Practical - 01

Aim: Install your choice of linux Distribution
e.g. Ubuntu, Fedora, Debian.

Ubuntu: Ubuntu is a free and open source software based on debian. Ubuntu is officially released under 3 edition Desktop, Server, Opinion.

All the edition can be run on the computer alone or a virtual box machine.

It is a popular open source software for cloud computing with support of openstack

steps for installing ubuntu in a virtual machine:

step 3: In 'updates and ada
click on the normal install

step 4: While configuring ins
type we need to click
and install ubuntu This ste
delete all types of docum
photos, etc in all operating

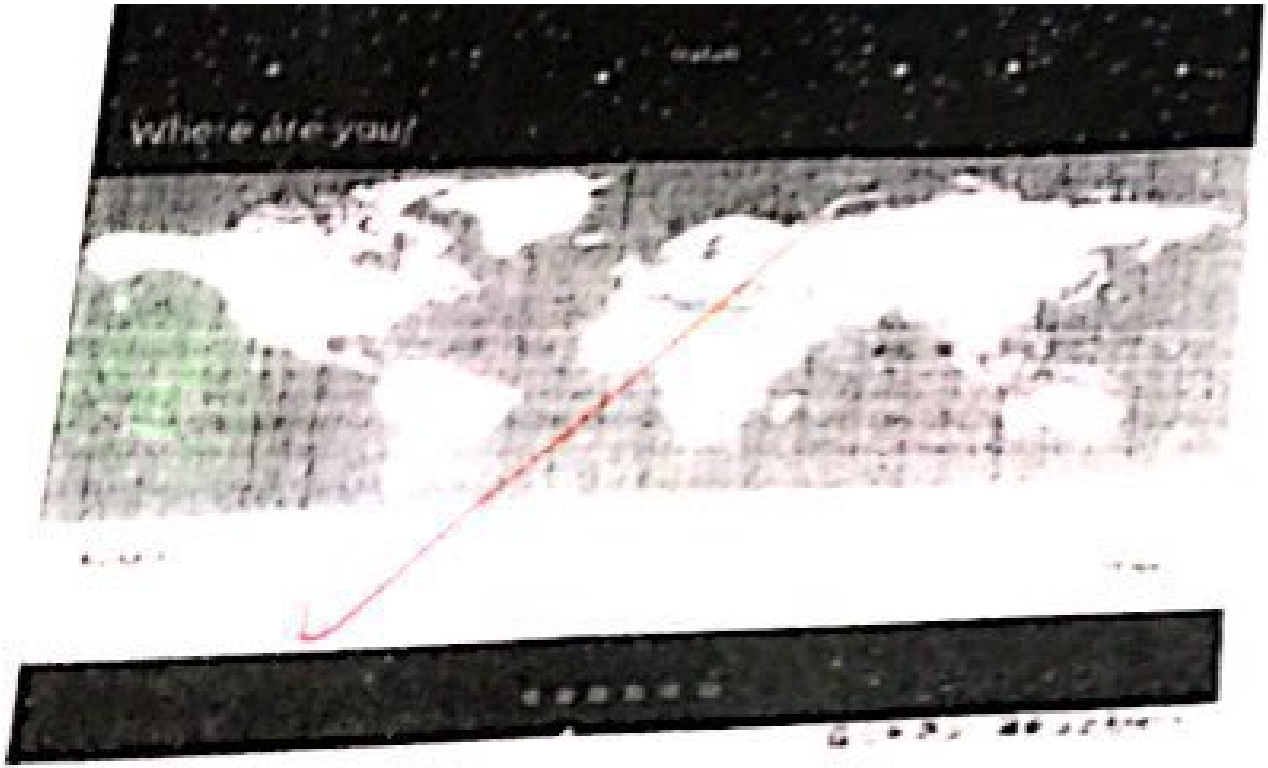
step 5: In this u ou only need
choose the location from the
to work on ubuntu

step 6: In this type u ou need to
username and password fou the
given click on continu

tep 7: Here u ou simple need to
ype password again and it is do

p 8: Type name of virtual
d recommand size to be giv
8 GB ou 27 B.

ou, now the virtualbox is
to use.



You will see all the pictures in your pictures folder as thumbnails where you can select them as your wallpaper.

