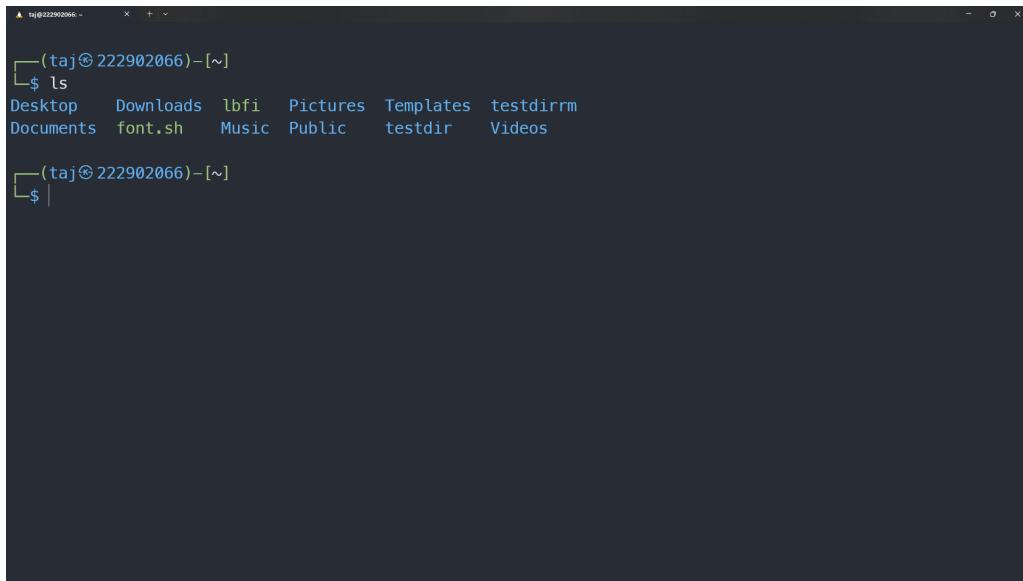


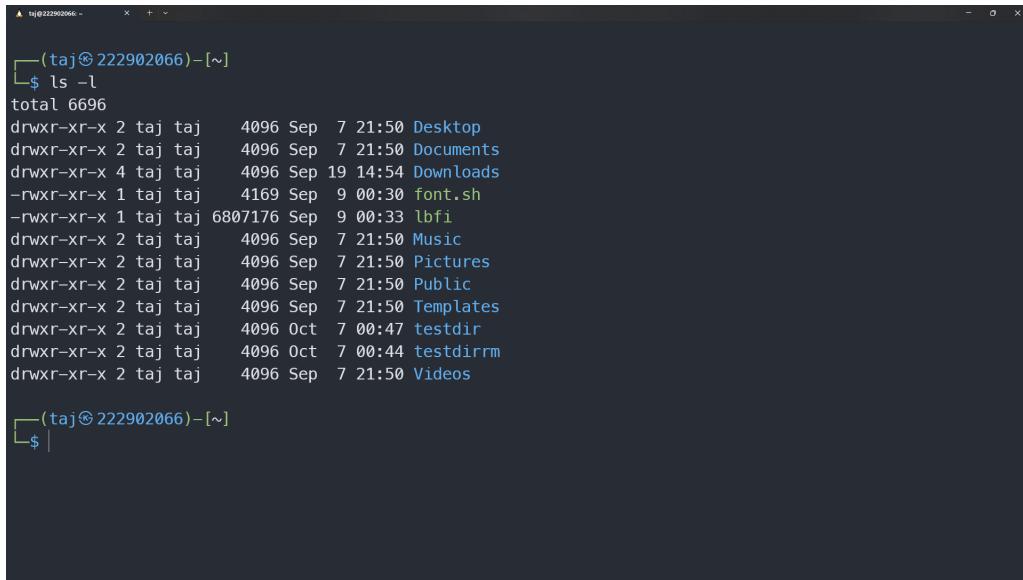
1. ls -> List directory contents.



```
taj@222902066:~$ ls
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public    testdir    Videos

taj@222902066:~$ |
```

