



1.BASIC LINUX COMMANDS

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Ex. No: 1

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BASIC LINUX COMMANDS

Aim:

To learn how the basic Linux commands work.

Commands:

- **pwd:**

Description: Print working directory command in Linux.

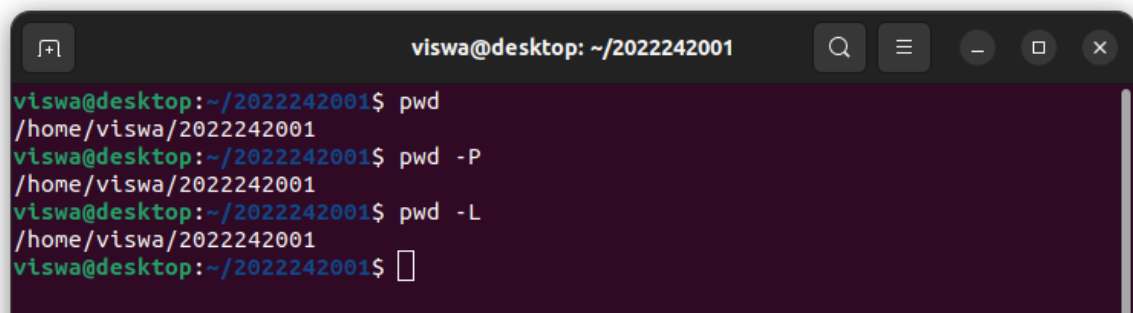
Syntax: ~\$ pwd

Options:

-L or --logical Prints environment variable content, including symbolic links.

-P or --physical Prints the actual path of the current directory.

Output:



```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ pwd
/home/viswa/2022242001
viswa@desktop:~/2022242001$ pwd -P
/home/viswa/2022242001
viswa@desktop:~/2022242001$ pwd -L
/home/viswa/2022242001
viswa@desktop:~/2022242001$
```

- **man:**

Description: The man command provides a user manual of any commands or utilities you can run in Terminal, including the name, description, and options.

Syntax: ~\$ man

Options:

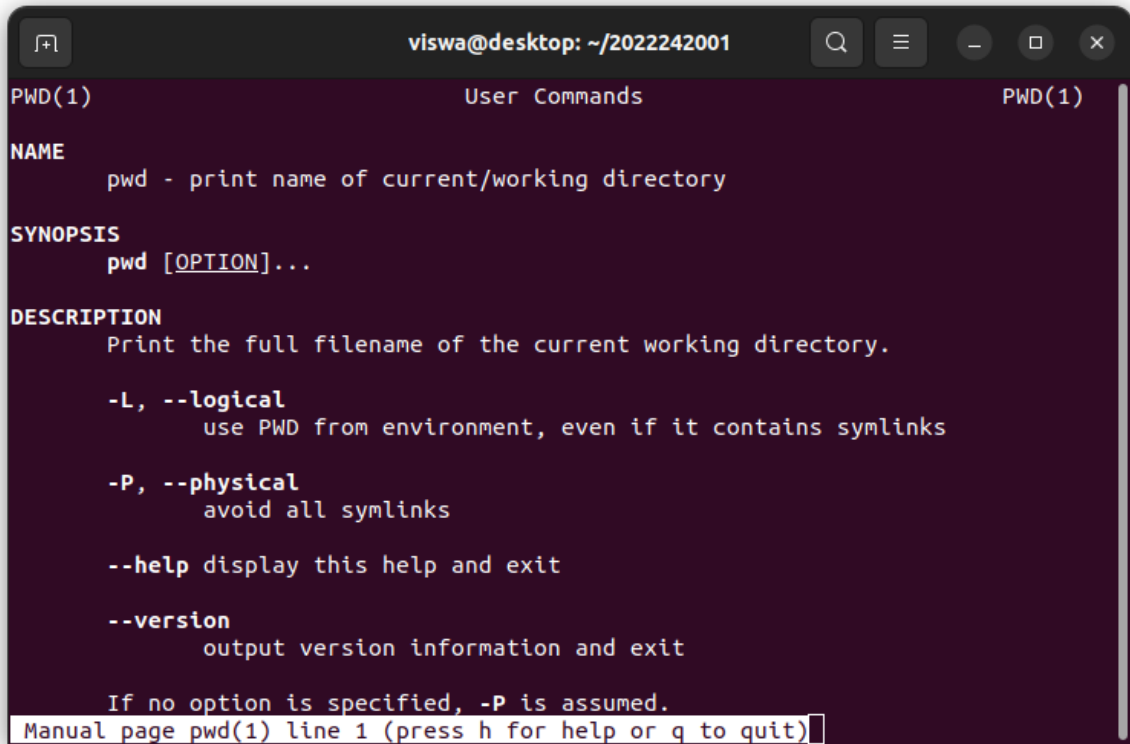
~\$ man [command_name]

-a Intro

-t Bash

Output:

```
viswa@desktop: ~/2022242001$ man pwd
```



The screenshot shows a terminal window titled "viswa@desktop: ~/2022242001". The terminal displays the man page for the 'pwd' command. The page is titled "PWD(1)" and "User Commands". It includes sections for NAME, SYNOPSIS, DESCRIPTION, and options. The DESCRIPTION section states: "Print the full filename of the current working directory." The options listed are: -L, --logical (use PWD from environment, even if it contains symlinks), -P, --physical (avoid all symlinks), --help (display this help and exit), and --version (output version information and exit). A note at the bottom states: "If no option is specified, -P is assumed." The terminal prompt at the bottom is "Manual page pwd(1) line 1 (press h for help or q to quit)".

```
PWD(1)                                User Commands                                PWD(1)
NAME
    pwd - print name of current/working directory
SYNOPSIS
    pwd [OPTION]...
DESCRIPTION
    Print the full filename of the current working directory.

    -L, --logical
        use PWD from environment, even if it contains symlinks

    -P, --physical
        avoid all symlinks

    --help display this help and exit

    --version
        output version information and exit

    If no option is specified, -P is assumed.
Manual page pwd(1) line 1 (press h for help or q to quit)
```

- **ls:**

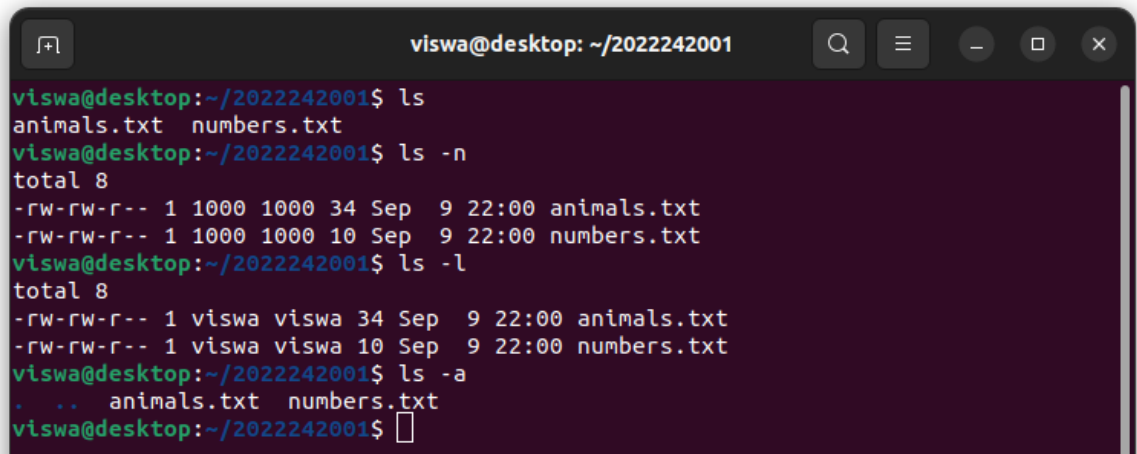
Description: List files and directories in the current working directory.

Syntax: ~\$ ls

Options:

- l Long listed format
- n List numeric user and group ID

Output:



```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ ls
animals.txt  numbers.txt
viswa@desktop:~/2022242001$ ls -n
total 8
-rw-rw-r-- 1 1000 1000 34 Sep  9 22:00 animals.txt
-rw-rw-r-- 1 1000 1000 10 Sep  9 22:00 numbers.txt
viswa@desktop:~/2022242001$ ls -l
total 8
-rw-rw-r-- 1 viswa viswa 34 Sep  9 22:00 animals.txt
-rw-rw-r-- 1 viswa viswa 10 Sep  9 22:00 numbers.txt
viswa@desktop:~/2022242001$ ls -a
.  ..  animals.txt  numbers.txt
viswa@desktop:~/2022242001$
```

- **mkdir:**


Description: Create one or multiple directories at once and set permissions for each of them.

Syntax: ~\$ mkdir [directory name]

Options:

- m Sets the file permissions
- v Prints a message for each created directory.

Output:



```
viswa@desktop: ~/2022242001/viswa/hema
viswa@desktop:~/2022242001$ mkdir viswa
viswa@desktop:~/2022242001$ cd viswa/
viswa@desktop:~/2022242001/viswa$ mkdir -m a=rwx hema
viswa@desktop:~/2022242001/viswa$ cd hema
viswa@desktop:~/2022242001/viswa/hema$ mkdir -v pugal
mkdir: created directory 'pugal'
viswa@desktop:~/2022242001/viswa/hema$ ls
pugal
viswa@desktop:~/2022242001/viswa/hema$
```

- **cat:**

Description: Concatenate file(s) to a standard output. With no file, or when file is not created, read standard output.