To add wallpaper that is in another folder just click the plus icon below the thumbnails and then in pop-up window select the path to your custom folder and choose the picture inside of it.

changing ubuntu Theme:
ubuntu also has an option to change the desktop theme. which is in one click will change the entire using your computer

To do that, click on the drop down menu below the wallpaper thumbnails and choose between Ambiance, Radiance

Ambiance is a ... theme that looks bit more mac-like, while Radiance is the darker ... used in ubuntu by default

... resolution: A certain the

Step6

Step7

After making the time change the time gone back to local time you

Just click on the clock on the bar and choose time and date setting choose manually, so you can change the time and date manually otherwise choose the time zone you are in and choose automatic

9/10

How to uninstall GCC compiler:

In GCC 5.1.0, although there is no updated uninstall target, some directories do have it, in particular gcc, so you can do.

Type: cd build/gcc
sudo make uninstall

This does not remove everything that was installed, but it removes most executables like gcc, g++, cpp... contained in that directory

Aim: Installing and removing softwares
a] install gcc package, verify that it is done and then remove it

step 1:
first type 'gcc -v' to know if you have already installed gcc compiler or not If the output is blank then it means that you dont have gcc in

step2:
Type 'sudo apt-get install gcc' by typing the following command installation will take the place

step3:
Type 'sudo apt-get install build-e
This will install all the libraries required programming language language.

a1

Aim: Utilization of group management commands
Documentation:

a) finding info documentation for the command line: Using the info page for all group commands Using the usage selection

Ans: to find info about any command 'info' command is used the syntax of info command is info (command name).

We are going to find the info about the group command:

Open the terminal (ctrl + Alt + T) & type: info group

After typing this command following output will be displayed on the screen.

required of a data
[b] finding man pages from the cmd line
using up the man page scathe 45 ur
command scroll down. to the example
selection.

Ans. To use the 'man' command single
type 'man command name'
now we are going to find the manual
for 'ls'
simply type 'man ls'

[c] finding pages by topic. what man
pages are avaible that document file
compression

Ans. 'Tar', 'zip' are some man pages which
are avaible for document file compression
single type. man zip.
man tar

Another form

There are certain types that have different types in different section (eg printf as a command appears in section 1 AJ a std lib function appears in section 3). in cases like that you can pass the section no to the man before the page name to choose which on you want or use man -a to show every wat page in a row.

You can tell which section a term falls man -k (equivalent to apropos com It will be something matches too. so need to use "term' to limit it

a] Finding man pages by selection from the condition bring up the man page for the print lib function, which manual page selection are library function found.

Ans: The number corresponds to what section of the manual page is from: i.e. user commands while and its sysadmin stuff. The man page for man itself. explain it and list it.

Scanned with CamScanner

Practical no : 4

command line operation.
Install new package on your system.

sudo apt-get install (package name)

Remove the package installed

sudo apt-get remove (package name)

Find the password file in / using find command

find / - name password.
./usr/share/doc/nss-ldap-253/...
./usr/bin/passwd
/etc/pam.d/passwd.
/etc/passwd.

Find the directory passwd file under root and one level down

find / - maxdepth 2 - name passwd
./etc/passwd.

Find the passwd file under root and 2 level

find / - maxdepth 3 - name passwd.

./usr
./etc
/etc

find ...
level

...

us...
/etc

d) ...
you

...

locat...
more
path

#

#

f) ...
in

#

g) ...
- m

#

#

.* /bin /passwd
-c /ram a /passwd
: /passwd

all the passwd file between sub directory
) 2 + 4

find -maxdepth 3 -mindepth 1 -name
ou / bin /passwd
c / passwd / passwd

eate a symbolic link to the file
found instep

ln -s files file2

te an empty file example.txt and
2 it to /tmp directory using relative
name

ouch example.txt
mv example.txt /tmp
elete the file moved to moved to /tmp
previous step by absolute to method.
m. /tmp/example.txt

find the location of ls, ps, dash com-
ands.

which ls
: /bin/ls / usr/share/man/man1/ls.1.gz
where is ps.