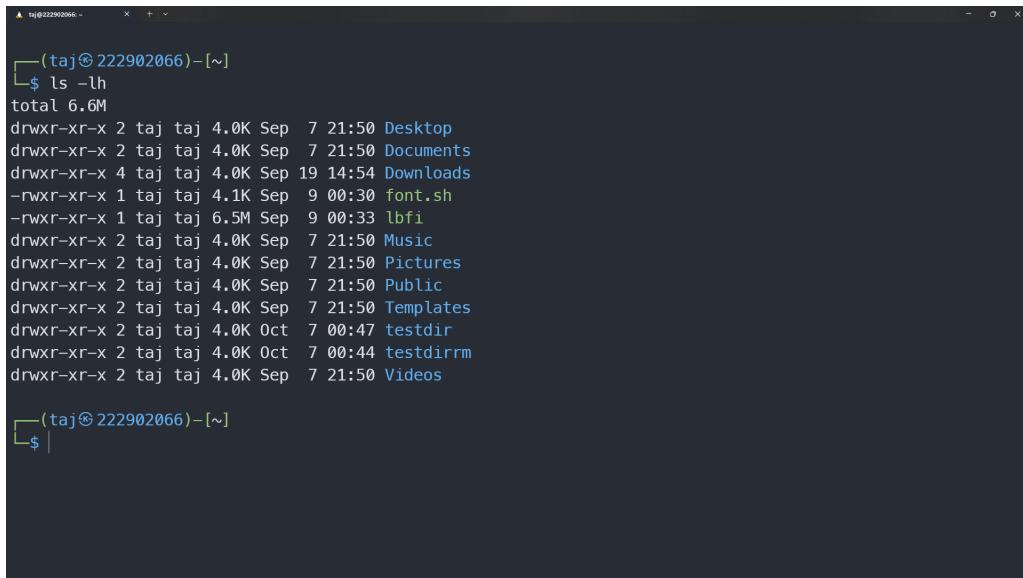
2. ls -l -> List with detailed information.



```
taj@222902066:~$ ls -l
total 6696
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Desktop
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Documents
drwxr-xr-x 4 taj taj  4096 Sep 19 14:54 Downloads
-rw-r--r-- 1 taj taj  4169 Sep  9 00:30 font.sh
-rw-r--r-- 1 taj taj 6807176 Sep  9 00:33 lbfi
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Music
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Pictures
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Public
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Templates
drwxr-xr-x 2 taj taj  4096 Oct  7 00:47 testdir
drwxr-xr-x 2 taj taj  4096 Oct  7 00:44 testdirrm
drwxr-xr-x 2 taj taj  4096 Sep  7 21:50 Videos

taj@222902066:~$ |
```