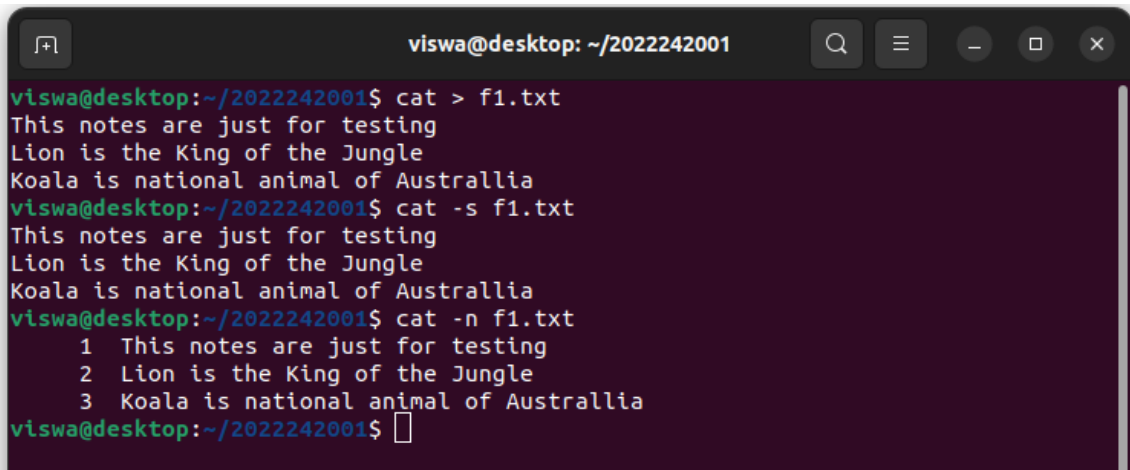
Syntax: ~\$ cat [filename]

Options:

-s Suppress repeated empty lines

-n Number all output lines

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with search, menu, and window control icons. The terminal shows the following commands and output:

```
viswa@desktop:~/2022242001$ cat > f1.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cat -s f1.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cat -n f1.txt
 1 This notes are just for testing
 2 Lion is the King of the Jungle
 3 Koala is national animal of Australlia
viswa@desktop:~/2022242001$
```

- **cp:**

Description: Copy files or directories and their content from SOURCE to DESTINATION.

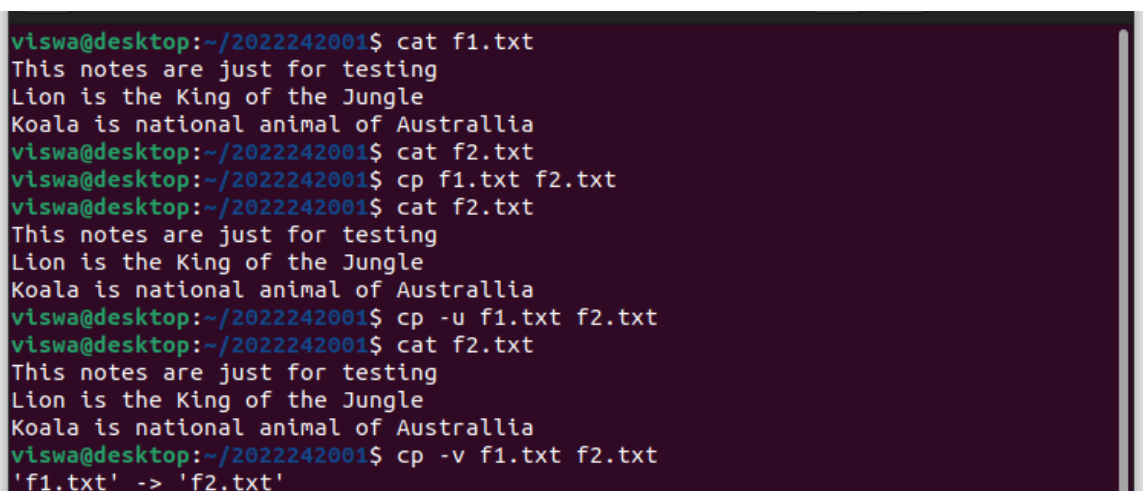
Syntax: ~\$ cp [SOURCE] [DEST]

Options:

-u –update Copy when the source is new than destination or destination file doesn't exist.

-v –verbose Explain what is going on.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with search, menu, and window control icons. The terminal shows the following commands and output:

```
viswa@desktop:~/2022242001$ cat f1.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cat f2.txt
viswa@desktop:~/2022242001$ cp f1.txt f2.txt
viswa@desktop:~/2022242001$ cat f2.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cp -u f1.txt f2.txt
viswa@desktop:~/2022242001$ cat f2.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cp -v f1.txt f2.txt
'f1.txt' -> 'f2.txt'
```

- **mv:**

Description: Move files from SOURCE to DEST or rename files and directories.

Syntax: ~\$ mv [SOURCE] [DEST]

Options:

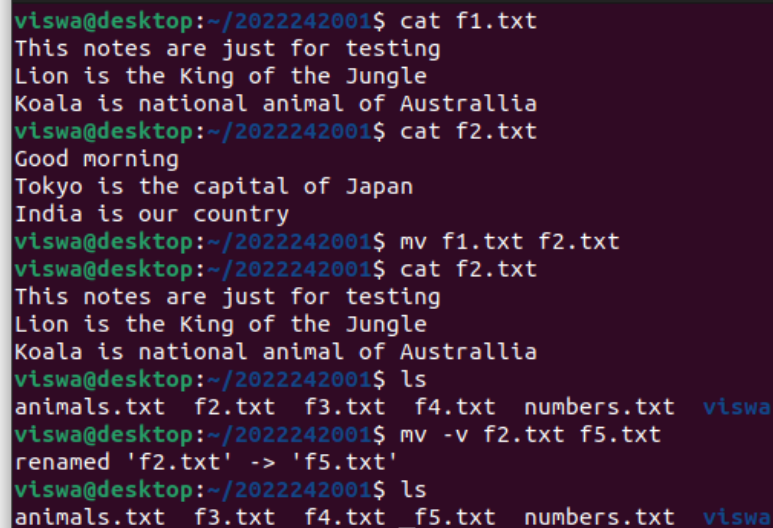
-i –interactive

Prompt before overwrite.

-v –verbose

Explain what is going on.

Output:

A terminal window with a dark purple background and light green text. The user 'viswa' is at a desktop in a directory '~/.2022242001'. They first run 'cat f1.txt' which shows text about testing and animals. Then they run 'cat f2.txt' showing text about Japan and India. Next, they run 'mv f1.txt f2.txt'. Then they run 'cat f2.txt' again, showing the same text as before. Then they run 'ls' showing a list of files including f2.txt. Finally, they run 'mv -v f2.txt f5.txt' which shows a confirmation message 'renamed 'f2.txt' -> 'f5.txt''. A final 'ls' command shows that f5.txt is now in the directory.

```
viswa@desktop:~/2022242001$ cat f1.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ cat f2.txt
Good morning
Tokyo is the capital of Japan
India is our country
viswa@desktop:~/2022242001$ mv f1.txt f2.txt
viswa@desktop:~/2022242001$ cat f2.txt
This notes are just for testing
Lion is the King of the Jungle
Koala is national animal of Australlia
viswa@desktop:~/2022242001$ ls
animals.txt  f2.txt  f3.txt  f4.txt  numbers.txt  viswa
viswa@desktop:~/2022242001$ mv -v f2.txt f5.txt
renamed 'f2.txt' -> 'f5.txt'
viswa@desktop:~/2022242001$ ls
animals.txt  f3.txt  f4.txt  f5.txt  numbers.txt  viswa
```

- **rm:**

Description: Removes each specific file. By default, it doesn't remove directories.

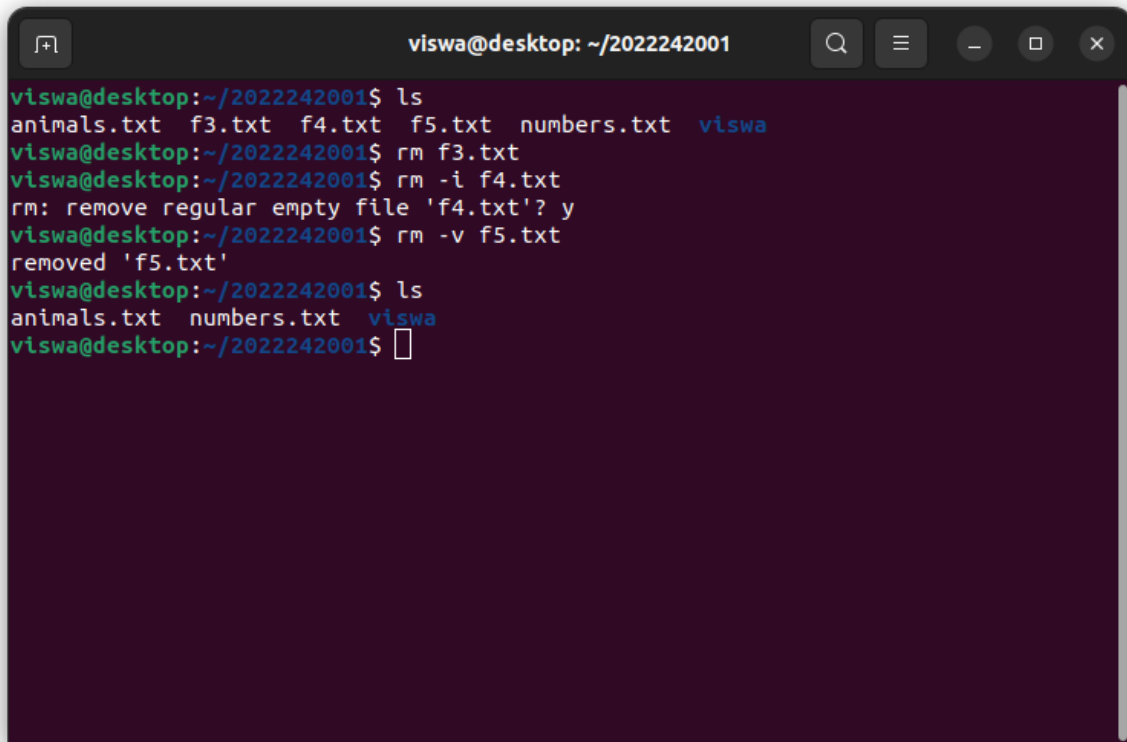
Syntax: ~\$ rm [filename]

Options:

-i Prompt before every removal.