Practical no. 5

File Operations

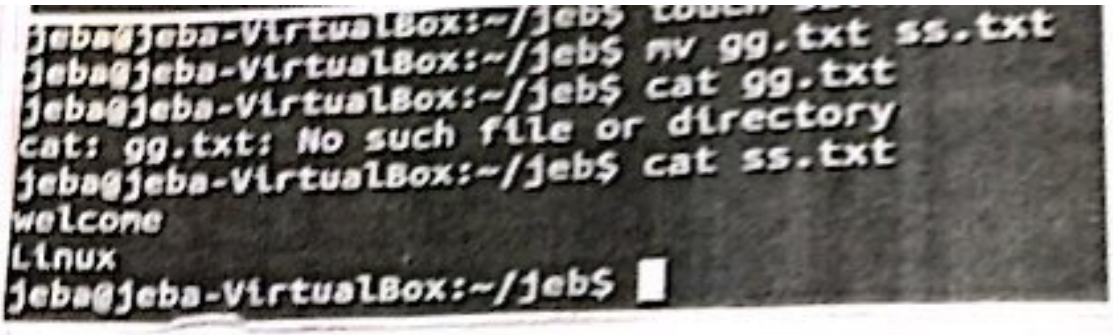
explore mounted file system …
on your computer …

Ans: df -h

what are the different ways of …
exploring mounted file systems …

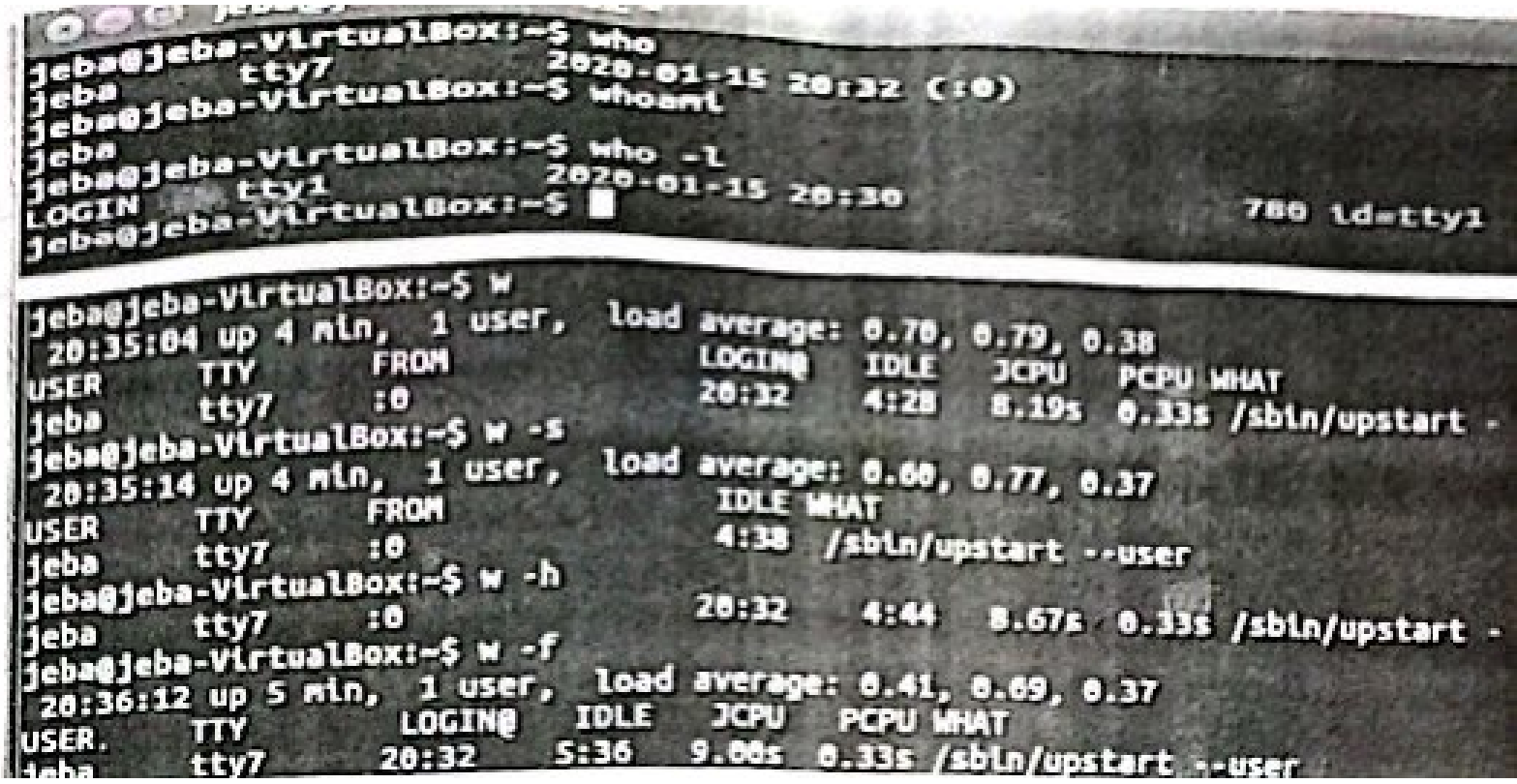
Ans: mount

```
[illegible]-VirtualBox:~$ 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=[illegible]k,nr_inodes=123669,mode=755)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs on /run type tmpfs (rw,nosuid,noexec,relatime,size=102416k,mode=755)
/dev/sda1 on / type ext4 (rw,relatime,errors=remount-ro,data=ordered)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,nodev)
tmpfs on /run/lock type tmpfs (rw,nosuid,nodev,noexec,relatime,size=5120k)
tmpfs on /sys/fs/cgroup type tmpfs (ro,nosuid,nodev,noexec,mode=755)
cgroup on /sys/fs/cgroup/systemd type cgroup (rw,nosuid,nodev,noexec,relatime,xattr,release_agent=/lib/systemd/systemd-cgroups-agent,name=systemd,nsroot=/)
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime)
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset,nsroot=/)
cgroup on /sys/fs/cgroup/net_cls,net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,net_cls,net_prio,nsroot=/)
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids,nsroot=/)
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer,nsroot=/)
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpu,cpuacct,nsroot=/)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices,nsroot=/)
cgroup on /sys/fs/cgroup/memory type cgroup (rw,nosuid,nodev,noexec,relatime,memory,nsroot=/)
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,blkio,nsroot=/)
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event,nsroot=/)
cgroup on /sys/fs/cgroup/hugetlb type cgroup (rw,nosuid,nodev,noexec,relatime,hugetlb,nsroot=/)
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=32,pgrp=1,timeout=0,minproto=5,maxproto=5,direct)
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime)
```



