we are going to find the main for  
pages available that document file: What main  
of finding main pages by topic: What main  
compilation, simply type main for the  
which are available your document file for the  
[7] finding main pages by action form the  
second (16) division for the main pages  
search on the second (16) division for the main  
The number, command to what section  
of the main page is from 1 to 16 uses  
the main while page is from 1 to 16 uses

part 1) - format & printed data  
format 2 main - n part f  
format 1 part f  
format 8 main & print f  
format 1 part f  
part 1) - format fed of regression, print (8p) - print formatted of p  
part 2) - format fed of regression, print (1p) - write formatted of p

You can tell what section a term falls in with  
man -k, equivalent to ~~grep~~ a propos command.  
It will do substring matches so you need to  
use the -t option to limit it.

c) Command-Line Help List the available options for  
the `mkdir` command. How can you do this?

~~mkdir -m=700 directoryname~~

PRACTICAL - 4

4) Command line operations:

`Install new package on your system`

`sudo apt - get package (package name)`

2) Remove the package installed:

`sudo apt - get remove (package name)`

3) Find the password file in / using find command:

`# find / -name passwd`

`/usr /is share / doc / nss - / dcp - 253 / passwd / passwd`

`# find / - name passwd`

`/etc / passwd / passwd`

`# find / - max depth 2 - none passwd`

~~Find the password file under root and 2~~

~~# find / - max depth 8 - name passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~level down : name passwd~~

~~# find / - max depth 8 - name passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

~~/etc / passwd / passwd~~

~~/usr / bin / passwd / passwd~~

6) `find the password file both sub - directory`

`(1) / usr / share / bash - comp / ethon / comp / ethon / password`

`(2) / usr / share / doc / password`

`(3) / etc / cron . daily / password`

`(4) / etc / password / password`

`(5) / usr / bin / password`

`(6) / usr / share / doc / password`

`(7) / usr / share / bin / tian / overalids / password`

`(8) / usr / share / password`

`(9) / etc / password / password`

`(10) / etc / password / password`

`(11) / usr / share / password`

`(12) / etc / touch example .txt / touch example .txt / touch`

`(13) / etc / mv example .txt / touch example .txt / touch`

~~(14) step by step / example .txt / touch~~

~~(15) rm / example .txt / touch~~

~~(16) rm / example .txt / touch~~

```

hugecliffs on /dev/hugepages type hugecliffs (rw,relatime)
    rotos=5,maxproto=5,truncate)
hugecliffs-1 on /proc/sv/fd/buffer-type autofs (rw,relatime,freq=1,timelimit=6,minlp
    off=4)
cgroupp on /sys/fs/cgroup/hugecliff type group (rw,nosuid,nodev,noexec,relatime,hugecliff,nosrc
    t,srcoff=4)
cgroupe on /sys/fs/cgroup/perf-event type group (rw,nosuid,nodev,noexec,relatime,perf-evne
    )
cgrouph on /sys/fs/cgroup/blkio type group (rw,nosuid,nodev,noexec,relatime,blkio,nrroo=4
    )
cgroupn on /sys/fs/cgroup/memory type group (rw,nosuid,nodev,noexec,relatime,memonly,nrsoo
    off=4)
cgroupo on /sys/fs/cgroup/devices type group (rw,nosuid,nodev,noexec,relatime,devices,nrro
    ects,nrroo=4)
cgroupp on /sys/fs/cgroup/cpu,cpuacct type group (rw,nosuid,nodev,noexec,relatime,cpu,cpu
    off=4)
cgroupn on /sys/fs/cgroup/group_freezer type group (rw,nosuid,nodev,noexec,relatime,freeze,
    cgroupr on /sys/fs/cgroup/pids type group (rw,nosuid,nodev,noexec,relatime,pids,nrroo=4
    )
cgroupn on /sys/fs/cgroup/net_cls,net_prio type group (rw,nosuid,nodev,noexec,relatime,net
    off=4)
cgroupp on /sys/fs/cgroup/swap type group (rw,nosuid,nodev,noexec,relatime,swap)
cgroupn on /sys/fs/cgroup/swapback type group (rw,nosuid,nodev,noexec,relatime,swapback)
cgroupo on /sys/fs/cgroup/snapshot type mpss (rw,nosuid,nodev,noexec,relatime,cpuset,nrroo
    ects=nrroo=4)
cgroupr on /run/lock type mpss (rw,nosuid,nodev,noexec,relatime,xattr,relatime
    )
tmpfs on /run/shm type tmpfs (rw,nosuid,nodev,noexec,relatime,nrroo=122k)
securityfs on /run/locktype securityfs (rw,nosuid,nodev,noexec,relatime)
/dev/dasd on / type extra (rw,nosuid,noexec,relatime,old=5,mode=620,pname=000)
udev on /dev type devpts (rw,nosuid,noexec,relatime,old=5,mode=620,uname=123609,mode=755)
symlinks on /sys type symlinks (rw,nosuid,nodev,noexec,relatime)
jebagjeba-VirtualBox:~$ mount