-v –verbose Explain what is going on.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with standard window controls. The terminal shows a sequence of commands and their outputs: 'ls' lists 'animals.txt', 'f3.txt', 'f4.txt', 'f5.txt', and 'numbers.txt'; 'rm f3.txt' removes the file; 'rm -i f4.txt' prompts for confirmation to remove 'f4.txt', which is confirmed with 'y'; 'rm -v f5.txt' removes 'f5.txt' with verbose output. A final 'ls' command shows only 'animals.txt' and 'numbers.txt' remaining.

```
viswa@desktop:~/2022242001$ ls
animals.txt  f3.txt  f4.txt  f5.txt  numbers.txt  viswa
viswa@desktop:~/2022242001$ rm f3.txt
viswa@desktop:~/2022242001$ rm -i f4.txt
rm: remove regular empty file 'f4.txt'? y
viswa@desktop:~/2022242001$ rm -v f5.txt
removed 'f5.txt'
viswa@desktop:~/2022242001$ ls
animals.txt  numbers.txt  viswa
viswa@desktop:~/2022242001$
```

- **rmdir:**

Description: Permanently delete directory if it is empty.

Syntax: ~\$ rmdir [directory]

Options:

- ignore-fail-on-non-empty

Ignore each failure that is solely because a directory is non-empty

- v --verbose

Output a diagnostic for every directory processed.

Output:

```
viswa@desktop: ~/2022242001/viswa
viswa@desktop:~/2022242001/viswa/hema/pugal$ ls
blacklist
viswa@desktop:~/2022242001/viswa/hema/pugal$ cd ..
viswa@desktop:~/2022242001/viswa/hema$ rmdir --ignore-fail-on-non-empty pugal/
viswa@desktop:~/2022242001/viswa/hema$ ls
pugal
viswa@desktop:~/2022242001/viswa/hema$ rmdir pugal/
rmdir: failed to remove 'pugal/': Directory not empty
viswa@desktop:~/2022242001/viswa/hema$ cd pugal/
viswa@desktop:~/2022242001/viswa/hema/pugal$ rm blacklist
viswa@desktop:~/2022242001/viswa/hema/pugal$ cd ..
viswa@desktop:~/2022242001/viswa/hema$ rmdir pugal/
viswa@desktop:~/2022242001/viswa/hema$ ls
viswa@desktop:~/2022242001/viswa/hema$ cd ..
viswa@desktop:~/2022242001/viswa$ rmdir hema/
viswa@desktop:~/2022242001/viswa$ ls
```

- **date:**

Description: Display current time in given FORMAT. Update system date.

Syntax: ~\$ date

Options:

- R --rfc-email Output date and time in RFC 5322 format
- u --utc Print or set Coordinated Universal Time (UTC)

Output:

```
viswa@desktop: ~/2022242001/viswa
viswa@desktop:~/2022242001/viswa$ date
Saturday 09 September 2023 10:10:35 PM IST
viswa@desktop:~/2022242001/viswa$ date -R
Sat, 09 Sep 2023 22:10:30 +0530
viswa@desktop:~/2022242001/viswa$ date -u
Saturday 09 September 2023 04:40:32 PM UTC
viswa@desktop:~/2022242001/viswa$
```

- **cal:**

Description: Displays a calendar with specific intervals given.

Syntax: ~\$ cal

Options:

- A [num] Display the specific month and then next [num] months
- ~\$ cal [year]
- ~\$ cal [month]

Output:

```
viswa@desktop: ~/2022242001/viswa$ cal
September 2023
Su Mo Tu We Th Fr Sa
                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 29 30

viswa@desktop: ~/2022242001/viswa$ cal 2023
      2023
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   1  2  3  4
 8  9 10 11 12 13 14   5  6  7  8  9 10 11   5  6  7  8  9 10 11
15 16 17 18 19 20 21  12 13 14 15 16 17 18  12 13 14 15 16 17 18
22 23 24 25 26 27 28  19 20 21 22 23 24 25  19 20 21 22 23 24 25
29 30 31              26 27 28              26 27 28 29 30 31

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   1  2  3  4  5  6   1  2  3
 2  3  4  5  6  7  8   7  8  9 10 11 12 13   4  5  6  7  8  9 10
 9 10 11 12 13 14 15  14 15 16 17 18 19 20  11 12 13 14 15 16 17
16 17 18 19 20 21 22  21 22 23 24 25 26 27  18 19 20 21 22 23 24
23 24 25 26 27 28 29  28 29 30 31          25 26 27 28 29 30
30

July August September
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   3  4  5  6  7  8  9
 8  9 10 11 12 13 14  6  7  8  9 10 11 12  10 11 12 13 14 15 16
15 16 17 18 19 20 21  13 14 15 16 17 18 19  17 18 19 20 21 22 23
22 23 24 25 26 27 28  20 21 22 23 24 25 26  24 25 26 27 28 29 30
30 31              27 28 29 30 31          31

October 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   1  2
 8  9 10 11 12 13 14   5  6  7  8  9 10 11   3  4  5  6  7  8  9
15 16 17 18 19 20 21  12 13 14 15 16 17 18  10 11 12 13 14 15 16
22 23 24 25 26 27 28  19 20 21 22 23 24 25  17 18 19 20 21 22 23
29 30 31              26 27 28 29 30          24 25 26 27 28 29 30
31
```

- **uname:**

Description: Print detailed information about your Linux system and hardware.

Syntax: ~\$ uname

Options:

- v --kernel-version Print the kernel version
- p --processor type Print the processor type

Output:

```
viswa@desktop: ~/2022242001$ uname
Linux
viswa@desktop: ~/2022242001$ uname -v
#31~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Wed Aug 16 13:45:26 UTC 2
viswa@desktop: ~/2022242001$ uname -p
x86_64
viswa@desktop: ~/2022242001$
```

- **clear:**

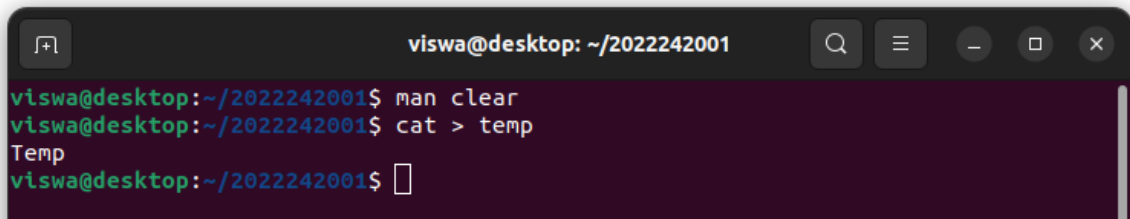
Description: Clear the terminal display.

Syntax: ~\$ clear

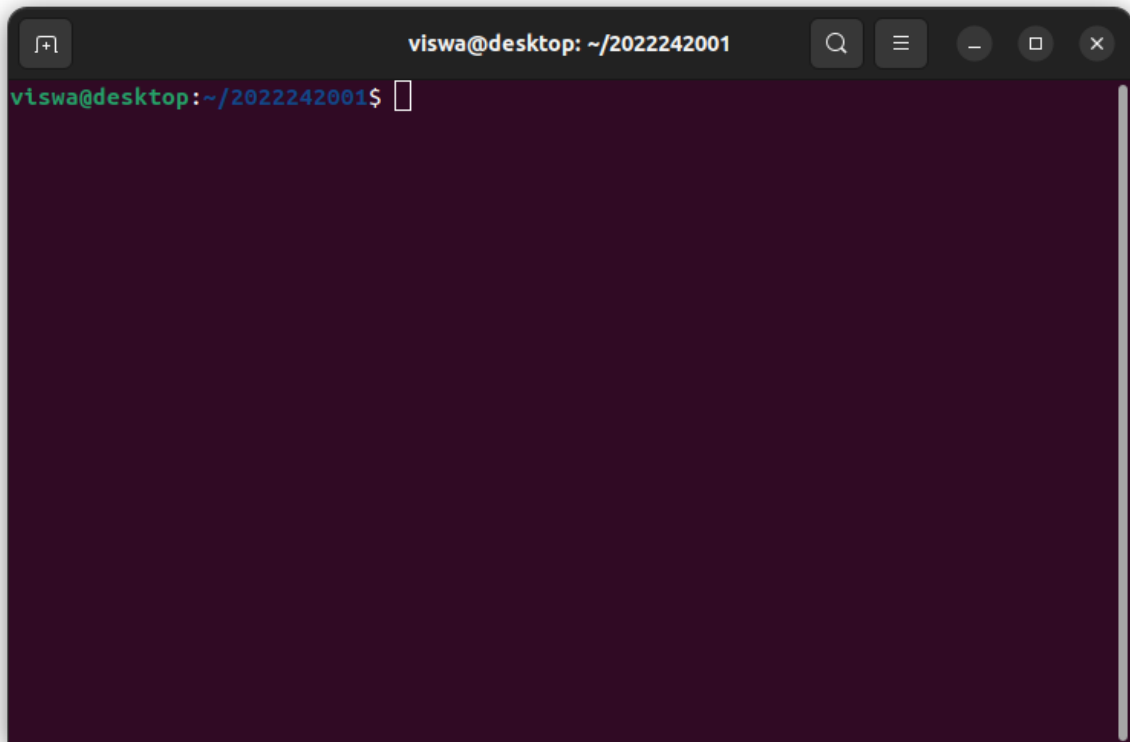
Options:

- x Don't attempt to clear the terminal's scrollbar buffer using extended "E3" capability.