Archieving and backup the wo
directory using tar, gzip and
commands

Ans. gzip filename .txt.
Bzip2 filename .txt



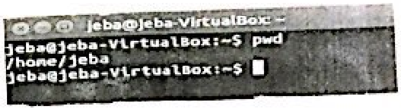
The username in the /etc/passwd
password, 13 character encrypted. A blank entry (eg ::) indicates a password is not required (usually a bad idea), and a "*" indicates the account has been disabled.
The number of days (Jan 1, 1970) since the password was last changed.
The number of days before password may be changed (0 indicates it may be changed at any time).
The number of days after which password must be changed (99999 indicated user can keep this or his password unchanged for many, many years)
The number of days to warn user of an expiring password
The number of days after password expires that account is disabled
A reserved field for possible future use

Each field in a password entry is separated with ":" colon characters and are as follow.
Username up to 8 character. case-sensitive, usually all lowercase.
An x in the password field. password are stored in "/etc/shadow"

numeric user id. This is assigned by "adduser" script. Unix uses this field plus the following field to identify which files belong to user.
numeric group id. This is assigned
Full name of user. I'm not sure what the maximum length for this field is, but try to keep it reasonable.
user's home directory. usually /home/username. All user personal files, web pages, mail forwarding etc.
user "shell account". often to "/bin/bash" user access to the bash shell.

```
jeba@jeba-VirtualBox:~$ sudo cat /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
```

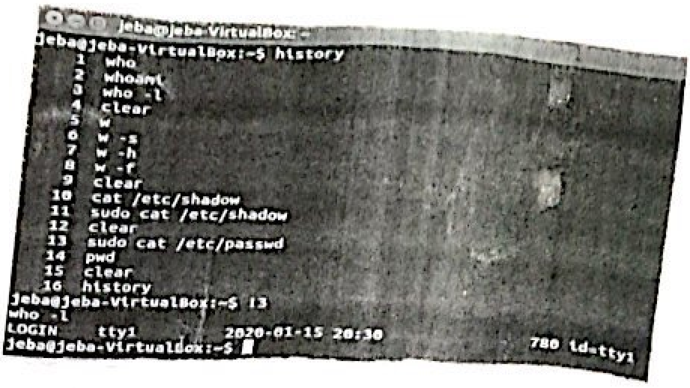
(c) Get your current working directory
Ans: pwd.



```
jeba@jeba-VirtualBox: ~
jeba@jeba-VirtualBox:~$ pwd
/home/jeba
jeba@jeba-VirtualBox:~$
```

Previously been executed how to ...

