

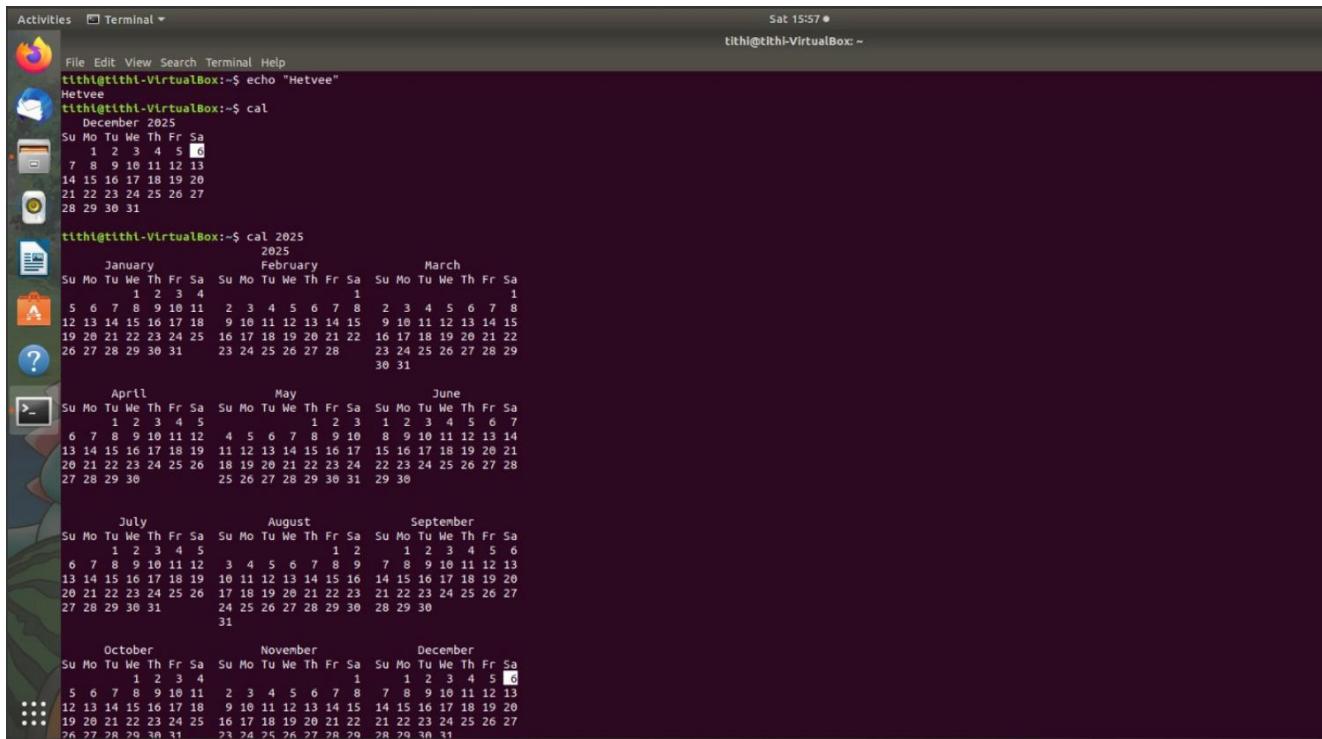
EXPERIMENT -1

Aim: Study of unix commands with all the instructions

1. Information Management

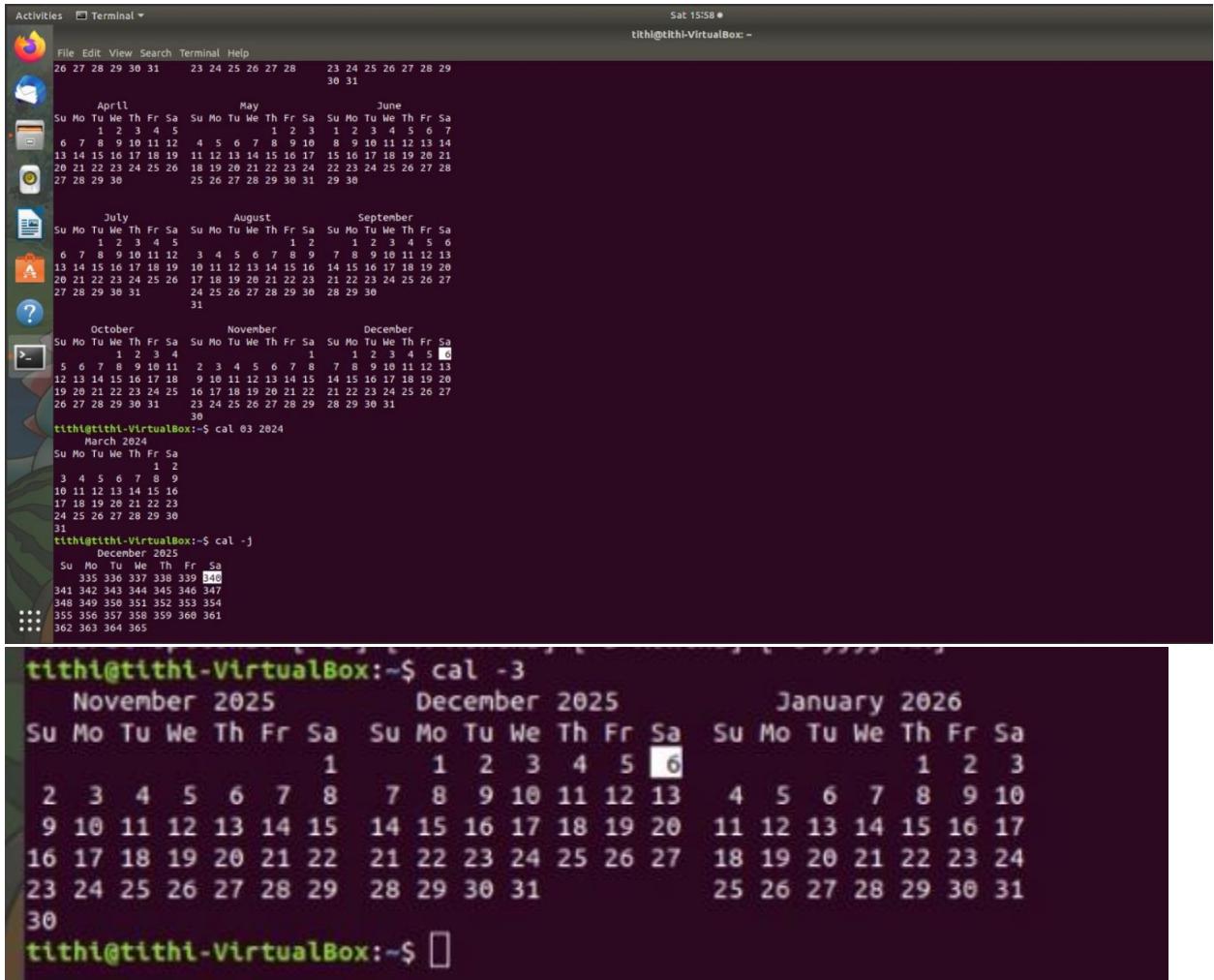
1.cal

Usage : Displays the calendar for the current month.