Output:

A terminal window with a dark purple background. The title bar reads 'viswa@desktop: ~/2022242001'. The prompt is 'viswa@desktop:~/2022242001\$'. The first command 'man clear' is entered. The second command 'cat > temp' is entered, followed by the output 'Temp' on the next line. The prompt is now 'viswa@desktop:~/2022242001\$' with a cursor.

```
viswa@desktop:~/2022242001$ man clear
viswa@desktop:~/2022242001$ cat > temp
Temp
viswa@desktop:~/2022242001$
```

A terminal window with a dark purple background. The title bar reads 'viswa@desktop: ~/2022242001'. The prompt is 'viswa@desktop:~/2022242001\$' with a cursor.

```
viswa@desktop:~/2022242001$
```

- **du:**

Description: Checks how much space a file or a directory takes up.

Syntax: ~\$ du

Options:

- 0 -null End output file with NULL
- a -all Write count for all files.

Output:

```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ du
4      ./viswa
20     .
viswa@desktop:~/2022242001$ du -a
4      ./numbers.txt
4      ./temp
4      ./animals.txt
4      ./viswa
20     .
viswa@desktop:~/2022242001$ du -0
4      ./viswa20      .viswa@desktop:~/2022242001$
```

- **who:**

Description: Print information about users who are currently logged in.

Syntax: ~\$ who

Options:

-b --boot

Time of last system boot.

-l --login

Print system login processes.

Output:

```
viswa@desktop:~/2022242001$ who
viswa  tty2      2023-09-09 21:52 (tty2)
viswa@desktop:~/2022242001$ who -b
system boot  2023-09-09 18:55
viswa@desktop:~/2022242001$ who -d
pts/1      2023-09-09 19:26      4875 id=ts/1  term=2  exit=0
viswa@desktop:~/2022242001$
```

- **head:**

Description: Print the first 10 lines of each file to standard output.

Syntax: ~\$ head [filename]

Options:

-n --lines=NUM	Print the first NUM lines.
-c --bytes=NUM	Print the first NUM bytes.

Output:

```
viswa@desktop:~/2022242001$ cat numbers.txt
1
2
3
4
5
6
7
8
9
10
11
12
13
viswa@desktop:~/2022242001$ head numbers.txt
1
2
3
4
5
6
7
8
9
```

```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ head -n 4 numbers.txt
1
2
3
4
viswa@desktop:~/2022242001$ head -c 10 numbers.txt
1
2
3
4
5
viswa@desktop:~/2022242001$
```

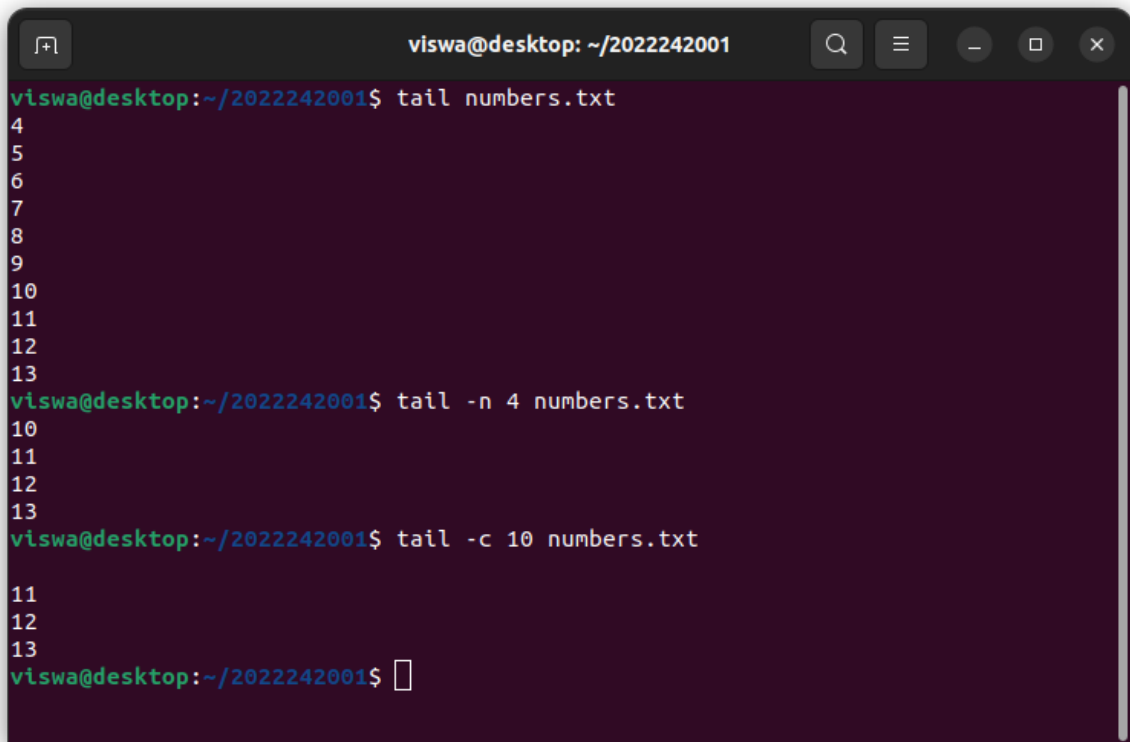
- **tail:**

Description: Print the last 10 lines of each file to standard output.

Syntax: ~\$ tail [filename]

Options:

- | | |
|----------------|---------------------------|
| -n --lines=NUM | Print the last NUM lines. |
| -c --bytes=NUM | Print the last NUM bytes |

A terminal window titled 'viswa@desktop: ~/2022242001' with search, menu, and window control icons. It shows three commands being executed on a file named 'numbers.txt'. The first command 'tail numbers.txt' outputs lines 4 through 13. The second command 'tail -n 4 numbers.txt' outputs lines 10 through 13. The third command 'tail -c 10 numbers.txt' outputs the last 10 characters of lines 11, 12, and 13. The prompt is currently at the end of the third command.

```
viswa@desktop:~/2022242001$ tail numbers.txt
4
5
6
7
8
9
10
11
12
13
viswa@desktop:~/2022242001$ tail -n 4 numbers.txt
10
11
12
13
viswa@desktop:~/2022242001$ tail -c 10 numbers.txt
11
12
13
viswa@desktop:~/2022242001$
```

- **df:**

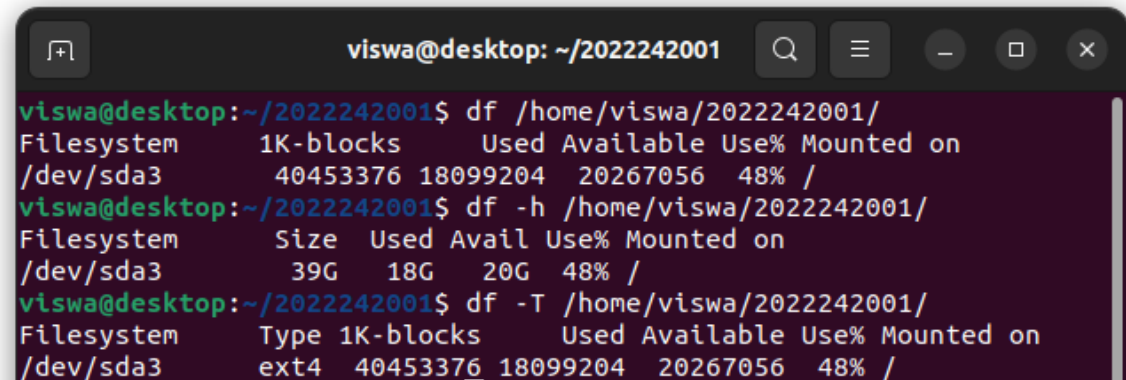
Description: Report the system's disk space usage in percentage and kilobyte (KB).

Syntax: ~\$ df /directory_name

Options:

- | | |
|----|---|
| -T | Shows the file system type in a new column. |
| -h | Shows size in power of 1024. |

Output:



```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ df /home/viswa/2022242001/
Filesystem      1K-blocks      Used Available Use% Mounted on
/dev/sda3        40453376 18099204  20267056  48% /
viswa@desktop:~/2022242001$ df -h /home/viswa/2022242001/
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda3       39G   18G   20G   48% /
viswa@desktop:~/2022242001$ df -T /home/viswa/2022242001/
Filesystem      Type 1K-blocks      Used Available Use% Mounted on
/dev/sda3       ext4 40453376 18099204  20267056  48% /
```

- **echo:**

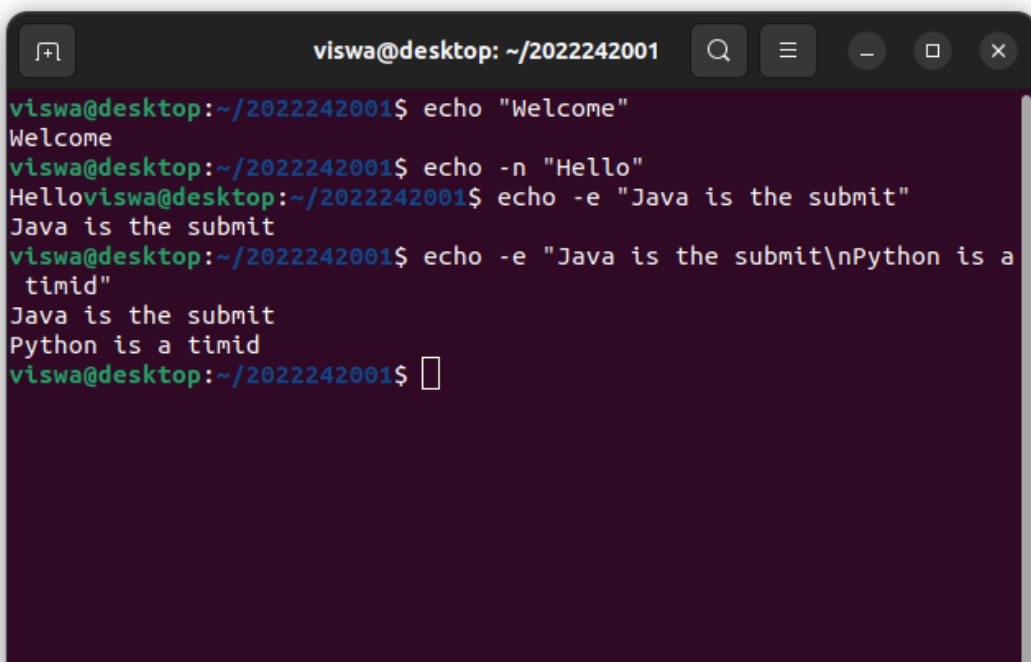
Description: Displays a line of text or string using the standard output.