Ans. History
! line number.



create alias to meat commonly
void command
The Alias commands interacts the
need to replace one string with
another while entering commands
alias label = "command"

Practical 7:

(a) create, modify, search and navigate a file in Editor

i) creating a file
To create a file, on the terminal type vi followed by filename

ii) modifying the file.
To modify a file, on the vi editor, type 'o'

iii) search in a file.
To find a word press / followed by the word to search

(iv) navigate
movement in four directions

Key	Action
K	moves cursor up
J	moves cursor down
H	moves cursor left
l	moves cursor rig

word navigation.

Key	action
b	moves back to
e	moves forward
e	moves forw

Scanned with CamScanner

82

0(zero)	move to first character
$	move to the end [of] line

scrolling

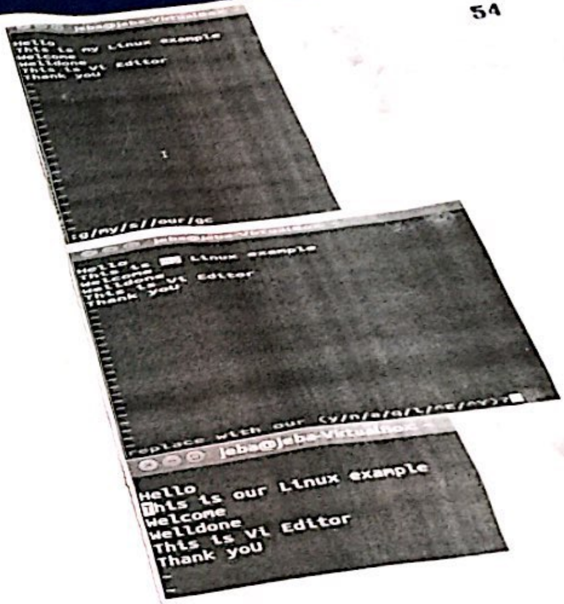
Key	Action
Ctrl + f	scrolls forward
Ctrl + b	scrolls backward
Ctrl + d	scrolls half page
Ctrl + u	scrolls half page backward

B) learn all essential commands like search / replace, highlight, show line number