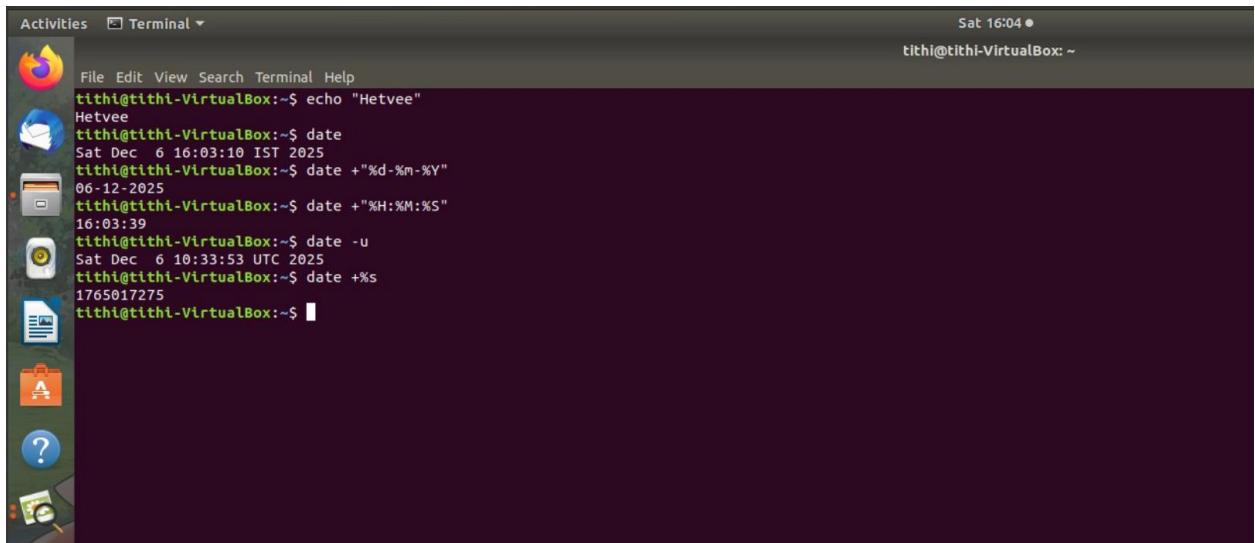
The screenshot shows a terminal window titled "Terminal" with the command "cal 2025" being run. The output displays the calendar for the year 2025, showing months from January to December. The terminal window is located on a desktop environment with icons for various applications like a browser, file manager, and system settings.

```
Activities Terminal ▾
tithi@tithi-VirtualBox:~$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~$ cal
      December 2025
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
25 26 27 28 29 30 31 28 29 30 31 32 33 34  35 36 37 38 39 40 41
tithi@tithi-VirtualBox:~$ cal 2025
      2025
January          February          March
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
15 16 17 18 19 20 21  22 23 24 25 26 27 28  29 30 31 32 33 34 35
26 27 28 29 30 31 32  33 34 35 36 37 38 39  40 41
April           May           June
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
13 14 15 16 17 18 19  20 21 22 23 24 25 26  27 28 29 30 31 32 33
20 21 22 23 24 25 26  27 28 29 30 31 32 33  34 35 36 37 38 39 40
May           June           July
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
13 14 15 16 17 18 19  20 21 22 23 24 25 26  27 28 29 30 31 32 33
20 21 22 23 24 25 26  27 28 29 30 31 32 33  34 35 36 37 38 39 40
August          September        October
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
13 14 15 16 17 18 19  20 21 22 23 24 25 26  27 28 29 30 31 32 33
20 21 22 23 24 25 26  27 28 29 30 31 32 33  34 35 36 37 38 39 40
September        October         November
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
13 14 15 16 17 18 19  20 21 22 23 24 25 26  27 28 29 30 31 32 33
20 21 22 23 24 25 26  27 28 29 30 31 32 33  34 35 36 37 38 39 40
November         December
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   1  2  3  4  5  6  7   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
13 14 15 16 17 18 19  20 21 22 23 24 25 26  27 28 29 30 31 32 33
20 21 22 23 24 25 26  27 28 29 30 31 32 33  34 35 36 37 38 39 40
```



2.date

Usage : Shows the current system date and time.

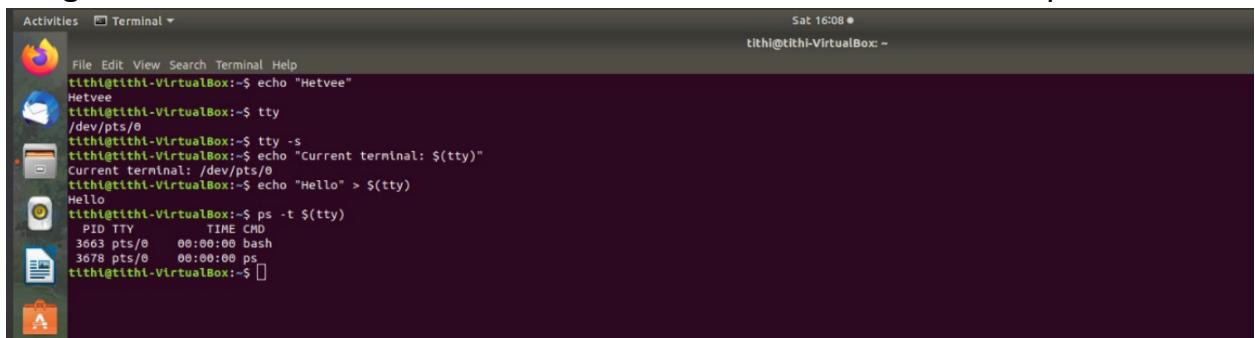


A screenshot of an Ubuntu desktop environment. A terminal window titled "Terminal" is open, showing the command "date" being run and its output. The terminal window is located on the desktop, and the desktop background shows a dark theme with various icons in the dock.

```
File Edit View Search Terminal Help
tithi@tithi-VirtualBox:~$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~$ date
Sat Dec 6 16:03:10 IST 2025
tithi@tithi-VirtualBox:~$ date +"%d-%m-%Y"
06-12-2025
tithi@tithi-VirtualBox:~$ date +"%H:%M:%S"
16:03:39
tithi@tithi-VirtualBox:~$ date -u
Sat Dec 6 10:33:53 UTC 2025
tithi@tithi-VirtualBox:~$ date +%
1765017275
tithi@tithi-VirtualBox:~$
```

3.tty

Usage : Prints the file name of the terminal connected to standard input.