Syntax: ~\$ echo “[statement]”

Options:

- n displays the output without the trailing newline.
- e enables the interpretation of the following backslash escapes:
 - \a plays sound alert.
 - \b removes spaces in between a text.
 - \c produces no further output.

Output:



```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ echo "Welcome"
Welcome
viswa@desktop:~/2022242001$ echo -n "Hello"
Helloviswa@desktop:~/2022242001$ echo -e "Java is the submit"
Java is the submit
viswa@desktop:~/2022242001$ echo -e "Java is the submit\nPython is a timid"
Java is the submit
Python is a timid
viswa@desktop:~/2022242001$
```

- **ps:**

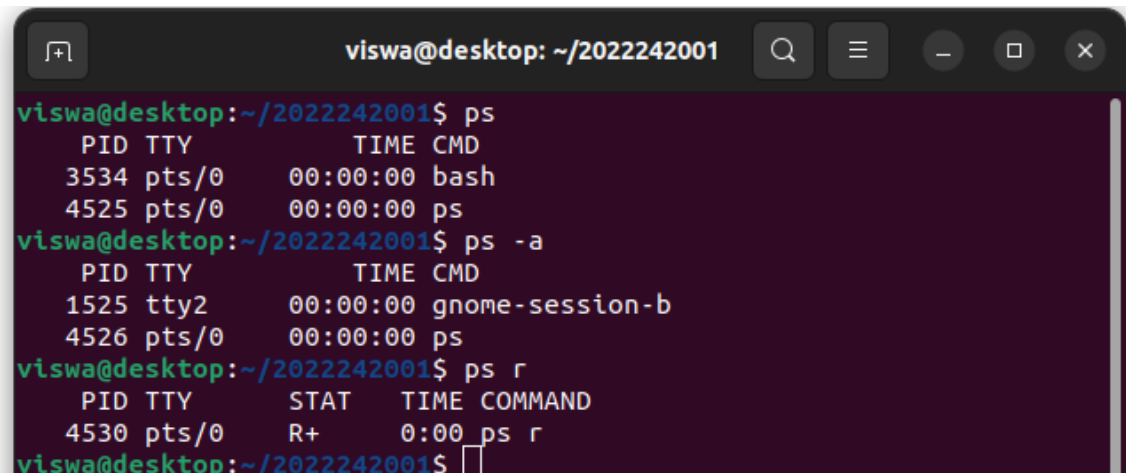
Description: Displays snapshot of all running processes in your system.

Syntax: ~\$ ps

Options:

- a Shows all the running processes.
- d Select all processes except session leaders.

Output:



```
viswa@desktop:~/2022242001$ ps
  PID TTY          TIME CMD
 3534 pts/0        00:00:00 bash
 4525 pts/0        00:00:00 ps
viswa@desktop:~/2022242001$ ps -a
  PID TTY          TIME CMD
 1525 tty2        00:00:00 gnome-session-b
 4526 pts/0        00:00:00 ps
viswa@desktop:~/2022242001$ ps r
  PID TTY          STAT TIME COMMAND
 4530 pts/0        R+    0:00 ps r
viswa@desktop:~/2022242001$
```

- **touch:**

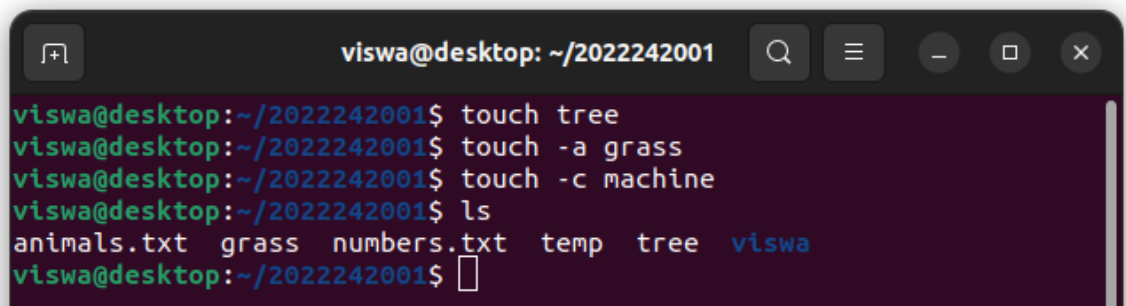
Description: Create an empty file or generate and modify a timestamp in the Linux command line.

Syntax: ~\$ touch [filename]

Options:

- a Change only the access time
- c Do not create any files

Output:



```
viswa@desktop:~/2022242001$ touch tree
viswa@desktop:~/2022242001$ touch -a grass
viswa@desktop:~/2022242001$ touch -c machine
viswa@desktop:~/2022242001$ ls
animals.txt  grass  numbers.txt  temp  tree  viswa
viswa@desktop:~/2022242001$
```

- **sudo:**

Description: Commands that permits user to perform tasks that require administrative or root permissions.

Syntax: ~\$ sudo [command]

Options:

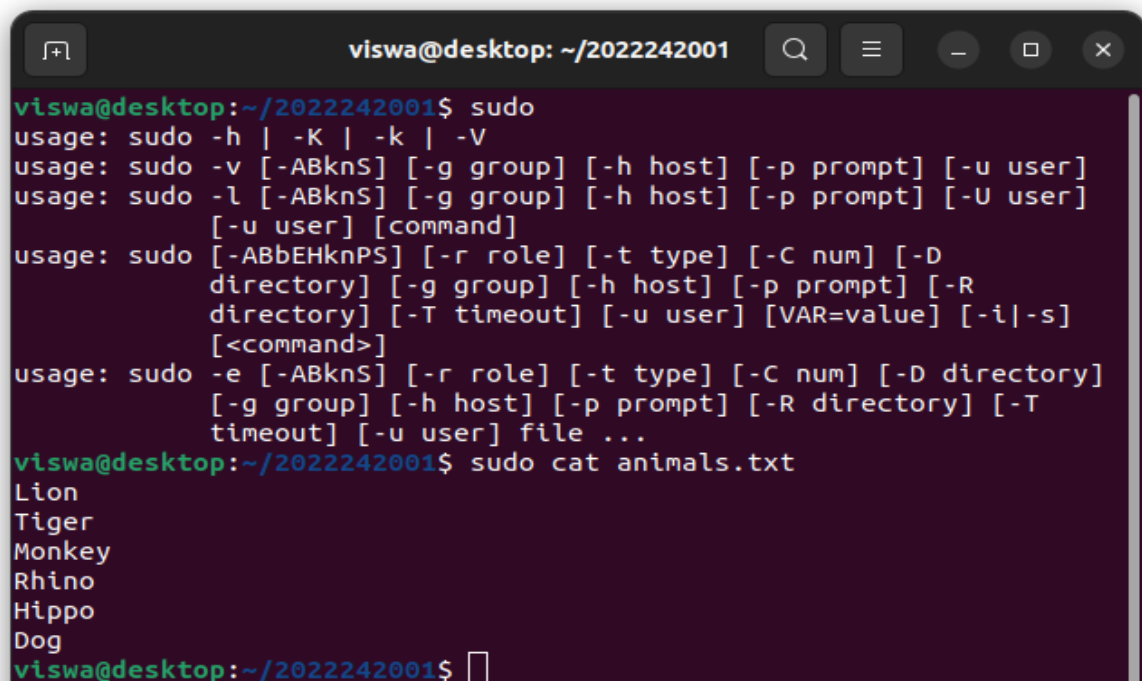
-B --bell

Ring the bell as part of the password prompt when a terminal is present.

-h --help

Display a short help message to the standard output and exit.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with standard window controls. The terminal shows the command 'sudo' being entered, which triggers a display of its usage information. The usage text lists various options like -h, -K, -k, -v, -l, -u, -t, -C, -D, -R, -T, and -e. After the help text, the user enters 'sudo cat animals.txt', and the terminal displays the contents of the file: 'Lion', 'Tiger', 'Monkey', 'Rhino', 'Hippo', and 'Dog'.

```
viswa@desktop:~/2022242001$ sudo
usage: sudo -h | -K | -k | -V
usage: sudo -v [-ABknS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABknS] [-g group] [-h host] [-p prompt] [-U user]
           [-u user] [command]
usage: sudo [-ABbEHknPS] [-r role] [-t type] [-C num] [-D
           directory] [-g group] [-h host] [-p prompt] [-R
           directory] [-T timeout] [-u user] [VAR=value] [-i|-s]
           [<command>]
usage: sudo -e [-ABknS] [-r role] [-t type] [-C num] [-D directory]
           [-g group] [-h host] [-p prompt] [-R directory] [-T
           timeout] [-u user] file ...
viswa@desktop:~/2022242001$ sudo cat animals.txt
Lion
Tiger
Monkey
Rhino
Hippo
Dog
viswa@desktop:~/2022242001$
```

- **free:**

Description: Displays the total amount of free and used physical and swap memory in the system.

Syntax: ~\$ free

Options:

-b --bytes Display the amount of memory in bytes.

-k Display the amount of memory in kilo-bytes.