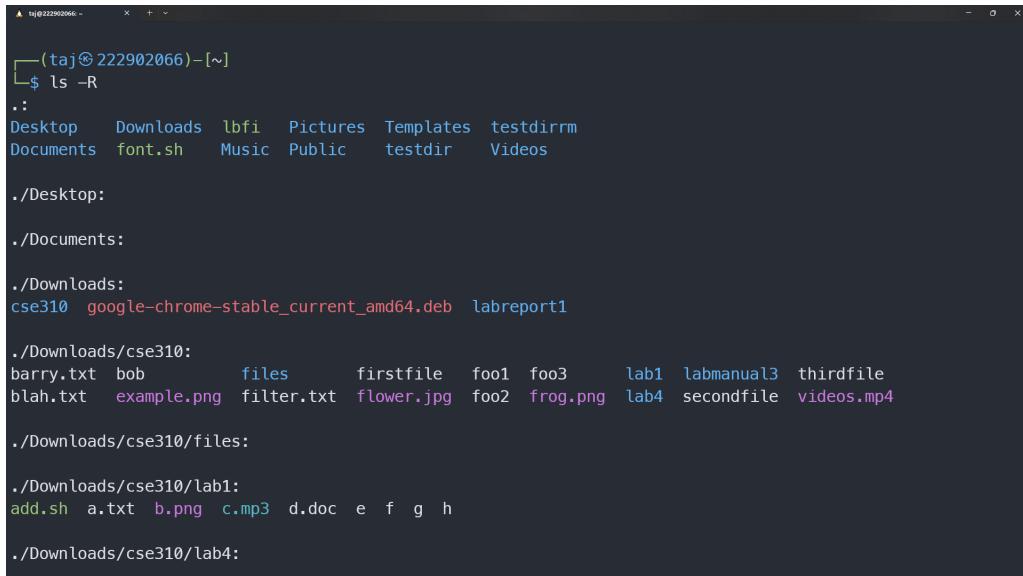
3. ls -lh -> List with human-readable file sizes.



```
taj@222902066:~$ ls -lh
total 6.6M
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Desktop
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Documents
drwxr-xr-x 4 taj taj 4.0K Sep 19 14:54 Downloads
-rw-r--r-- 1 taj taj 4.1K Sep  9 00:30 font.sh
-rw-r--r-- 1 taj taj 6.5M Sep  9 00:33 lbfi
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Music
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Pictures
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Public
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Templates
drwxr-xr-x 2 taj taj 4.0K Oct  7 00:47 testdir
drwxr-xr-x 2 taj taj 4.0K Oct  7 00:44 testdirrm
drwxr-xr-x 2 taj taj 4.0K Sep  7 21:50 Videos

taj@222902066:~$ |
```

4. ls -R -> List directories and their contents recursively.



```
taj@222902066:~$ ls -R
.:
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh    Music  Public    testdir    Videos

./Desktop:

./Documents:

./Downloads:
cse310  google-chrome-stable_current_amd64.deb  labreport1

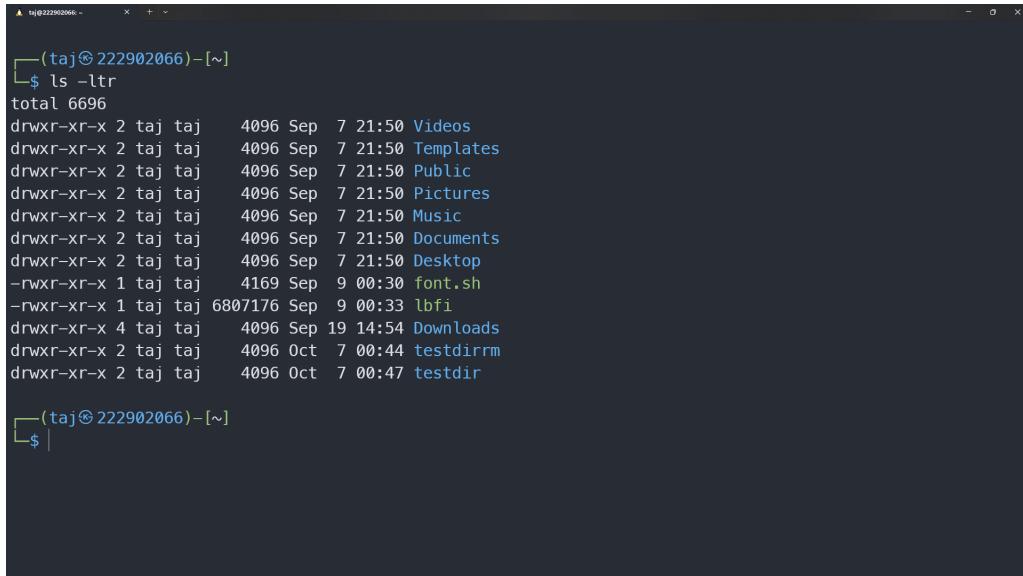
./Downloads/cse310:
barry.txt  bob      files      firstfile  foo1  foo3    lab1  labmanual3  thirdfile
blah.txt   example.png  filter.txt  flower.jpg  foo2  frog.png  lab4  secondfile  videos.mp4

./Downloads/cse310/files:

./Downloads/cse310/lab1:
add.sh  a.txt  b.png  c.mp3  d.doc  e  f  g  h

./Downloads/cse310/lab4:
```