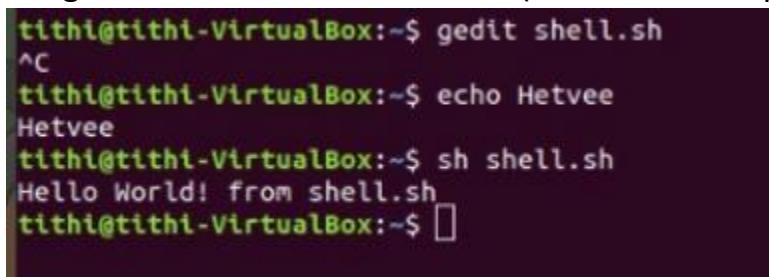


A screenshot of an Ubuntu desktop environment. A terminal window titled "Terminal" is open, showing the command "tty" being run and its output. The terminal window is located on the desktop, and the desktop background shows a dark theme with various icons in the dock.

```
File Edit View Search Terminal Help
tithi@tithi-VirtualBox:~$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~$ tty
/dev/pts/0
tithi@tithi-VirtualBox:~$ tty -s
tithi@tithi-VirtualBox:~$ echo "Current terminal: $tty"
Current terminal: /dev/pts/0
tithi@tithi-VirtualBox:~$ echo "Hello" > $tty
Hello
tithi@tithi-VirtualBox:~$ ps -t $tty
 PID TTY      TIME CMD
 3663 pts/0    00:00:00 bash
 3678 pts/0    00:00:00 ps
tithi@tithi-VirtualBox:~$
```

4.sh

Usage : Starts a new Bourne shell (command interpreter).



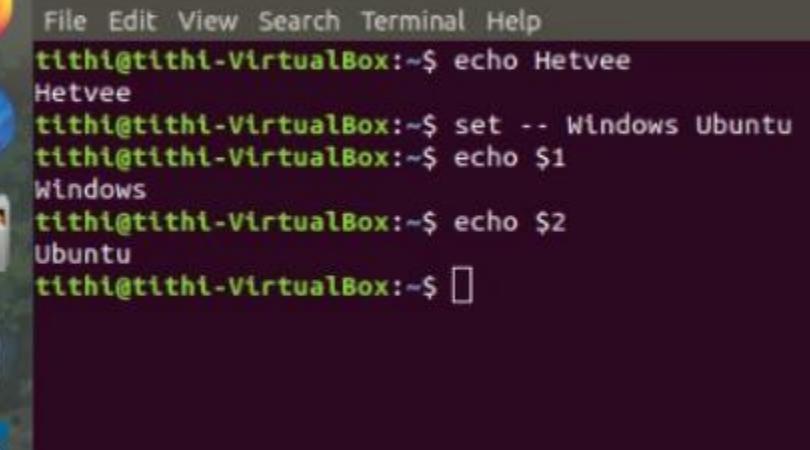
A screenshot of an Ubuntu desktop environment. A terminal window titled "Terminal" is open, showing the command "sh shell.sh" being run and its output. The terminal window is located on the desktop, and the desktop background shows a dark theme with various icons in the dock.

```
tithi@tithi-VirtualBox:~$ gedit shell.sh
^C
tithi@tithi-VirtualBox:~$ echo Hetvee
Hetvee
tithi@tithi-VirtualBox:~$ sh shell.sh
Hello World! from shell.sh
tithi@tithi-VirtualBox:~$
```

5.set

Usage : Displays or sets shell variables and options.

Activities Terminal



File Edit View Search Terminal Help

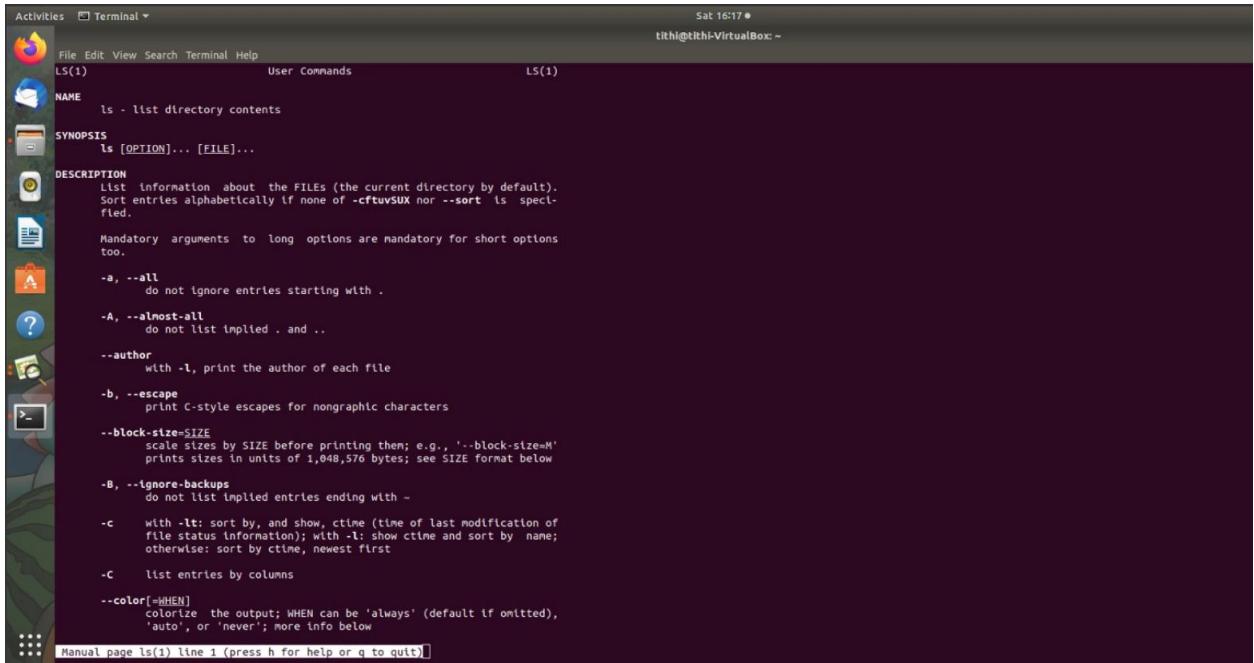
```
tithi@tithi-VirtualBox:~$ echo Hetvee
Hetvee
tithi@tithi-VirtualBox:~$ set -- Windows Ubuntu
tithi@tithi-VirtualBox:~$ echo $1
Windows
tithi@tithi-VirtualBox:~$ echo $2
Ubuntu
tithi@tithi-VirtualBox:~$ 
```

6.env

Usage : Shows or runs a command in a modified environment.