Output:


```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ free
              total        used        free      shared  buff/cache
Mem:          3964468      1167984      1255764         40652       1540720
              2503184
Swap:          4392956           0         4392956
viswa@desktop:~/2022242001$ free -k
              total        used        free      shared  buff/cache
Mem:          3964468      1167956      1255764         40652       1540748
              2503212
Swap:          4392956           0         4392956
viswa@desktop:~/2022242001$ free -g
              total        used        free      shared  buff/cache
Mem:              3           1           1           0           1
              2
Swap:              4           0           4
viswa@desktop:~/2022242001$
```

- **more:**

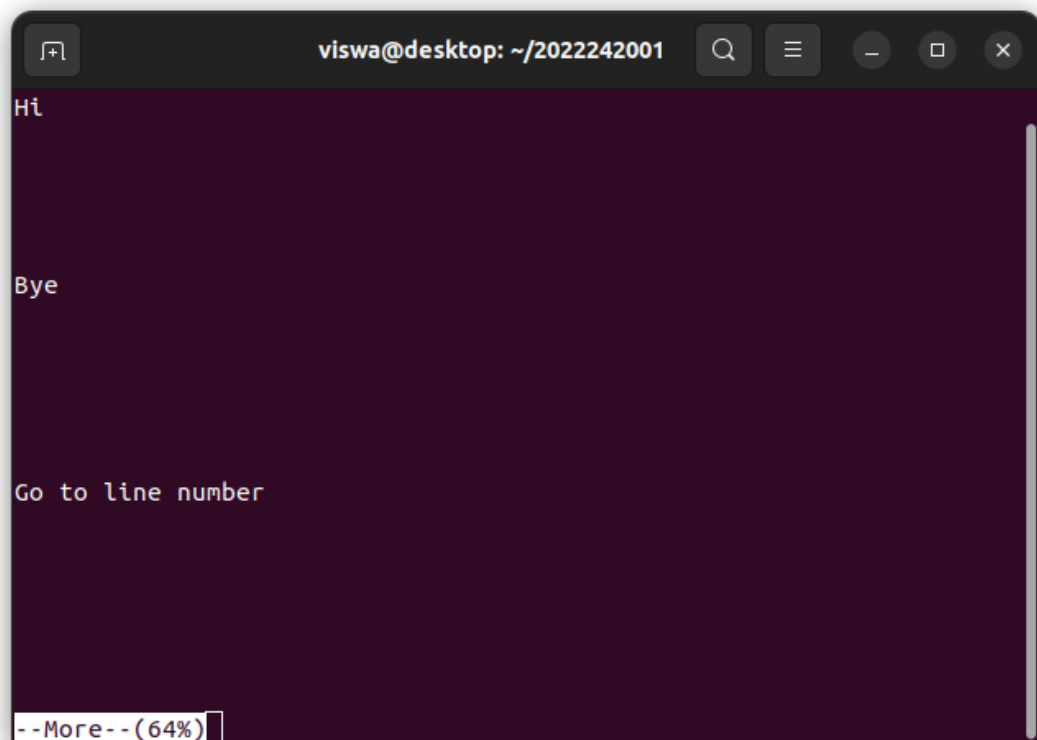
Description: Displays large files that cannot be viewed in their entirety on a single screen.

Syntax: ~\$ more [filename]

Options:

- n or --line-numbers Displays the line numbers at the beginning of each line.
- s or --squeeze-blank This option removes empty lines from the output.
- u or --underline This option underlines the output.
- f or --force This option forces more command to display the file, even if it is small enough to fit on one screen.

Output:

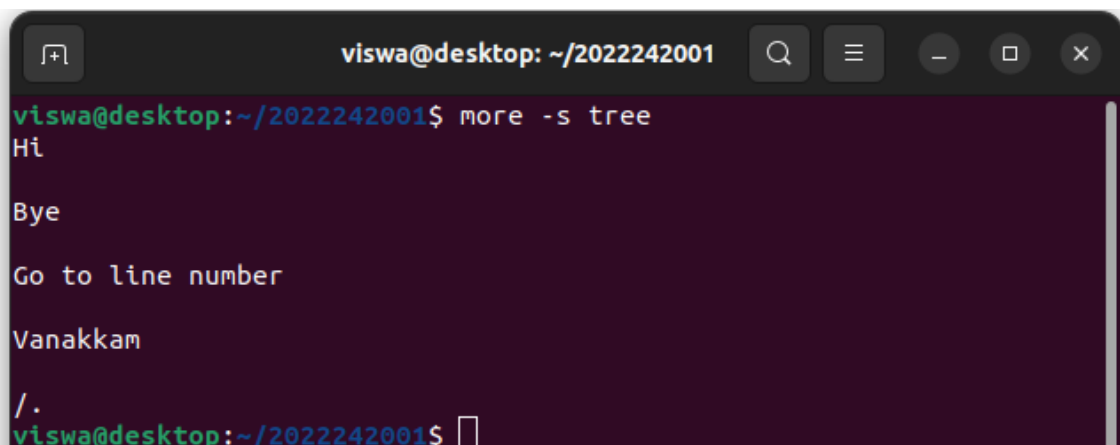


```
viswa@desktop: ~/2022242001
Hi

Bye

Go to line number

--More--(64%)
```



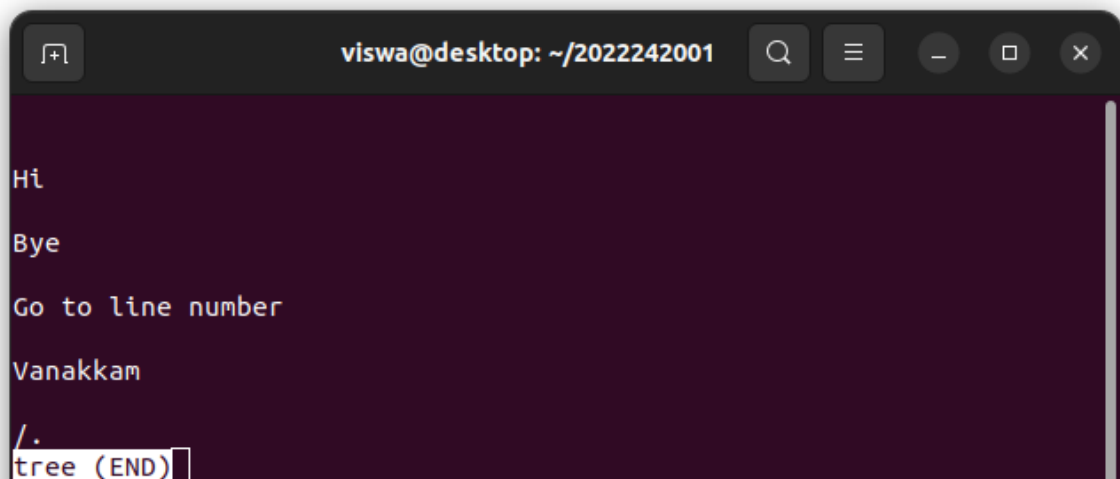
```
viswa@desktop: ~/2022242001$ more -s tree
Hi

Bye

Go to line number

Vanakkam

./
viswa@desktop:~/2022242001$
```



```
viswa@desktop: ~/2022242001

Hi

Bye

Go to line number

Vanakkam

./
tree (END)
```

- **less:**

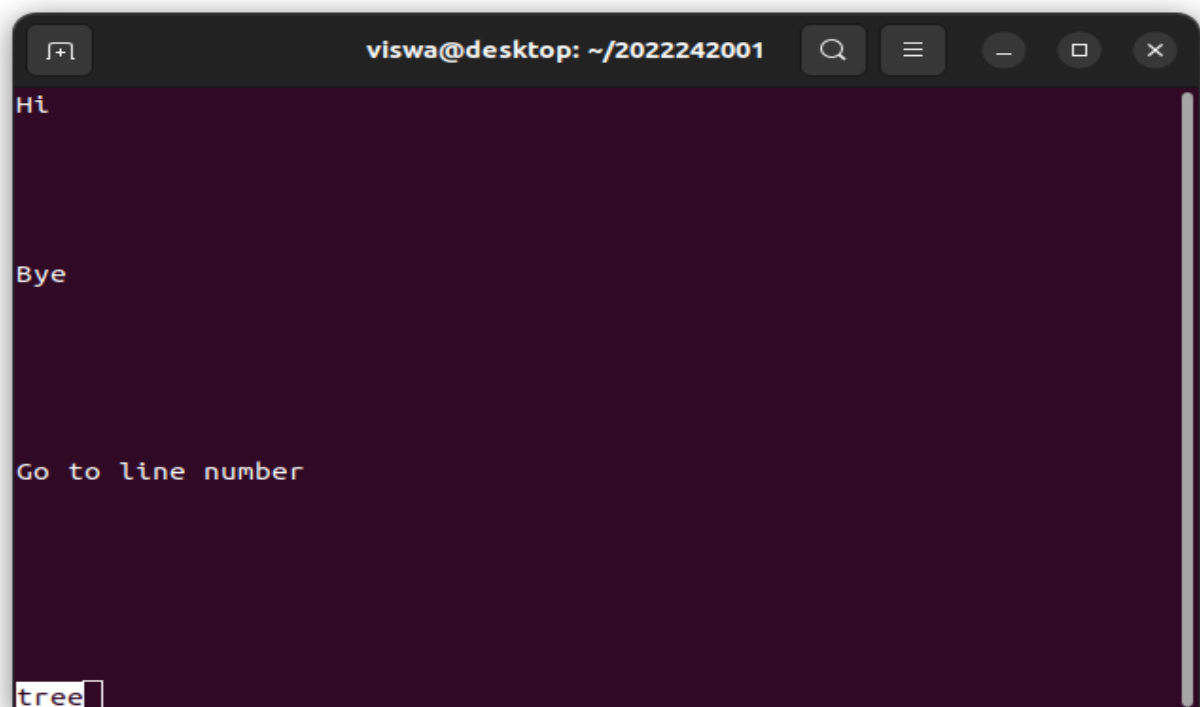
Description: Displays large files by scroll through the file in both forward and backward directions, making it easier to navigate and read large text files.