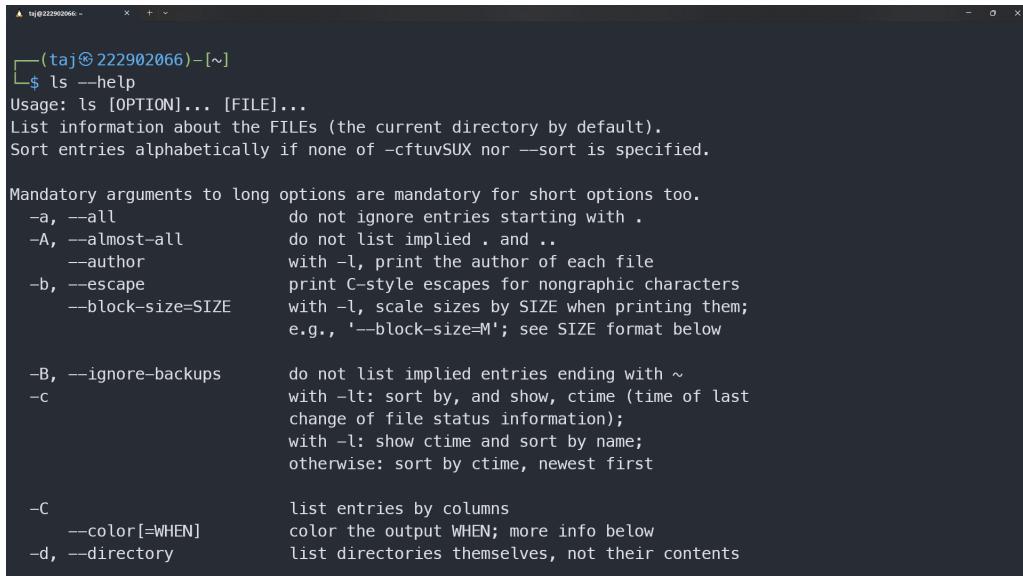
5. ls -ltr -> List in reverse chronological order.



```
taj@222902066:~$ ls -ltr
total 6696
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Videos
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Templates
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Public
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Pictures
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Music
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Documents
drwxr-xr-x 2 taj taj 4096 Sep  7 21:50 Desktop
-rw-r--r-- 1 taj taj 4169 Sep  9 00:30 font.sh
-rw-r--r-- 1 taj taj 6807176 Sep  9 00:33 lbfi
drwxr-xr-x 4 taj taj 4096 Sep 19 14:54 Downloads
drwxr-xr-x 2 taj taj 4096 Oct  7 00:44 testdirm
drwxr-xr-x 2 taj taj 4096 Oct  7 00:47 testdir

taj@222902066:~$ |
```

6. ls --help -> Display help for the `ls` command.