```

2) What are the different ways of mounting mounted  
file systems on the Linux system

jebagjeba-VirtualBox:~\$ df -k						
Filesystem	IK-blocks	Used	Available	Use%	Mounted on	mount
udev	494496	0	494436	0%	/dev	
tmpfs	102416	3676	98740	4%	/run	
/dev/sda1	7092778	3383372	3326024	51%	/	
tmpfs	512076	216	511860	1%	/dev/shm	
tmpfs	512076	4	511860	1%	/run/lock	
tmpfs	512076	0	512076	0%	/sys/fs/cgroup	
tmpfs	102416	48	102368	1%	/run/user/1000	

Practical-05  
Full operations  
Simple mounting file systems on your computers

10) Find the location of ls, ps, bash commands:  
 # where is ls  
 ls : /bin/ls /share/man/man1.ls  
 # where is ps  
 ps : /bin/ps /share/man/man1.ps  
 # where is bash  
 bash: /bin/bash /etc /bash-4.2

# where is bash  
 # bash  
 /bin/bash

(3) Copying text from files  
 ↳ cp command , mv command

```
jeba@jeba-VirtualBox:~$ ls
Desktop  Downloads  Pictures  Public  Templates  Videos
Documents  examples.desktop  jeb  jeb  jeb  jeb
jeba@jeba-VirtualBox:~$ cd jeb
jeba@jeba-VirtualBox:~/jeb$ cat -gg.txt
jeba@jeba-VirtualBox:~/jeb$ cat gg.txt
cat: gg.txt: No such file or directory
jeba@jeba-VirtualBox:~/jeb$ cat -gg.txt
jeba@jeba-VirtualBox:~/jeb$ cat >gg.txt
welcome
Linux
jeba@jeba-VirtualBox:~/jeb$ ls
jeba@jeba-VirtualBox:~/jeb$ touch ss.txt
jeba@jeba-VirtualBox:~/jeb$ mv gg.txt ss.txt
jeba@jeba-VirtualBox:~/jeb$ cat gg.txt
cat: gg.txt: No such file or directory
jeba@jeba-VirtualBox:~/jeb$ cat ss.txt
Welcome
Linux
jeba@jeba-VirtualBox:~/jeb$
```

(4) Archiving and back up the work directory using tar, gzip and bzip commands.