Syntax: ~\$ less [filename]

Options:

- E Causes less to automatically exit the first time it reaches end-of-file.
- s Causes consecutive blank lines to be squeezed into a single blank line.

Output:



```
viswa@desktop: ~/2022242001
Hi

Bye

Go to line number

tree
```

- **uptime:**

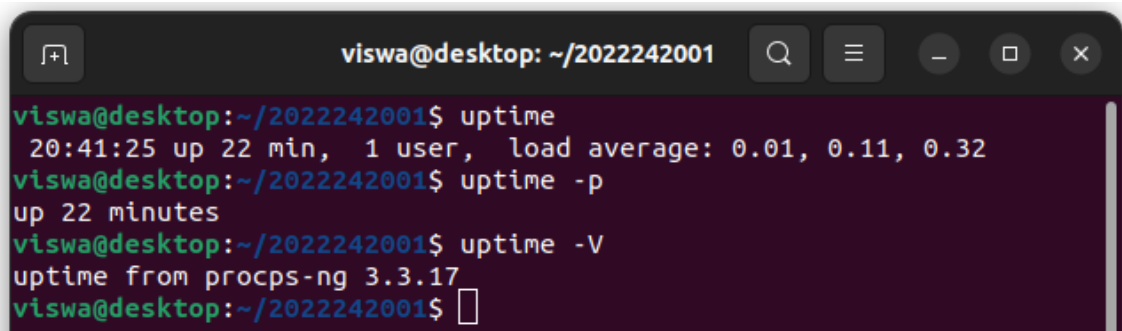
Description: Displays information about how long a Linux system has been running, the number of users logged in, and the current system load average.

Syntax: ~\$ uptime

Options:

- p --pretty
Show uptime in pretty format.
- V --version
Display version information and exit.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with search, menu, and window control icons. The terminal shows the following commands and output:

```
viswa@desktop:~/2022242001$ uptime
 20:41:25 up 22 min,  1 user,  load average: 0.01, 0.11, 0.32
viswa@desktop:~/2022242001$ uptime -p
up 22 minutes
viswa@desktop:~/2022242001$ uptime -V
uptime from procps-ng 3.3.17
viswa@desktop:~/2022242001$
```

- **diff:**

Description: Compares two contents of a file line by line. After analysing them, it will display the parts that do not match.

Syntax: ~\$ diff [FILE] [FILE]

Options:

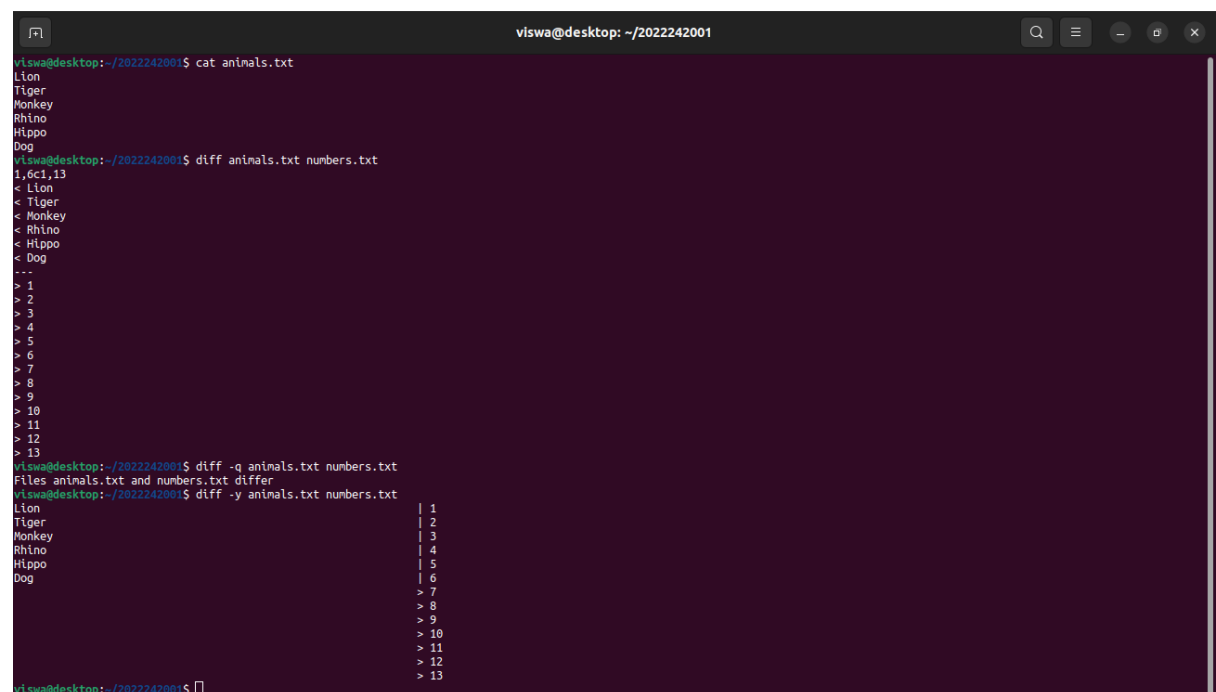
-q --brief

Report only when files differ

-y --side-by-side

Output in two columns

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with search, menu, and window control icons. The terminal shows the following commands and output:

```
viswa@desktop:~/2022242001$ cat animals.txt
Lion
Tiger
Monkey
Rhino
Hippo
Dog
viswa@desktop:~/2022242001$ diff animals.txt numbers.txt
1,6c1,13
< Lion
< Tiger
< Monkey
< Rhino
< Hippo
< Dog
---
> 1
> 2
> 3
> 4
> 5
> 6
> 7
> 8
> 9
> 10
> 11
> 12
> 13
viswa@desktop:~/2022242001$ diff -q animals.txt numbers.txt
Files animals.txt and numbers.txt differ
viswa@desktop:~/2022242001$ diff -y animals.txt numbers.txt
Lion          | 1
Tiger         | 2
Monkey       | 3
Rhino        | 4
Hippo        | 5
Dog          | 6
> 7
> 8
> 9
> 10
> 11
> 12
> 13
viswa@desktop:~/2022242001$
```

- **ifconfig:**

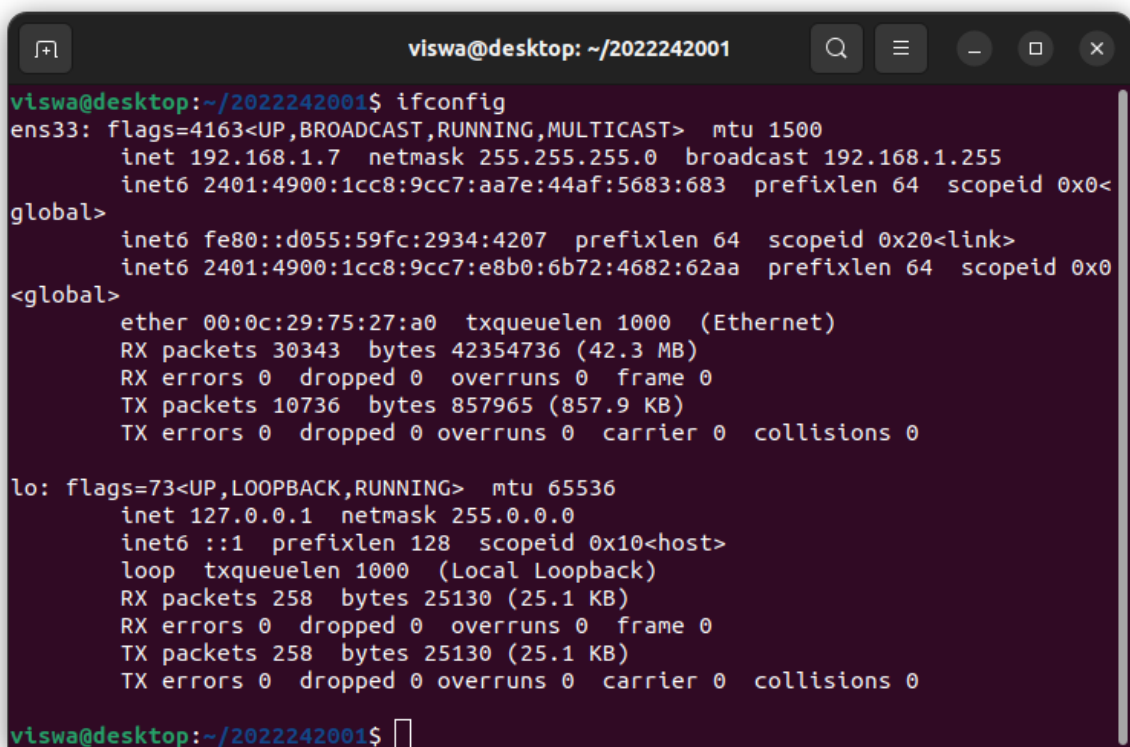
Description: View and modify network interface parameters such as IP addresses, netmasks, and broadcast addresses.