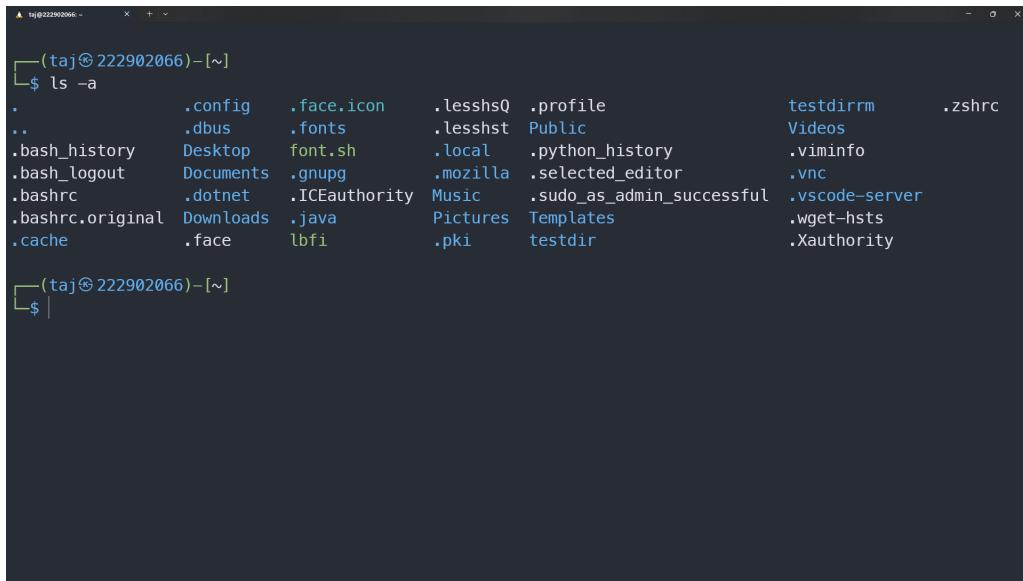
```
taj@222902066:~$ ls --help
[...]
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

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   with -l, scale sizes by SIZE when printing them;
                     e.g., '--block-size=M'; 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
                     change of file status information);
                     with -l: show ctime and sort by name;
                     otherwise: sort by ctime, newest first

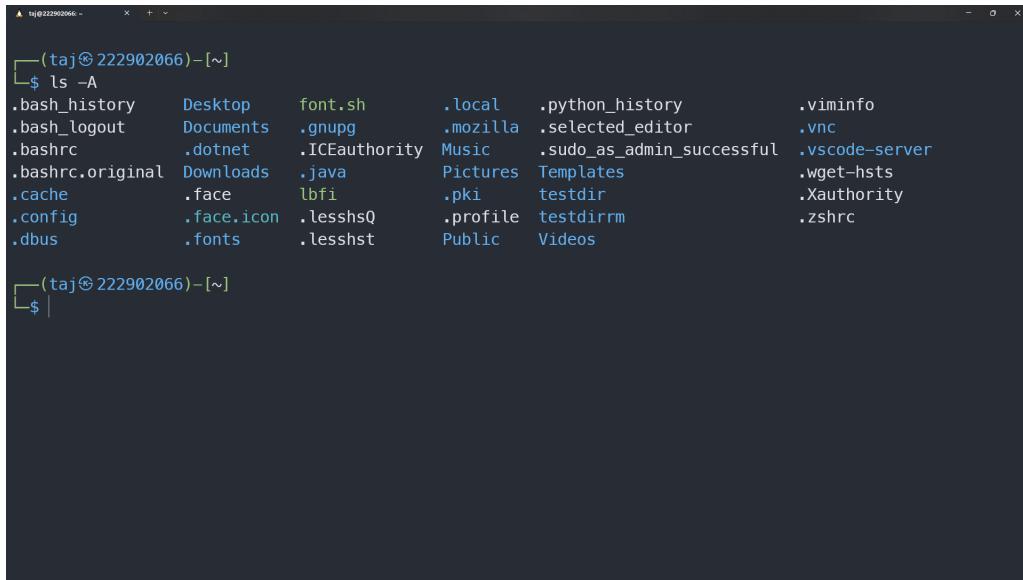
  -C                  list entries by columns
  --color[=WHEN]      color the output WHEN; more info below
  -d, --directory     list directories themselves, not their contents
```

7. ls -a -> List all files, including hidden files.