↳   
 ↳   
**BzP 2 filename.tar**

```
jeba@jeba-VirtualBox:~$ tar -cvf data.tar /mn
tar: data.tar: Cannot open: Permission denied
tar: Error is not recoverable; exiting now
jeba@jeba-VirtualBox:~$ sudo tar -cvf data.tar /mn
tar: Removing leading '/' from member names
/mn/
/jmn/hd/
jeba@jeba-VirtualBox:~$ ls
bin  data.tar  etc  lib  mn  opt  run  srv  usr
boot  dd  home  lost+found  mnt  proc sbin  sys  var
cdrom  dev  initrd.lng  media  mnt1  root  snap  vmlinuz
```

```
jeba@jeba-VirtualBox:~$ cat data.tar
mn/0000075500000000000000000000000013605376555/010365 5ustar rootrootjeba@jeba-VirtualBox:~$ 
jeba@jeba-VirtualBox:~/jeb$ ls
jeba@jeba-VirtualBox:~/jeb$ ls -s
jeba@jeba-VirtualBox:~/jeb$ cat ss.txt.b2
jeba@jeba-VirtualBox:~/jeb$ cat dd.txt.gz
jeba@jeba-VirtualBox:~/jeb$ cat dd.txt>ss.txt.b2
jeba@jeba-VirtualBox:~/jeb$ cat dd.txt>ss.txt.gz
```

Use `diff` command to create diff of two files.

$\rightarrow$  `diff filename1 filename2`

```
jeba@jeba-VirtualBox:~/jeb$ cat >ht.txt
ht
ht
^C
jeba@jeba-VirtualBox:~/jeb$ cat >ht1.txt
hello
hello
hello
^C
jeba@jeba-VirtualBox:~/jeb$ diff -u ht.txt ht1.txt >sam.patch
jeba@jeba-VirtualBox:~/jeb$ patch <sam.patch
patching file ht.txt
jeba@jeba-VirtualBox:~/jeb$ cat sam.patch
--- ht.txt      2020-01-08 22:14:55.463469834 +0530
+++ ht1.txt    2020-01-08 22:15:16.259468738 +0530
@@ -1,3 +1,3 @@
-ht
+ht
+hello
+hello
jeba@jeba-VirtualBox:~/jeb$
```

(b) Use patch command to patch a file and analyze the patch using patch command again & again.

$\rightarrow$  `diff -U 10 filename1.txt filename2.txt >data.patch`  
~~patch 2 data.patch , cat data.patch~~

```
jeba@jeba-VirtualBox:~/jeb$ ls
dd.txt.gz ss.txt.bz2
jeba@jeba-VirtualBox:~/jeb$ cat >aa.txt
hello world
^C
jeba@jeba-VirtualBox:~/jeb$ cat >bb.txt
this is Linux^C
jeba@jeba-VirtualBox:~/jeb$ dd if=aa.txt of=bb.txt
1000+0 records in
1000+0 records out
jeba@jeba-VirtualBox:~/jeb$ cat >bb.txt
this is Linux
^C
jeba@jeba-VirtualBox:~/jeb$ diff aa.txt bb.txt
1c1
< hello world
> this is Linux
^C
jeba@jeba-VirtualBox:~/jeb$ gzip aa.txt
jeba@jeba-VirtualBox:~/jeb$ gzip bb.txt
jeba@jeba-VirtualBox:~/jeb$ diff aa.txt.gz bb.txt.gz
Binary files aa.txt.gz and bb.txt.gz differ
```

10  
2nd

```
jeba@jeba-VirtualBox:~$ who
jeba tty1 2020-01-15 20:30 (:0)
jeba@jeba-VirtualBox:~$ whoamit
jeba tty7 2020-01-15 20:32 (:0)
jeba@jeba-VirtualBox:~$ who
jeba tty1 2020-01-15 20:30 (:0)
jeba@jeba-VirtualBox:~$ who
jeba tty7 20:35:04 up 4 min, 1 user, load average: 0.70, 0.79, 0.38
USER   TTY   FROm          LOGIN          IDLE      CPU  WHAT
jeba@jeba-VirtualBox:~$ who
jeba tty7 :0 20:32 4:28 8.19s 0.33s /sbin/upstart -
USER   TTY   FROm          LOGIN          IDLE      CPU  WHAT
20:35:14 up 4 min, 1 user, load average: 0.60, 0.77, 0.37
jeba@jeba-VirtualBox:~$ who
jeba tty7 :0 4:35 /sbin/upstart --user
USER   TTY   FROm          LOGIN          IDLE      CPU  WHAT
20:35:12 up 5 min, 1 user, load average: 0.41, 0.69, 0.37
jeba@jeba-VirtualBox:~$ who
jeba tty7 :0 20:32 4:44 8.67s 0.33s /sbin/upstart -
USER   TTY   LOGIN          IDLE      CPU  WHAT
jeba@jeba-VirtualBox:~$ who
jeba tty7 :0 20:32 5:32 9.00s 0.33s /sbin/upstart --user
jeba@jeba-VirtualBox:~$ who
```

The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion.