(i) Replace

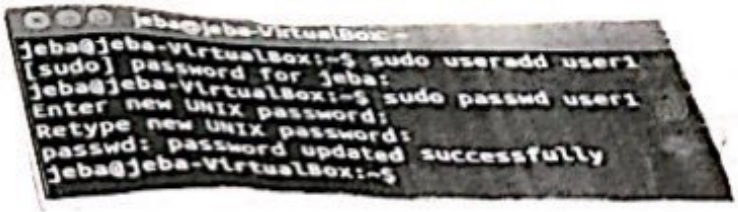
syntax :/g/word to be replaced/s/new w

⇒

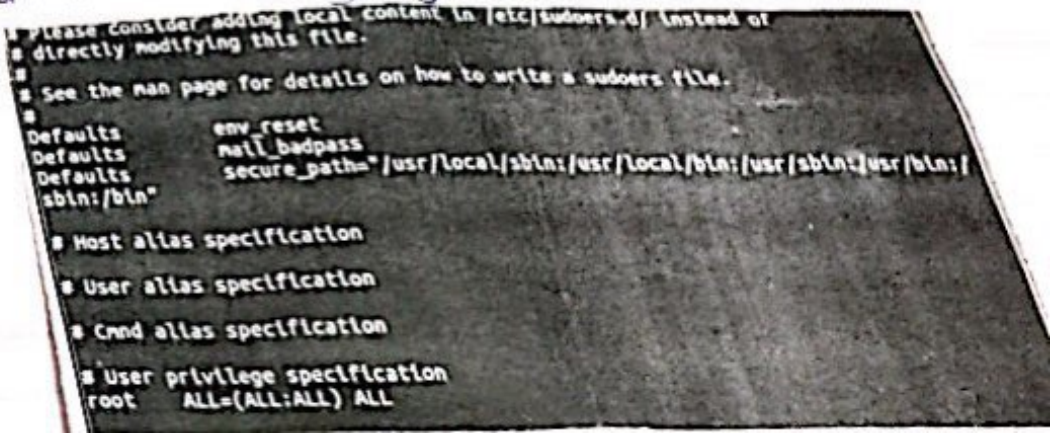


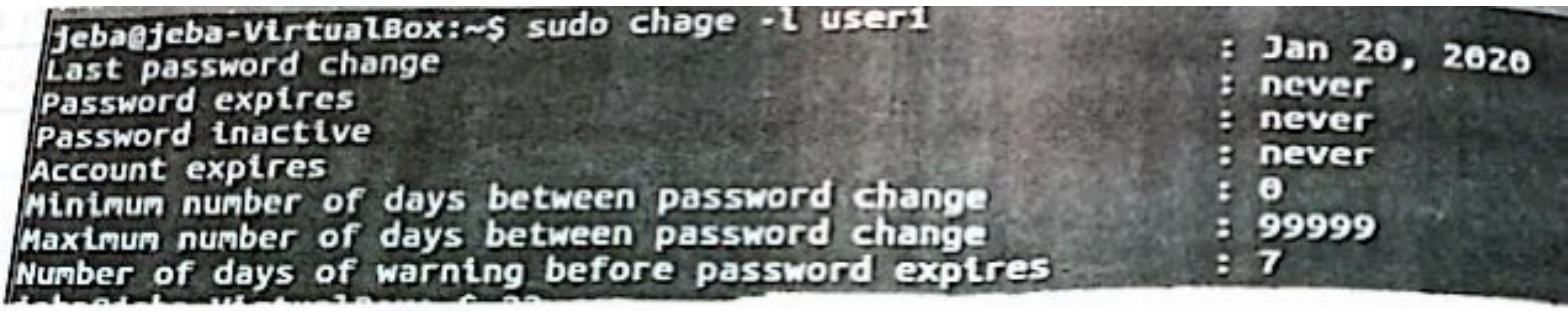
Practical 8
Linux security

(a) Use of sudo to change user Privileges to root
create an user named user1



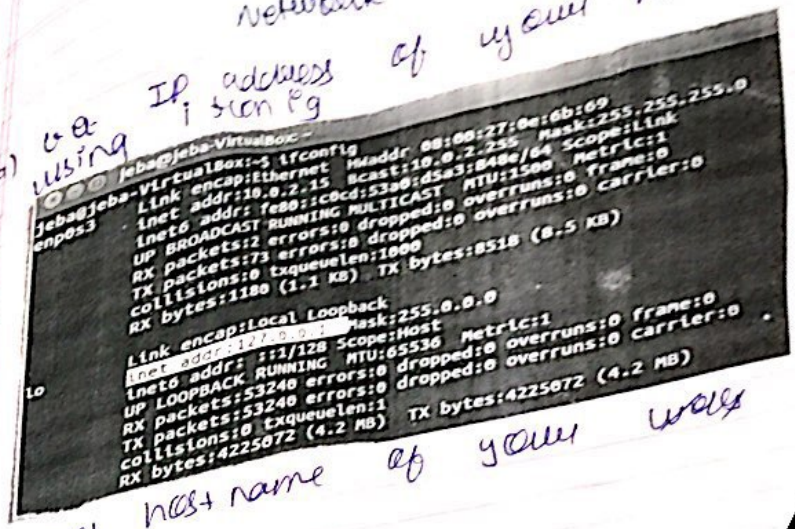
To give some user for root privile
edit /etc/sudoers using visudo. Enter
line as highlighted below