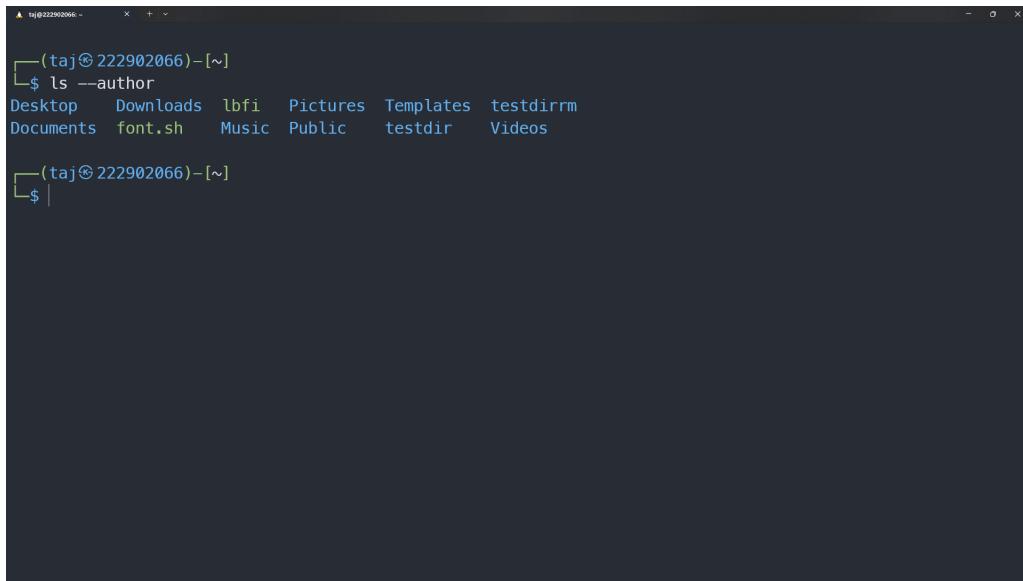
```
taj@222902066:~$ ls -a
. config .face.icon .lesshsQ .profile testdirrm .zshrc
.. dbus .fonts .lessht Public Videos
.bash_history Desktop font.sh .local .python_history .viminfo
.bash_logout Documents .gnupg .mozilla .selected_editor .vnc
.bashrc .dotnet .ICEauthority Music .sudo_as_admin_successful .vscode-server
.bashrc.original Downloads .java Pictures Templates .wget-hsts
.cache .face lbfi .pki testdir .Xauthority
.config .face.icon .lesshsQ .profile testdirrm .zshrc
.dbus .fonts .lessht Public Videos
taj@222902066:~$ |
```

8. ls -A -> List all except `.` and `..`.



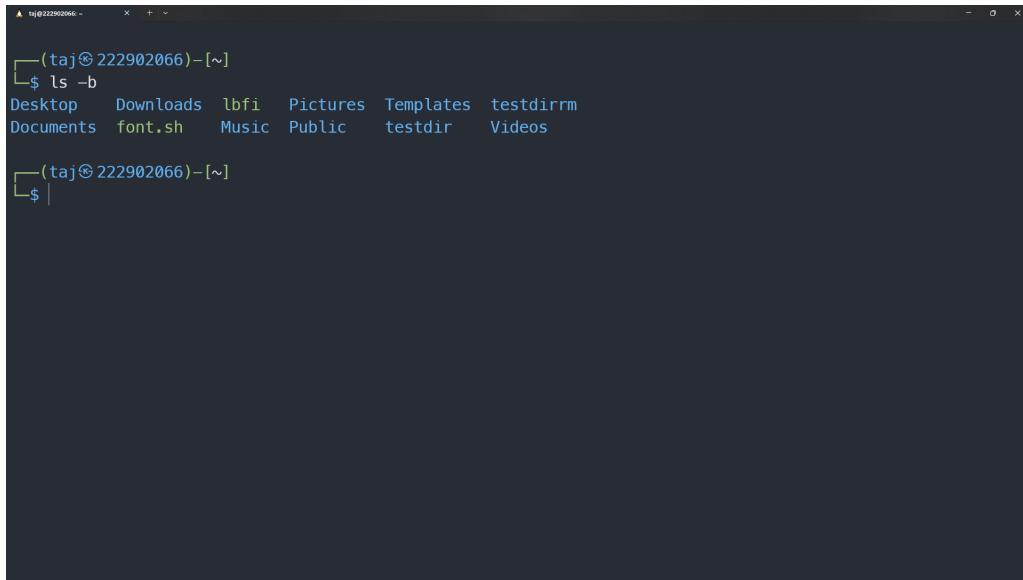
```
taj@222902066:~$ ls -A
.bash_history Desktop font.sh .local .python_history .viminfo
.bash_logout Documents .gnupg .mozilla .selected_editor .vnc
.bashrc .dotnet .ICEauthority Music .sudo_as_admin_successful .vscode-server
.bashrc.original Downloads .java Pictures Templates .wget-hsts
.cache .face lbfi .pki testdir .Xauthority
.config .face.icon .lesshsQ .profile testdirrm .zshrc
.dbus .fonts .lessht Public Videos
taj@222902066:~$ |
```