The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion. The number of days for which the password is valid may be changed by the shopkeeper at his/her discretion.

```
jeba@jeba-VirtualBox:~$ p
jeba@jeba-VirtualBox:~$ who -l
jeba@jeba-VirtualBox:~$ cat /etc/shadow
jeba@jeba-VirtualBox:~$ clear
jeba@jeba-VirtualBox:~$ who
jeba@jeba-VirtualBox:~$ ls
jeba@jeba-VirtualBox:~$ rm -rf *
```

(c) Full name of user. Give not same what the minimum password length for this field is, but try to keep it reasonable. Usually /home/username . All user's home directory, web pages etc will be stored here user18 personal files, web pages etc will be stored here

(d) Explain different ways of getting command history, how to run powerfully without typing it.

(e) Write order of most common command which are commonly used this order of least to command

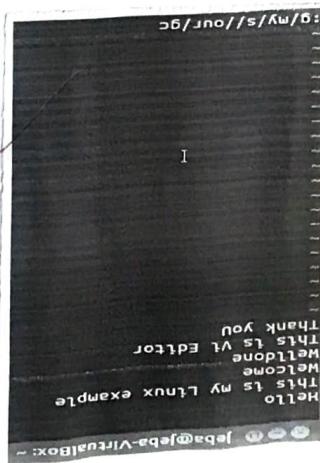
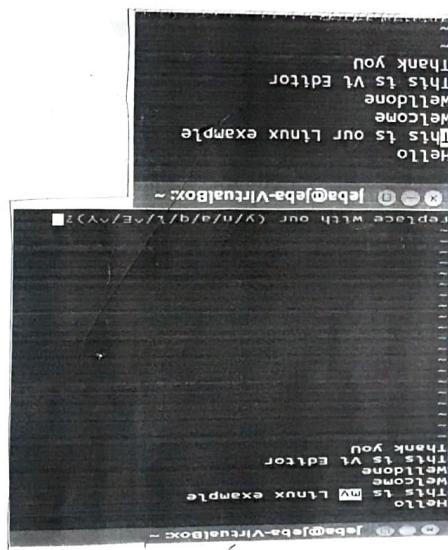
```
jeba@jeba-VirtualBox:~$ ls
jeba@jeba-VirtualBox:~$ new Pictures Templates Videos
jeba@jeba-VirtualBox:~$ jeba@jeba-VirtualBox:~$ ls
jeba@jeba-VirtualBox:~$ new Pictures Templates Videos
jeba@jeba-VirtualBox:~$ jeba@jeba-VirtualBox:~$ ls
jeba@jeba-VirtualBox:~$ new Pictures Templates Videos
```

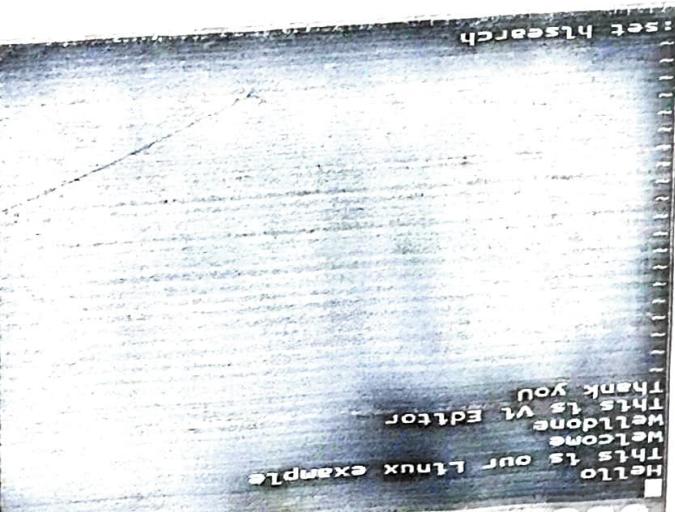
To create a file , in the terminal type vi followed by filename  
To modify a file , in the vi editor , type o  
!!! Search in a file