7.man

Usage : Displays the manual page for a command.

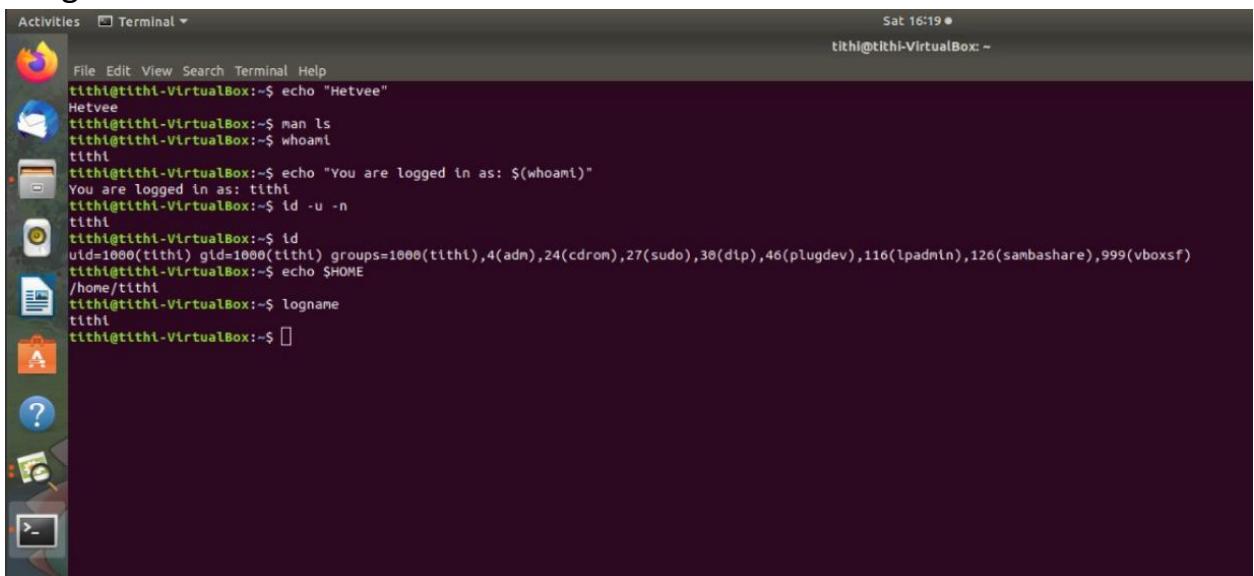


A screenshot of a Linux desktop environment. On the left is a dock with icons for various applications like a browser, file manager, and terminal. In the center is a terminal window titled 'Terminal'. The terminal displays the man page for the 'ls' command. The text in the terminal is as follows:

```
File Edit View Search Terminal Help
LS(1)                               User Commands                         LS(1)
NAME
    ls - list directory contents
SYNOPSIS
    ls [OPTION]... [FILE]...
DESCRIPTION
    List information about the FILEs (the current directory by default).
    Sort entries alphabetically if none of -cftusUX nor --sort is speci-
    fied.
    Mandatory arguments to long options are mandatory for short options
    too.
    -a, --all
        do not ignore entries starting with .
    -A, --almost-all
        do not list implied . and ..
    --author
        with -l, print the author of each file
    -b, --escape
        print C-style escapes for nongraphic characters
    --block-size=SIZE
        scale sizes by SIZE before printing them; e.g., '--block-size=M'
        prints sizes in units of 1,048,576 bytes; see SIZE format below
    -B, --ignore-backups
        do not list implied entries ending with -
    -c      with -lt: sort by, and show, ctime (time of last modification of
            file status information); with -l: show ctime and sort by name;
            otherwise: sort by ctime, newest first
    -C      list entries by columns
    --color[=WHEN]
        colorize the output; WHEN can be 'always' (default if omitted),
        'auto', or 'never'; more info below
Manual page ls(1) line 1 (press h for help or q to quit)
```

8.whoami

Usage : Prints the username of the current user.



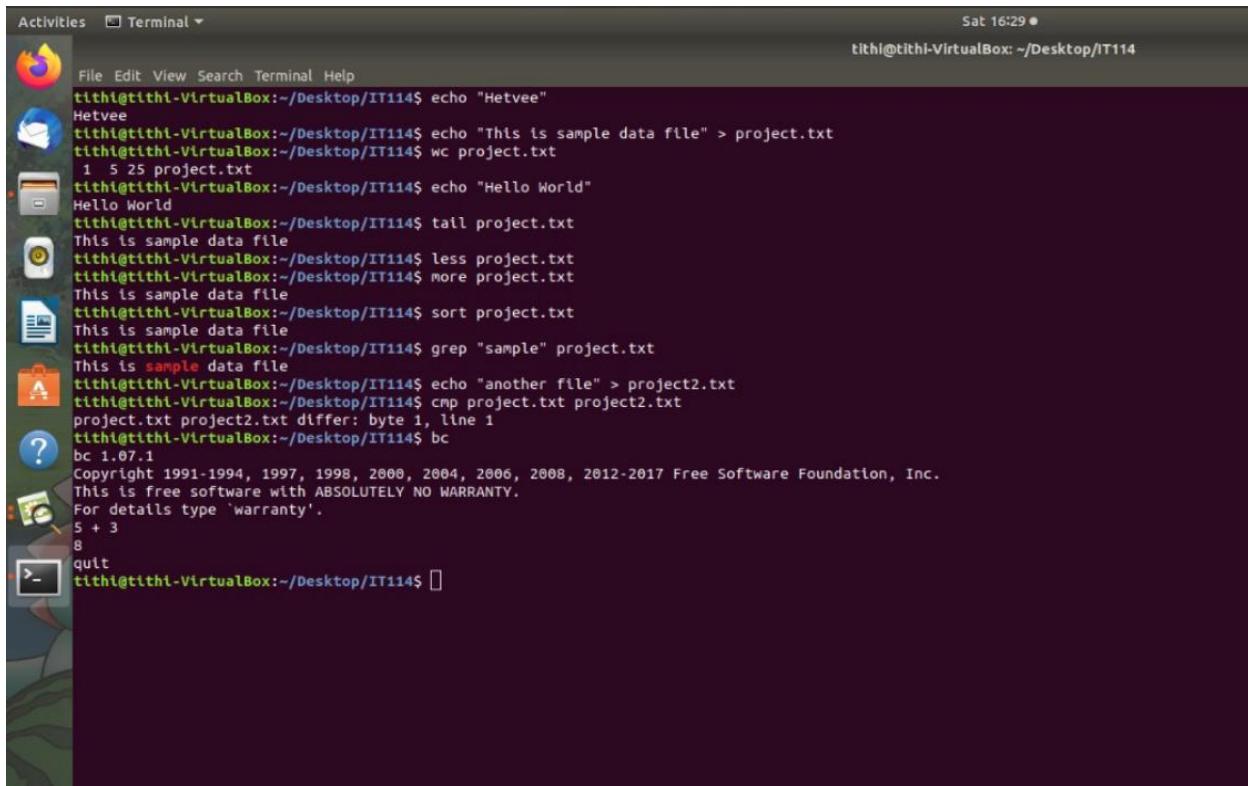
A screenshot of a Linux desktop environment. On the left is a dock with icons for various applications like a browser, file manager, and terminal. In the center is a terminal window titled 'Terminal'. The terminal shows the user has logged in as 'Hetvee'. The user then runs the 'man ls' command, followed by the 'whoami' command, which returns 'tithi'. The user then runs 'echo "You are logged in as: \$(whoami)"' which prints 'You are logged in as: tithi'. The user then runs 'id -u -n' which prints 'tithi'. Finally, the user runs 'logname' which prints 'tithi' again. The terminal session ends with a closing bracket ']'.

```
File Edit View Search Terminal Help
tithi@tithi-VirtualBox:~$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~$ man ls
tithi@tithi-VirtualBox:~$ whoami
tithi
tithi@tithi-VirtualBox:~$ echo "You are logged in as: $(whoami)"
You are logged in as: tithi
tithi@tithi-VirtualBox:~$ id -u -n
tithi
tithi@tithi-VirtualBox:~$ id
uid=1000(tithi) gid=1000(tithi) groups=1000(tithi),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),116(lpadmin),126(sambashare),999(vboxsf)
tithi@tithi-VirtualBox:~$ echo $HOME
/home/tithi
tithi@tithi-VirtualBox:~$ logname
tithi
tithi@tithi-VirtualBox:~$ ]
```