9. ls --author -> Display author of each file.



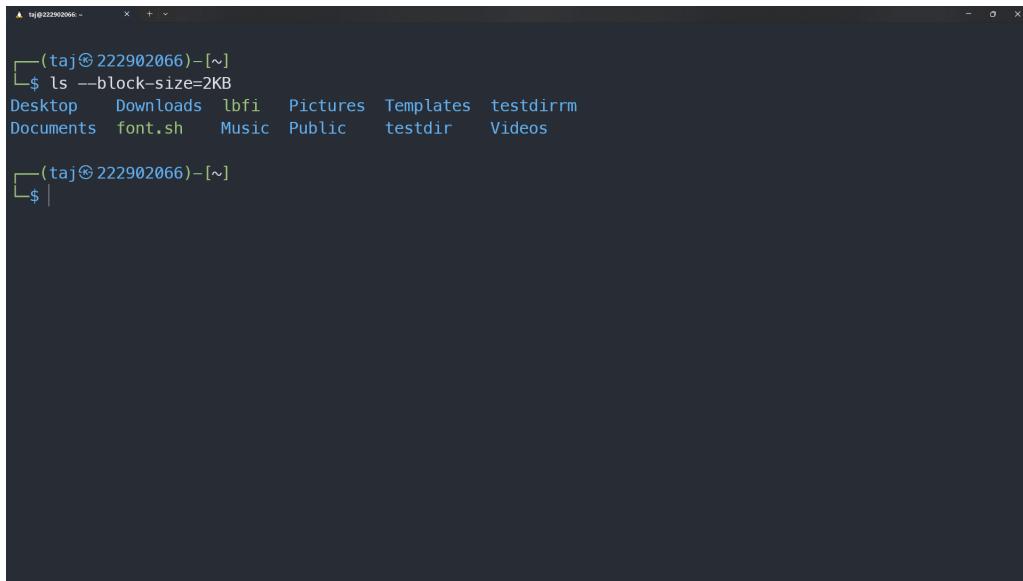
```
taj@222902066:~$ ls --author
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public  testdir  Videos
taj@222902066:~$ |
```

10. ls -b -> Escape special characters in file names.



```
taj@222902066:~$ ls -b
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public  testdir  Videos
taj@222902066:~$ |
```