① Search in a file  
To search , search & replace a file in editor

## VI - EDITORS

## PRACTICAL





action word backward to begining of word moves forward to end of word moves of word to first char of line moves of word to end of line

key + d Ctrl + b Ctrl + f Ctrl + b Ctrl + f Ctrl + u Ctrl + d Ctrl + l Ctrl + r

(a) Journal search commands like search/replace  
highlight shows fine numbers - use get history  
highlight replace - use set history  
highlight like file - use set nu

scrolling

g  
o(zero)

m

c

b

key

Word Navigation

121

of use of sudo to change user privileges to select

## LINUX SECURITY

PRACTICAL-8

To give some users root privileges edit /etc/sudoers  
using visudo. Sudo now runs as highlighted.

b) I don't know what operations that require sudo privileges

c) Modify configuration don't your now run and using sudo word

```
jeba@jeba-VirtualBox:~$ sudo chmod -R user1
[jeba@jeba-VirtualBox:~$ sudo chage -l user1
Last password change : Jan 20, 2020
Account expires      : never
Minimum password age : 0
Maximum password age: 99999
Number of days between password change: 7
Password change warning before password expires: 7
[jeba@jeba-VirtualBox:~$ sudo chmod +R user1
```

```
jeba@jeba-VirtualBox:~$ su user1
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

```
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

```
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

```
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

```
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

```
[User] cannot create directory [home/jeba/.mkdr1]: permission denied
[sudo] password for user1: [home/jeba/.mkdr1]
[jeba@jeba-VirtualBox:~$ ls .mkdr1/
[jeba@jeba-VirtualBox:~$
```

jeba@jeba-VirtualBox:~\$ sudo chage user1  
Changing the aging information for user1  
Enter the new value, or press ENTER for the default

```
Minimum Password Age [0]: 100
Maximum Password Age [9999]: 200
Last Password Change (YYYY-MM-DD) [2020-01-20]: 2020-01-21
Password Expiration Warning [7]: 5
Password Inactive [-1]:
Account Expiration Date (YYYY-MM-DD) [-1]: 2020-01-31
jeba@jeba-VirtualBox:~$ sudo chage -l user1
Last password change : Jan 21, 2020
Password expires : Aug 08, 2020
Password inactive : never
Account expires : Jan 31, 2020
Minimum number of days between password change : 100
Maximum number of days between password change : 200
Number of days of warning before password expires : 5
jeba@jeba-VirtualBox:~$
```

```
jeba@jeba-VirtualBox:~$ sudo chage -E 25/01/2020 -m 10 -M 90 -I 30 -W 30 user1
jeba@jeba-VirtualBox:~$ sudo chage -l user1
Last password change : Jan 21, 2020
Password expires : Apr 20, 2020
Password inactive : May 20, 2020
Account expires : Jan 01, 2022
Minimum number of days between password change : 10
Maximum number of days between password change : 90
Number of days of warning before password expires : 36
jeba@jeba-VirtualBox:~$
```

x - jeba@jeba-VirtualBox:~\$ sudo userdel user1  
[sudo] password for jeba:  
jeba@jeba-VirtualBox:~\$ su user1  
No passwd entry for user 'user1'  
jeba@jeba-VirtualBox:~\$

*8/16/20*

PRACTICAL-9

Network Management  
get IP address of your machine using ifconfig

get hostname of your machine.

Use ping to check the network connectivity to remote machines.

4) Use of dig command

4) Troubleshooting network using traceroute, netstat, ping command