2.Utility commands

- **wc** – Counts lines, words, and characters in a file.
- **echo** – Prints text or variables to the terminal.

- **tail** – Displays the last part (usually last 10 lines) of a file.
- **less** – Opens a file for paged viewing with forward/backward navigation.
- **more** – Displays a file page by page (forward navigation only).
- **sort** – Sorts lines of text files alphabetically or numerically.
- **grep** – Searches for matching patterns in files.
- **cmp** – Compares two files byte by byte.
- **comm** – Compares two sorted files line by line and shows common/different lines.
- **bc** – Opens an arbitrary-precision command-line calculator.



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Terminal". The terminal content displays several commands and their outputs:

```

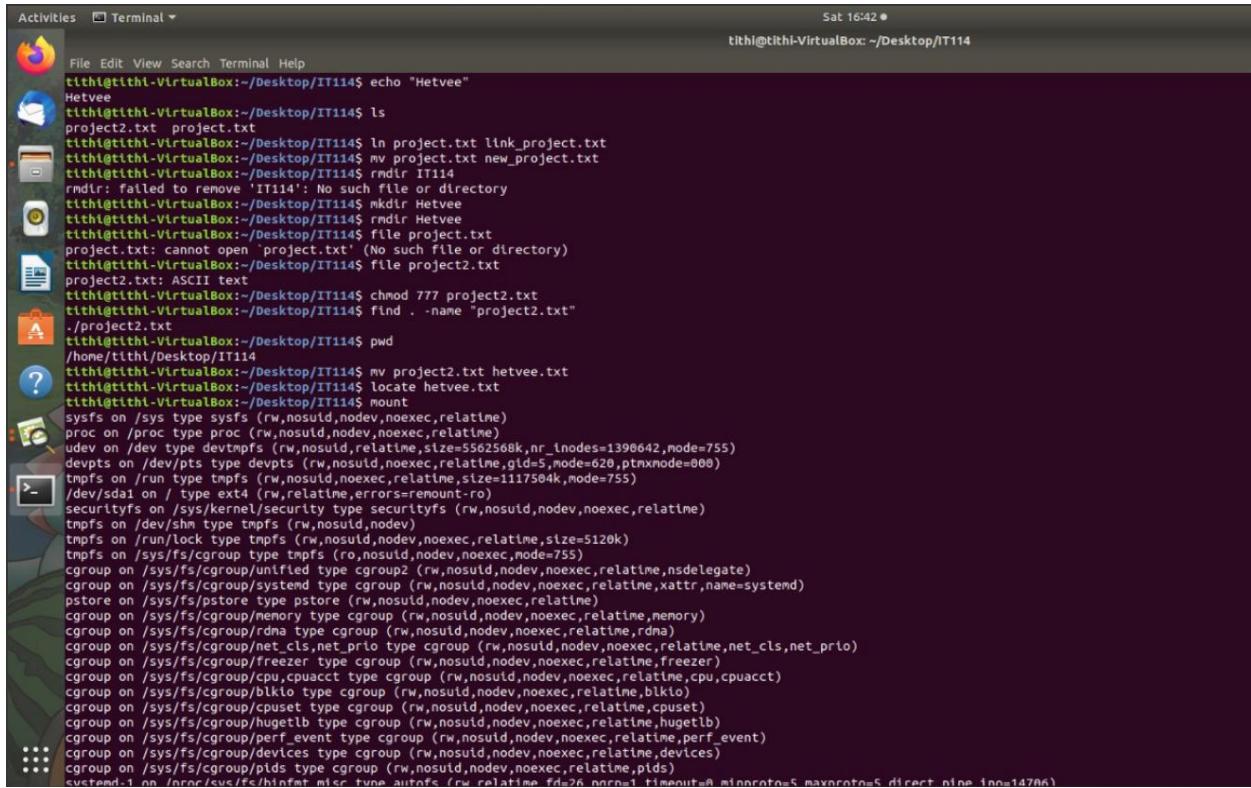
Activities Terminal Sat 16:29 •
tithi@tithi-VirtualBox:~/Desktop/IT114$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~/Desktop/IT114$ echo "This is sample data file" > project.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ wc project.txt
 1 5 25 project.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ echo "Hello World"
Hello World
tithi@tithi-VirtualBox:~/Desktop/IT114$ tail project.txt
This is sample data file
tithi@tithi-VirtualBox:~/Desktop/IT114$ less project.txt
This is sample data file
tithi@tithi-VirtualBox:~/Desktop/IT114$ more project.txt
This is sample data file
tithi@tithi-VirtualBox:~/Desktop/IT114$ sort project.txt
This is sample data file
tithi@tithi-VirtualBox:~/Desktop/IT114$ grep "sample" project.txt
This is sample data file
tithi@tithi-VirtualBox:~/Desktop/IT114$ echo "another file" > project2.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ cmp project.txt project2.txt
project.txt project2.txt differ: byte 1, line 1
tithi@tithi-VirtualBox:~/Desktop/IT114$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type 'warranty'.
5 + 3
8
qult
tithi@tithi-VirtualBox:~/Desktop/IT114$ []

```

3. File System

- **ls** – Lists files and directories in the current location.
- **ln** – Creates hard or symbolic links to files.
- **rn (rename)** – Renames a file or directory (non-standard; available in some shells).
- **rmdir** – Removes an empty directory.
- **mkdir** – Creates a new directory.