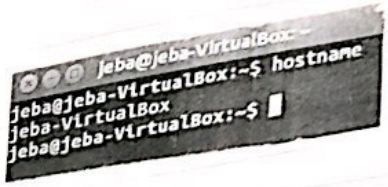


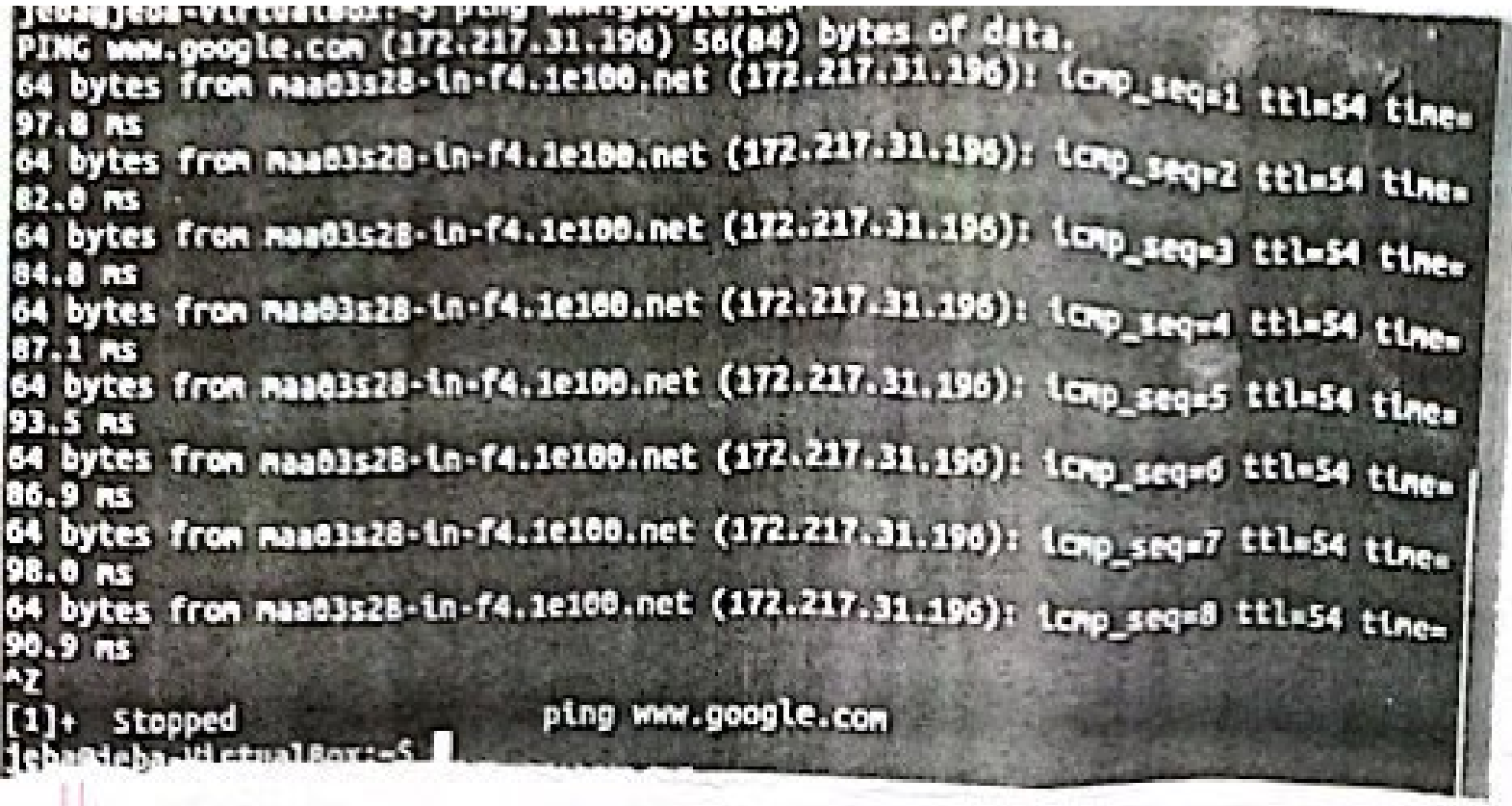
Practical 9
Network management

(a) To get IP address of your machine using ifconfig



(b) To get host name of your machine.





(d) use of dig command

```
ba-VirtualBox:~$ netstat
Internet connections (w/o servers)
ecv-Q Send-Q Local Address           Foreign Address         State
UNIX domain sockets (w/o servers)
efcnt Flags       Type       State         I-Node   Path
      [ ]         DGRAM                    42149    /run/user/[illegible]/systemd
      [ ]         DGRAM                    9694     /run/systemd/journal/
      [ ]         DGRAM                    9695     /run/systemd/journal/
      [ ]         DGRAM                    9784     /run/systemd/journal/
      [ ]         DGRAM                    9684     /run/systemd/notify
      [ ]         STREAM     CONNECTED     44042    @/tmp/dbus-CymTeI7AQG
      [ ]         STREAM     CONNECTED     43331
      [ ]         STREAM     CONNECTED     42988    @/tmp/dbus-CymTeI7AQG
      [ ]         STREAM     CONNECTED     42690    @/tmp/dbus-CMGGc6G7PS
      [ ]         STREAM     CONNECTED     13242    /run/systemd/journal/
      [ ]         STREAM     CONNECTED     43113    /run/systemd/journal/
      [ ]         STREAM     CONNECTED     43013
      [ ]         STREAM     CONNECTED     42935
```