```
jeba@jeba-VirtualBox:~$ dig www.google.com
<--> DIG 9.10.3-P4_Ubuntu <--> www.google.com
; global options: +cmd
; Got answer:
; ->>HEADER<-
; opcode: QUERY, status: NOERROR, id: 52068
; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
; PSEUDOSECTION:
; EDNS: version: 0, flags: ; udp: 4096
; QUESTION SECTION:
; www.google.com. IN A
; ANSWER SECTION:
www.google.com. 91 IN A 172.217.166.100
; Query time: 152 msec
; SERVER: 127.0.1.1#53(127.0.1.1)
; WHEN: Mon Jan 20 22:40:06 IST 2020
; MSG SIZE rcvd: 59
jeba@jeba-VirtualBox:~$
```

```
jeba@jeba-VirtualBox:~$ traceroute www.google.com
traceroute to www.google.com (172.217.166.100), 30 hops max, 60 byte packets
1 10.0.2.2 (10.0.2.2) 0.190 ms 0.143 ms 0.151 ms
2 * * *
3 10.0.2.2 (10.0.2.2) 68.568 ms 68.486 ms 68.405 ms
jeba@jeba-VirtualBox:~$
```

4) Use of ip command

```
jeba@jeba-VirtualBox:~$ route
Kernel IP routing table
Destination     Gateway         Genmask        Flags Metric Ref    Use Iface
default         10.0.2.2      0.0.0.0       UG    100    0      0 enp0s3
10.0.2.0        *              255.255.255.0 U     100    0      0 enp0s3
link-local      *              255.255.0.0   U     1600   0      0 enp0s3
jeba@jeba-VirtualBox:~$
```

4) Use of host command

```
jeba@jeba-VirtualBox:~$ arp
Address          Hwtype        Hwaddress          Flags Mask          Interface
10.0.2.2          ether        52:54:00:12:35:02      C          enp0s3
3
```

## Use of host command

```
jeba@jeba-VirtualBox:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address      Foreign Address        State
Proto RefCnt Flags       Local Address          Remote Address
unix    2      [ ]             DGRAM
 unix    2      [ ]             DGRAM
 unix    10     [ ]             DGRAM
 unix    7      [ ]             DGRAM
socket  3      [ ]             STREAM CONNECTED
unix    3      [ ]             STREAM CONNECTED
stdout   3      [ ]             STREAM CONNECTED
stdout   3      [ ]             STREAM CONNECTED
unix    3      [ ]             STREAM CONNECTED

```

## Use of nstat & nmap command