- **file** – Identifies the type of a given file.
- **chmod** – Changes file or directory permissions.
- **find** – Searches for files and directories based on conditions.
- **pwd** – Prints the current working directory path.
- **mv** – Moves or renames files and directories.
- **locate** – Quickly finds files by name using a prebuilt database.
- **mount** – Attaches a filesystem to the system's directory tree.

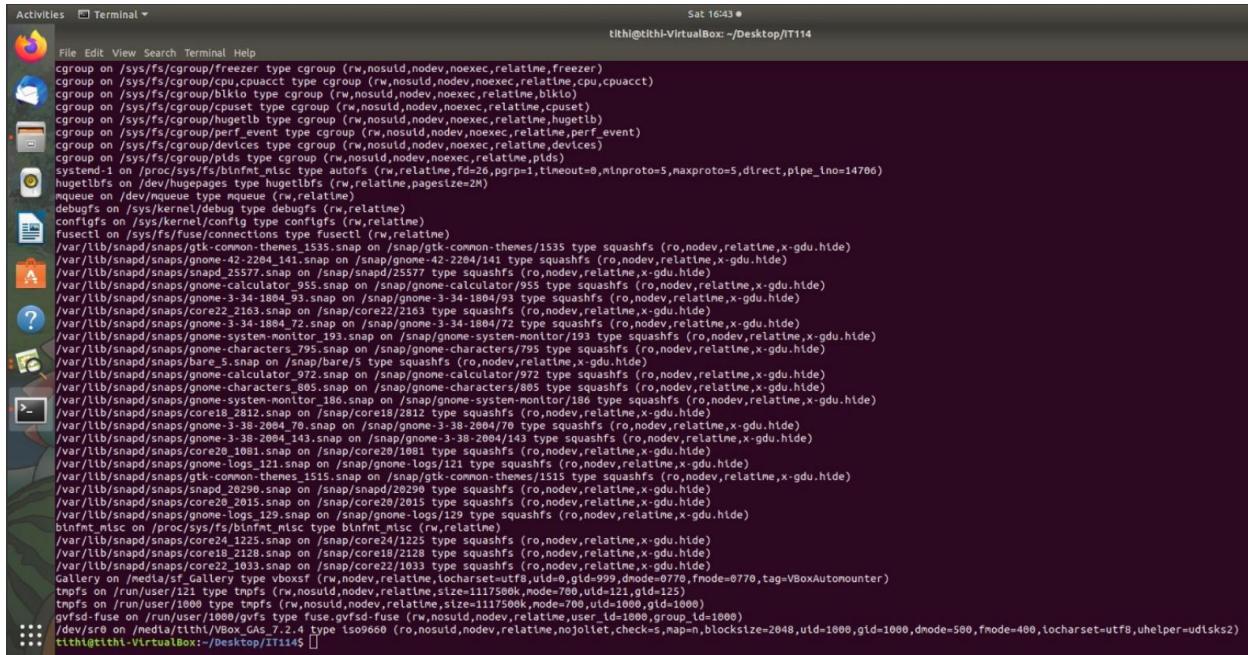


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Terminal" and the status bar indicates the date and time as "Sat 16:42". The user is running a series of commands to move and rename files, and then lists all files in the current directory. The terminal also displays a long list of mounted filesystems and their mount points.

```

Activities Terminal Sat 16:42
tithi@tithi-VirtualBox:~/Desktop/IT114$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~/Desktop/IT114$ ls
project2.txt project.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ ln project.txt link_project.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ mv project.txt new_project.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ rm -r IT114
rm: failed to remove 'IT114': No such file or directory
tithi@tithi-VirtualBox:~/Desktop/IT114$ mkdir Hetvee
tithi@tithi-VirtualBox:~/Desktop/IT114$ rm -r Hetvee
tithi@tithi-VirtualBox:~/Desktop/IT114$ file project.txt
project.txt: cannot open 'project.txt' (No such file or directory)
tithi@tithi-VirtualBox:~/Desktop/IT114$ file project2.txt
project2.txt: ASCII text
tithi@tithi-VirtualBox:~/Desktop/IT114$ chmod 777 project2.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ find . -name "project2.txt"
./project2.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ pwd
/home/tithi/Desktop/IT114
tithi@tithi-VirtualBox:~/Desktop/IT114$ mv project2.txt hetvee.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ locate hetvee.txt
tithi@tithi-VirtualBox:~/Desktop/IT114$ 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=5502560k,nr_inodes=1390642,mode=755)
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxnode=000)
tmpfs on /run type tmpfs (rw,nosuid,noexec,relatime,size=117564k,mode=755)
tmpfs on /dev/sd1 on / type ext4 (rw,relatime,errors=remount-ro)
securityfs on /sys/kernel/security type securityfs (rw,nosuid,nodev,noexec,relatime)
tmpfs on /dev/shm type tmpfs (rw,nosuid,noexec,relatime)
tmpfs on /run/lock type tmpfs (rw,nosuid,noexec,relatime,size=5120k)
tmpfs on /sys/fs/cgroup type tmpfs (ro,nosuid,noexec,noexec,mode=755)
cgroup on /sys/fs/cgroup/unified type cgroup2 (rw,nosuid,nodev,noexec,relatime,nsdelegate)
cgroup on /sys/fs/cgroup/systemd type cgroup (rw,nosuid,nodev,noexec,relatime,xattr,name=systemd)
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime)
cgroup on /sys/fs/cgroup/memory type cgroup (rw,nosuid,nodev,noexec,relatime,memory)
cgroup on /sys/fs/cgroup/dma type cgroup (rw,nosuid,nodev,noexec,relatime,dma)
cgroup on /sys/fs/cgroup/net_cls,net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,net_cls,net_prio)
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer)
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpu,cpuacct)
cgroup on /sys/fs/cgroup/bkio type cgroup (rw,nosuid,nodev,noexec,relatime,bkio)
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset)
cgroup on /sys/fs/cgroup/hugepages type cgroup (rw,nosuid,nodev,noexec,relatime,hugepages)
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices)
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids)
systemd-1 on /var/run/udev/fd/11info type autofs (rw,relatime,fd=26,nr_ino=1,timeout=0,minorproto=5,maxproto=5,direct,inode_lru=147061)