Syntax: ~\$ ifconfig

Options:

- s Display a short list
- v Be more verbose for some error conditions

Output:



```
viswa@desktop: ~/2022242001
viswa@desktop:~/2022242001$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
    inet 192.168.1.7  netmask 255.255.255.0  broadcast 192.168.1.255
    inet6 2401:4900:1cc8:9cc7:aa7e:44af:5683:683  prefixlen 64  scopeid 0x0<
global>
    inet6 fe80::d055:59fc:2934:4207  prefixlen 64  scopeid 0x20<link>
    inet6 2401:4900:1cc8:9cc7:e8b0:6b72:4682:62aa  prefixlen 64  scopeid 0x0
<global>
    ether 00:0c:29:75:27:a0  txqueuelen 1000  (Ethernet)
    RX packets 30343  bytes 42354736 (42.3 MB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 10736  bytes 857965 (857.9 KB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 258  bytes 25130 (25.1 KB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 258  bytes 25130 (25.1 KB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

viswa@desktop:~/2022242001$
```

- **kill:**

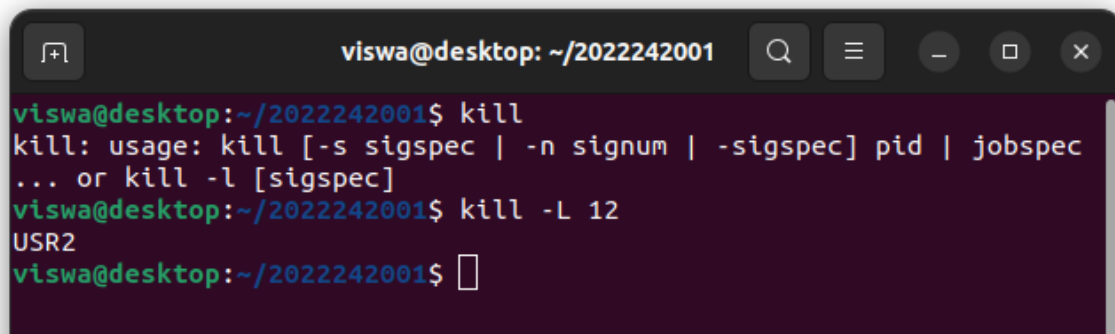
Description: Terminate a program manually using PID.

Syntax: ~\$ kill

Options:

- l --list
List signal names.
- L --table
List signal names in a table.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001'. The user enters 'kill' and receives a usage message: 'kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill -l [sigspec]'. Then, the user enters 'kill -L 12' and receives the output 'USR2'.

```
viswa@desktop:~/2022242001$ kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec
... or kill -l [sigspec]
viswa@desktop:~/2022242001$ kill -L 12
USR2
viswa@desktop:~/2022242001$
```

- **cd:**

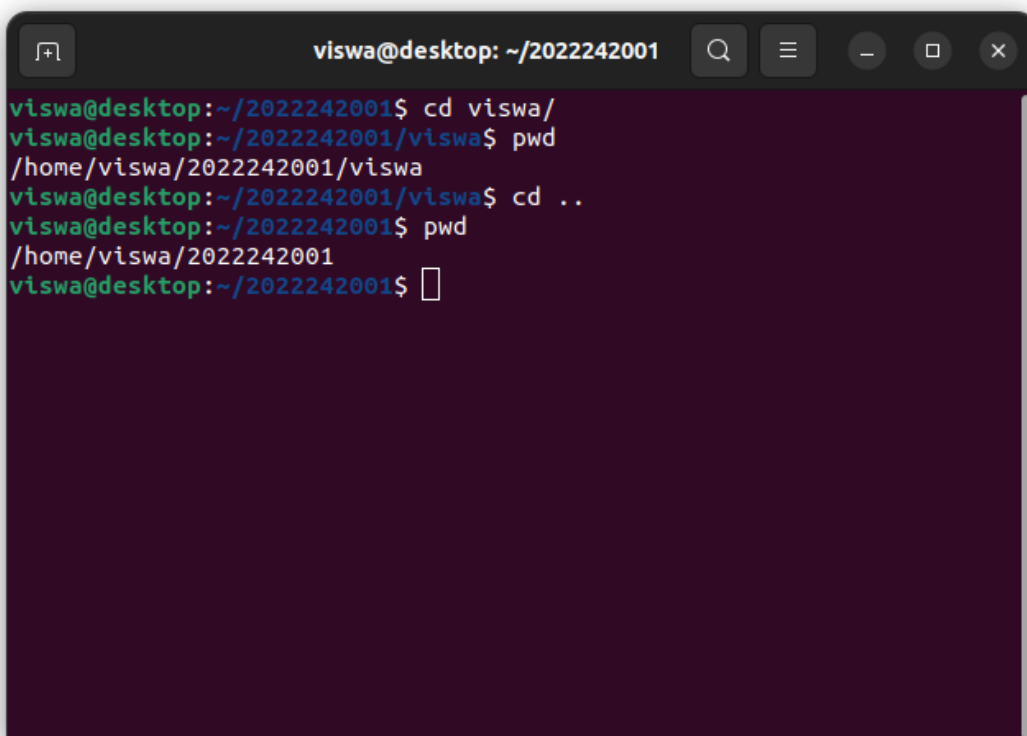
Description: Change Directory.

Syntax: ~\$ cd [directory name]

Options:

- cd Return to parent directory.
- cd.. Return to current directory.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001'. The user enters 'cd viswa/' and then 'pwd', receiving the output '/home/viswa/2022242001/viswa'. Then, the user enters 'cd ..' and 'pwd', receiving the output '/home/viswa/2022242001'.

```
viswa@desktop:~/2022242001$ cd viswa/
viswa@desktop:~/2022242001/viswa$ pwd
/home/viswa/2022242001/viswa
viswa@desktop:~/2022242001/viswa$ cd ..
viswa@desktop:~/2022242001$ pwd
/home/viswa/2022242001
viswa@desktop:~/2022242001$
```

- **whoami:**

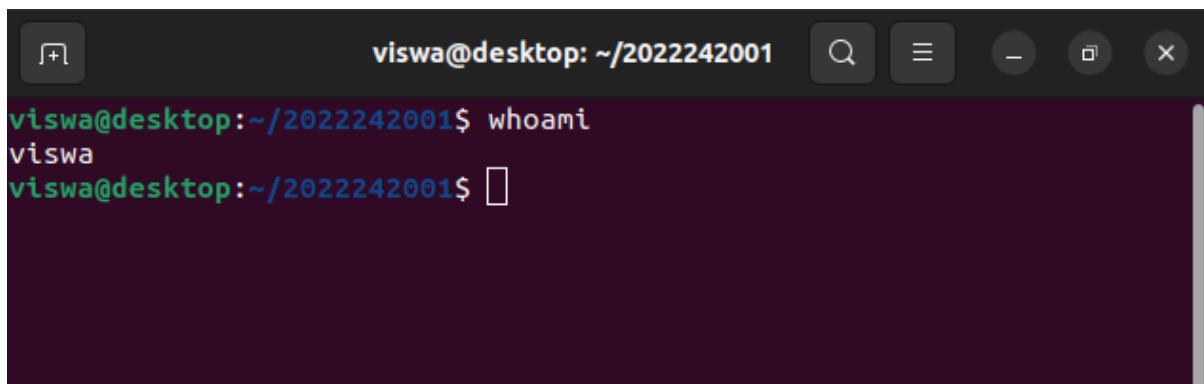
Description: Displays username associated with the current effective user ID.

Syntax: ~\$ whoami

Options:

- h, --help Displays a help message and exits.
- V, --version Displays the version information and exits.

Output:

A terminal window titled 'viswa@desktop: ~/2022242001' with standard window controls. The prompt is 'viswa@desktop:~/2022242001\$'. The command 'whoami' has been entered and executed, resulting in the output 'viswa' on the next line. The cursor is now on a new line at the prompt.

```
viswa@desktop:~/2022242001$ whoami
viswa
viswa@desktop:~/2022242001$
```

- **tac:**

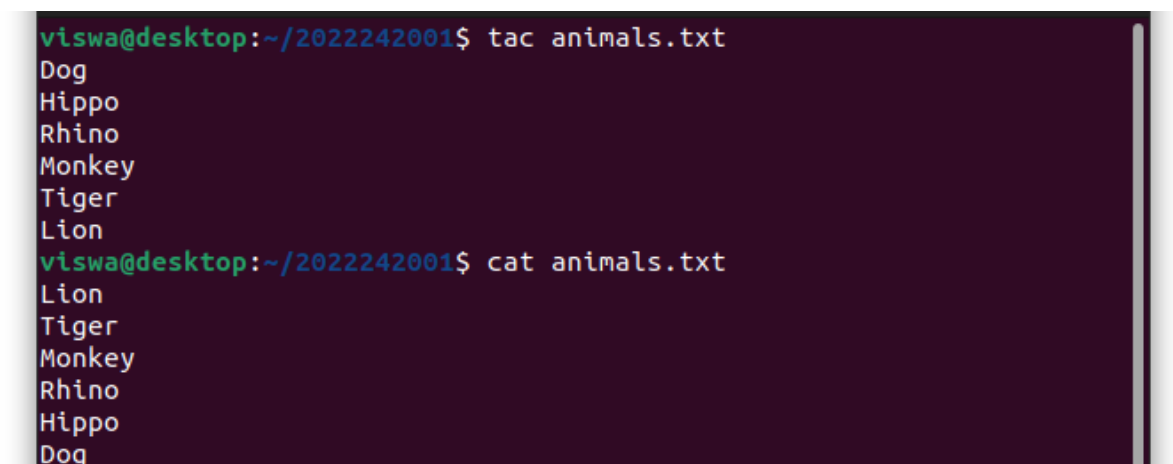
Description: Concatenate and print files in reverse.

Syntax: ~\$ tac

Options:

- h, --help Displays a help message and exits.
- V, --version Displays the version information and exits.

Output:

A terminal window showing two commands and their outputs. First, 'tac animals.txt' is run, outputting the contents of the file in reverse order: 'Dog', 'Hippo', 'Rhino', 'Monkey', 'Tiger', 'Lion'. Then, 'cat animals.txt' is run, outputting the contents in the original order: 'Lion', 'Tiger', 'Monkey', 'Rhino', 'Hippo', 'Dog'.

```
viswa@desktop:~/2022242001$ tac animals.txt
Dog
Hippo
Rhino
Monkey
Tiger
Lion
viswa@desktop:~/2022242001$ cat animals.txt
Lion
Tiger
Monkey
Rhino
Hippo
Dog
```

Result:

Thus, the basic Linux Commands were learned.