```
jeba@jeba-VirtualBox:~$ nmap www.google.com
Starting Nmap 7.01 ( https://nmap.org ) at 2020-01-20 22:51 IST
Nmap scan report for www.google.com (216.58.196.68)
Host is up (0.044s latency).
Other addresses for www.google.com (not scanned): 2404:6800:4007:811::2004
RDNSS record for 216.58.196.68: bom05s11-in-f4.1e100.net
Not shown: 998 filtered ports
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https
Nmap done: 1 IP address (1 host up) scanned in 20.32 seconds
```

*By Jeba*

## PRACTICAL-10

### Shell Scripting

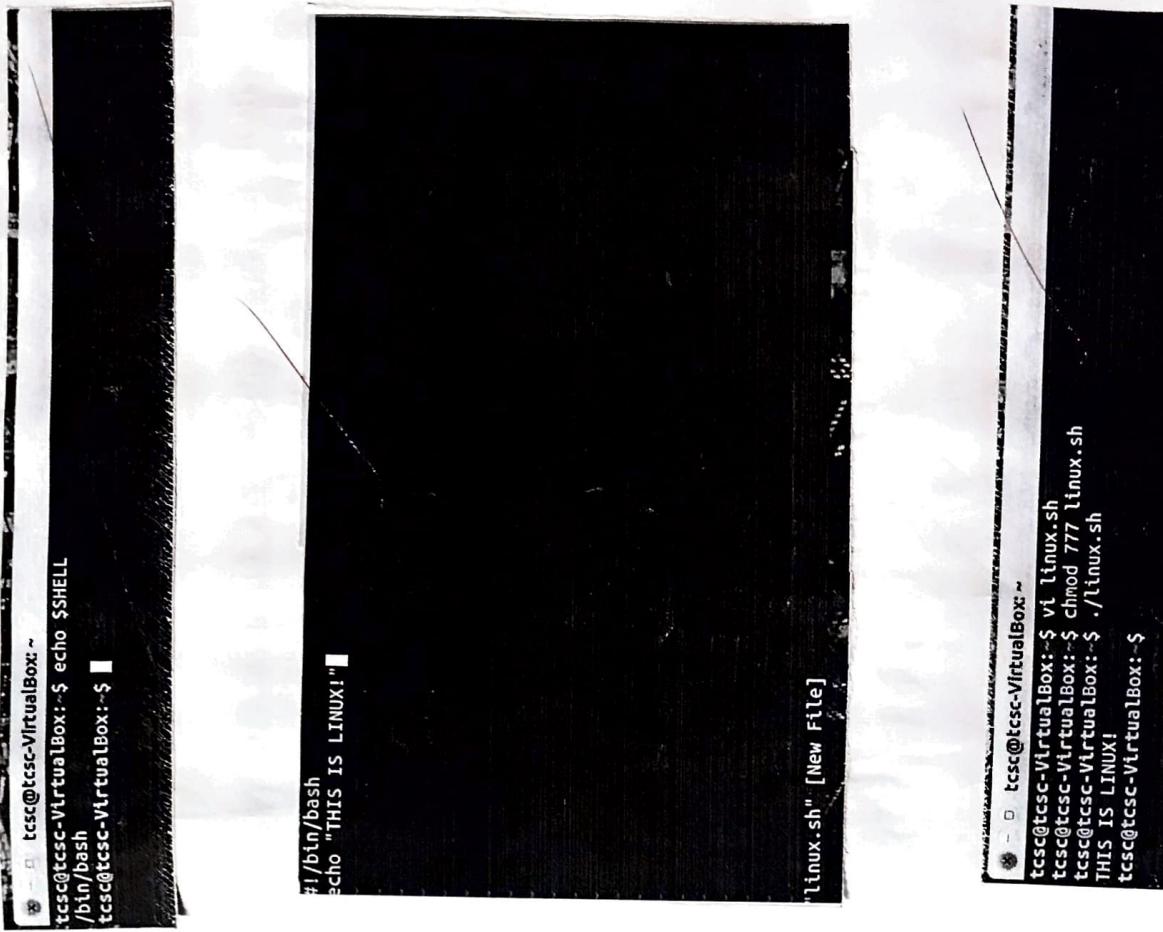
Basics of shell scripting  
 To get a shell, you need to start terminal  
 To see what's shell you have run: echo \$SHELL  
 In Linux, the dollar sign (\$) stands for  
 shell variable

The echo command just returns whatever you

type in  
 #!/bin/bash - It is called shebang. It is written  
 at the top of shell script so it passes the  
 instruction to the program/bin/bash.  
 ECHO \$SHELL  
 • vi filename

• vi filename.sh  
 #!/bin/bash  
 echo -This is Linux!

- chmod 777 filename.sh  
 ./filename.sh



```

tsc@tsc-VirtualBox:~$ echo $SHELL
/bin/bash
tsc@tsc-VirtualBox:~$ 

#!/bin/bash
echo "THIS IS LINUX!"
```

"linux.sh" [New File]

```

tsc@tsc-VirtualBox:~$ 
tsc@tsc-VirtualBox:~$ vi linux.sh
tsc@tsc-VirtualBox:~$ chmod 777 linux.sh
THIS IS LINUX!
tsc@tsc-VirtualBox:~$
```

STEPS TO WRITE & EXECUTE A SHELL SCRIPT

Shell script is just a simple text file with `sh` extension, having executable permission

Open terminal  
by Navigate to the place where you want to create script using `cd` command.