```



```

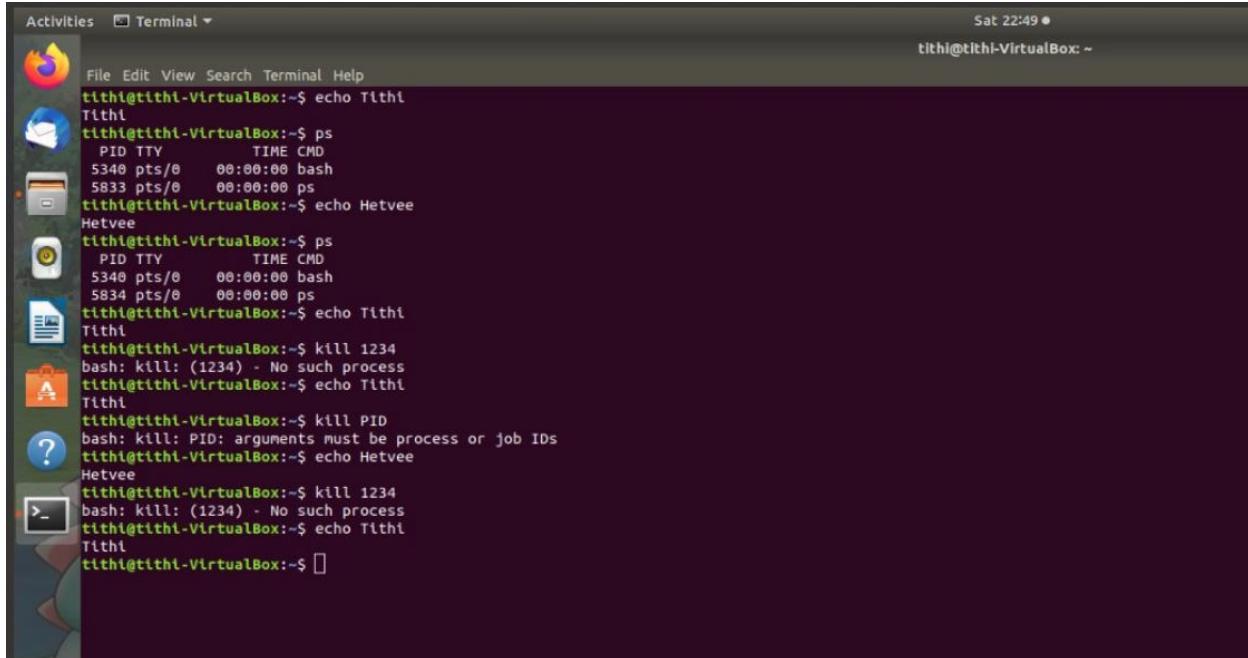
Activities Terminal Sat 16:43 • tithi@tithi-VirtualBox: ~/Desktop/IT114
File Edit View Search Terminal Help
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer)
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpu,cpuacct)
cgroup on /sys/fs/cgroup/bikio type cgroup (rw,nosuid,nodev,noexec,relatime,bikio)
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset)
cgroup on /sys/fs/cgroup/hugetlb type cgroup (rw,nosuid,nodev,noexec,relatime,hugetlb)
cgroup on /sys/fs/cgroup/perf event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event)
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime_devices)
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids)
systemd-1 on /proc/sys/fs/binfmt_misc type autosys (rw,relatime,fd=26,pgrp=1,timeout=0,mnproto=5,direct,pipe_ino=14766)
hugetlfb on /dev/hugepages type hugetlfb (rw,relatime,pageSize=2M)
queue on /dev/queue type queue (rw,relatime)
dequeue on /sys/block/queue type dequeue (rw,relatime)
configfs on /sys/kernel/config type configfs (rw,relatime)
Fusectl on /sys/fs/fuse/connections type fusectl (rw,relatime)
/var/lib/snappy/snaps/gtk-common-themes_1535.snap on /snap/gtk-common-themes/1535 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-42-2284_141.snap on /snap/gnome-42-2284/141 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-42-2284_72.snap on /snap/gnome-42-2284/72 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gtk-common-themes_1535.snap on /snap/gtk-common-themes/1535 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-34-1884_93.snap on /snap/gnome-3-34-1884/93 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/core22/2163.snap on /snap/core22/2163 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-34-1884_72.snap on /snap/gnome-3-34-1884/72 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-34-1884_72.snap on /snap/gnome-3-34-1884/72 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-characters_795.snap on /snap/gnome-characters/795 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-hare_5.snap on /snap/gnome-hare/5 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-calculator_972.snap on /snap/gnome-calculator/972 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-system-monitor_186.snap on /snap/gnome-system-monitor/186 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome18_2812.snap on /snap/gnome18/2812 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-38-2004_70.snap on /snap/gnome-3-38-2004/70 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-38-2004_143.snap on /snap/gnome-3-38-2004/143 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/core22/1081.snap on /snap/core22/1081 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-logs_121.snap on /snap/gnome-logs/121 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gtk-common-themes_1535.snap on /snap/gtk-common-themes/1535 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-3-34-1884_1200.snap on /snap/gnome-3-34-1884/1200 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/gnome-logs_129.snap on /snap/gnome-logs/129 type squashfs (ro,nodev,relatime,x-gdu.hide)
binfmt_misc on /proc/sys/fs/binfmt_misc type binfmt_misc (rw,relatime)
/var/lib/snappy/snaps/core24/1225.snap on /snap/core24/1225 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/core18_2128.snap on /snap/core18/2128 type squashfs (ro,nodev,relatime,x-gdu.hide)
/var/lib/snappy/snaps/core22/1033.snap on /snap/core22/1033 type squashfs (ro,nodev,relatime,x-gdu.hide)
Gallery on /media/st_Gallery type vboxsf (rw,nodev,relatime,_tchardset=utf8,uid=0,gid=999,dmode=0770,fmode=0770,tag=VBoxAutomounter)
tmpfs on /run/user/121 type tmpfs (rw,nosuid,nodev,relatime,_size=1117500k,mode=700,uid=121,gid=125)
tmpfs on /run/user/1000 type tmpfs (rw,nosuid,nodev,relatime,_size=1117500k,mode=700,uid=1000,gid=1000)
gvfsd-fuse on /run/user/1000/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
/dev/sr0 on /media/tithi/Box CAS 7.2.4 type iso9660 (ro,nosuid,nodev,relatime,nojollet,check=s,map=n,blocksize=2048,uid=1000,gid=1000,fmode=400,_tchardset=utf8,uhelper=udisks2)
tithi@tithi-VirtualBox: ~/Desktop/IT114 [ ]

```

4. Process Management

ps – Displays currently running processes for the current user or system.