```
cd
vi filename.sh
chmod +x filename.sh
$ ./filename for running script
```

Program to display name.

```
#!/bin/bash
Echo "Enter your name"
Read name
Echo "My name is : $name"
```

Program to find sum of two variables

```
vi filename.sh
#!/bin/bash
a=100
```

```
b=25
sum=$((a+b))
Echo "sum is : $sum"
```

730

## Program to find sum of two numbers (valuing during execution)

passed

```
tcscc@tcscc-VirtualBox:~$ vi lin.sh
tcscc@tcscc-VirtualBox:~$ chmod 777 lin.sh
tcscc@tcscc-VirtualBox:~$ ./lin.sh 50 70
sum ts:120
tcscc@tcscc-VirtualBox:~$
```

sed

Also called Stream editor or a very powerful utility offered by Linux system. It uses mainly used for text substitution, find & replace but it can perform other text manipulations like insertion, deletion, search etc. with sed we can edit complete file with actually opening it.

Consider following text file

1) Display partial text of a file  
With sed, we can view only part of file rather than seeing whole file

2) Display all except some lines  
To display all content of a file except for some portion, use option 'd'

```
#!/bin/bash
a=100
b=25
sum=$((a+b))
echo "sum is:$sum"
```

```
tscsc@tscsc-VirtualBox:~$ vi linux2.sh
tscsc@tscsc-VirtualBox:~$ chmod 777 linux2.sh
tscsc@tscsc-VirtualBox:~$ ./linux2.sh
Sum ts:125
tscsc@tscsc-VirtualBox:~$
```

```
tscsc@tscsc-VirtualBox:~$ vi linux2.sh
tscsc@tscsc-VirtualBox:~$ chmod 777 linux2.sh
tscsc@tscsc-VirtualBox:~$ ./linux2.sh
Sum ts:125
tscsc@tscsc-VirtualBox:~$
```

```
tscsc@tscsc-VirtualBox:~$ sed 's/cs/computer/' cs.txt
subjects offered in computer
datastructure
database management
linux
python
green tech
softskill
stats
calculus
computer basic
```

069

34 Deleting a line  
To delete a line , use line number followed  
by 'd'

```
tcsc@tcsc-VirtualBox:~$ sed '/this is linux/d' cs.txt
subjects offered in cs
database management
linux
python
green tech
softskill
stats
calculus
computer basic
```

```
tcsc@tcsc-VirtualBox:~$ sed '/this is linux/d' cs.txt
subjects offered in cs
database management
linux
python
green tech
softskill
stats
calculus
computer basic
```

44 Search & Replace a string  
's' option is for searching a word .

54 Replace a string on a particular string  
To replace a string on a line use line number  
with 's' option .

64 Add a line after / before the matched string  
use option 'a' , use option 'i'

To add a new line with some content before  
every pattern match , use option 'i'

```
tcsc@tcsc-VirtualBox:~$ sed '6 s/cs/computer system /' cs.txt
subjects offered in cs
database management
linux
python
green tech
softskill
stats
calculus
computer basic
```

```
tcsc@tcsc-VirtualBox:~$ vi cs.txt
tcsc@tcsc-VirtualBox:~$ sed -n 3,5p cs.txt
subjects offered in cs
database management
linux
python
```

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```
tesc@tcsc-VirtualBox:~$ sed '/linux/c "this is linux"' cs.txt  
subjects offered in cs  
datastructure  
database management  
"this is linux"  
python  
green tech  
softskill  
stats  
calculus  
computer basic
```

7) To change a whole line with matched patterns  
Use option 'c'

```
tesc@tcsc-VirtualBox:~$ sed -e 's/.*;/Thanks &/' cs.txt  
Thanks subjects offered in cs  
Thanks datastructure  
Thanks database management  
Thanks linux  
Thanks python  
Thanks green tech  
Thanks softskill  
Thanks stats  
Thanks calculus  
Thanks computer basic
```

*Bijoy*

8) Appending lines  
To add some content before every line with  
sed, use \* and & as follows

11)