kill – Sends a signal (usually terminate) to a running process using its PID.



```

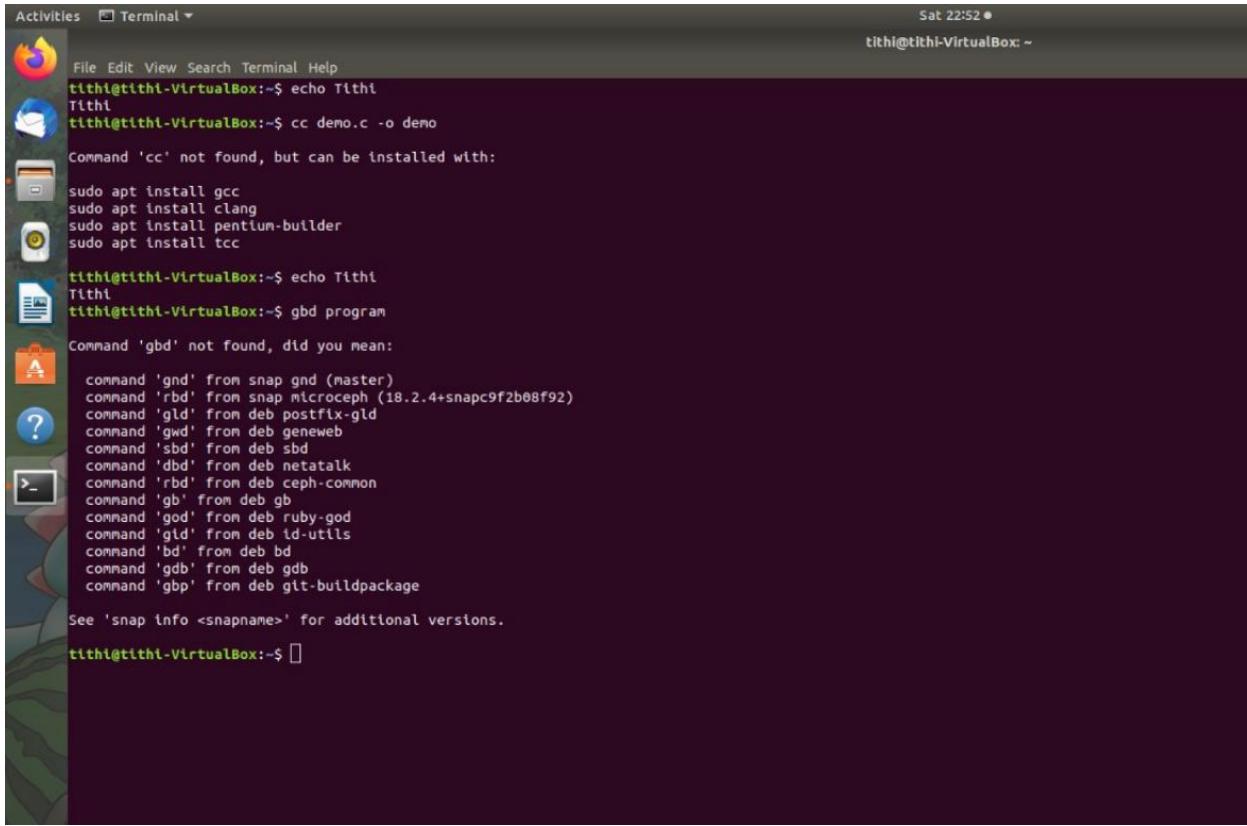
Activities Terminal Sat 22:49 • tithi@tithi-VirtualBox: ~
File Edit View Search Terminal Help
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ ps
  PID TTY      TIME CMD
 5340 pts/0    00:00:00 bash
 5833 pts/0    00:00:00 ps
tithi@tithi-VirtualBox:~$ echo Hetvee
Hetvee
tithi@tithi-VirtualBox:~$ ps
  PID TTY      TIME CMD
 5340 pts/0    00:00:00 bash
 5834 pts/0    00:00:00 ps
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ kill 1234
bash: kill: (1234) - No such process
tithi@tithi-VirtualBox:~$ echo Hetvee
Hetvee
tithi@tithi-VirtualBox:~$ kill PID
bash: kill: PID: arguments must be process or job IDs
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ kill 1234
bash: kill: (1234) - No such process
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ 

```

5.Compile and Debug

cc – Compiles C source files into an executable (default system C compiler).

gdb – Debugger used to run, inspect, and control program execution step-by-step.

A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window titled "Terminal". The terminal window has a dark background and contains the following text:

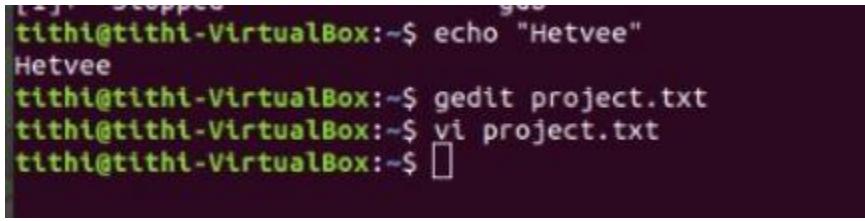
```
Activities Terminal
File Edit View Search Terminal Help
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ cc demo.c -o demo
Command 'cc' not found, but can be installed with:
sudo apt install gcc
sudo apt install clang
sudo apt install pentium-builder
sudo apt install tcc
tithi@tithi-VirtualBox:~$ echo Tithi
Tithi
tithi@tithi-VirtualBox:~$ gbd program
Command 'gbd' not found, did you mean:
  command 'gnd' from snap gnd (master)
  command 'rbd' from snap microcephl (18.2.4+snapc9f2b08f92)
  command 'glid' from deb postfix-gld
  command 'gwd' from deb geneweb
  command 'sbd' from deb sbd
  command 'dbd' from deb netatalk
  command 'rbd' from deb ceph-common
  command 'gb' from deb gb
  command 'god' from deb ruby-god
  command 'gld' from deb id-utils
  command 'bd' from deb bd
  command 'gdb' from deb gdb
  command 'gbp' from deb git-buildpackage
See 'snap info <snapname>' for additional versions.
tithi@tithi-VirtualBox:~$
```

The terminal window is part of a desktop interface with a dock on the left containing icons for Dash, Home, Applications, and Help.

6.Editors

gedit – Opens a simple graphical text editor for creating or editing files.

vi – Opens a terminal-based text editor for viewing and editing files.

A screenshot of a terminal window showing the output of two commands:

```
tithi@tithi-VirtualBox:~$ echo "Hetvee"
Hetvee
tithi@tithi-VirtualBox:~$ gedit project.txt
tithi@tithi-VirtualBox:~$ vi project.txt
tithi@tithi-VirtualBox:~$
```

The terminal window is part of a desktop interface with a dock on the left containing icons for Dash, Home, Applications, and Help.

This is sample data file
project.txt (END)