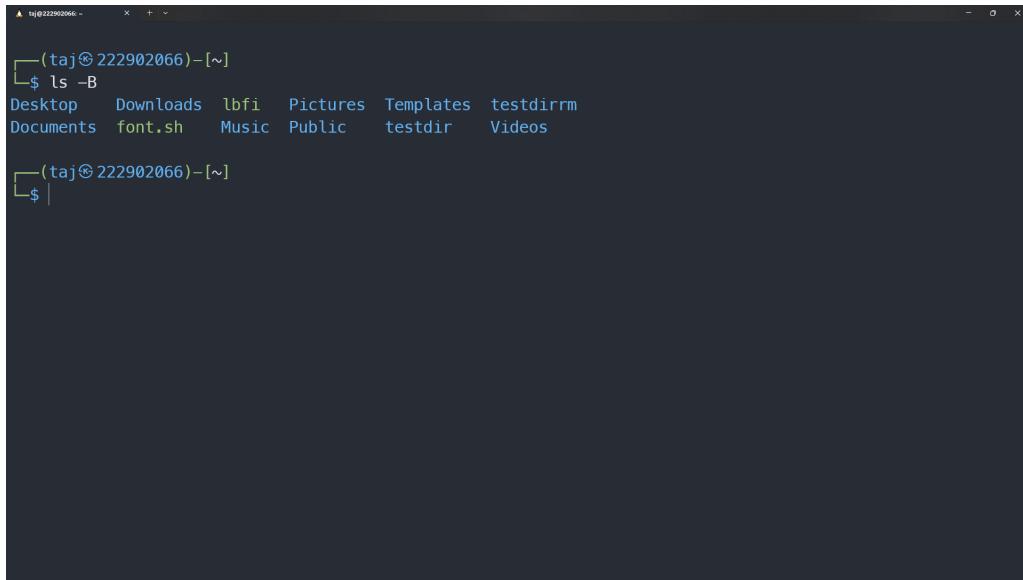
11. ls --block-size=2KB -> Display sizes using 2KB blocks.



```
taj@222902066: ~
└─$ ls --block-size=2KB
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public  testdir  Videos

└─$ |
```

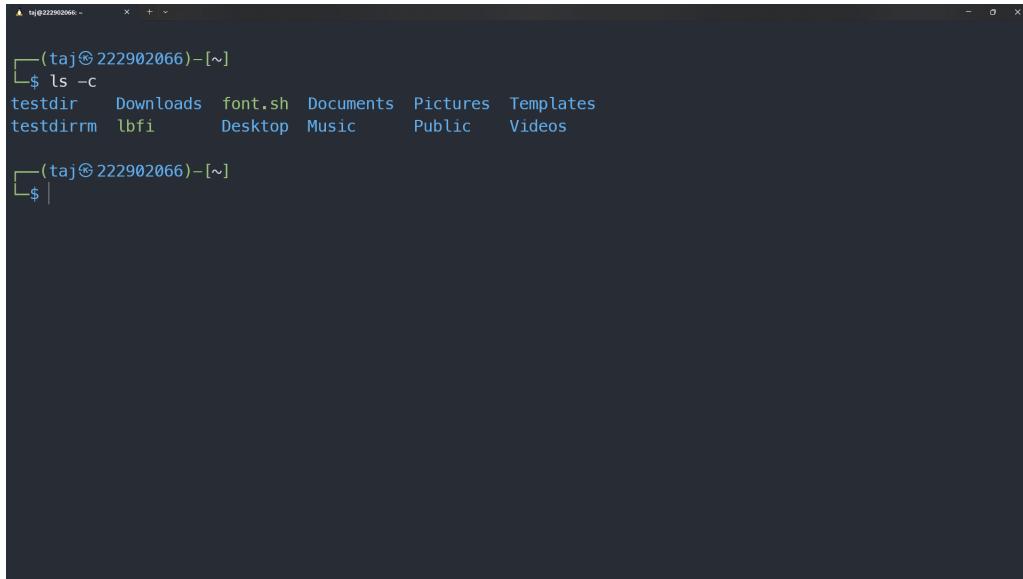
12. ls -B -> Omit backups ending with `~`.



```
taj@222902066: ~
└─$ ls -B
Desktop  Downloads  lbfi  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public  testdir  Videos

└─$ |
```

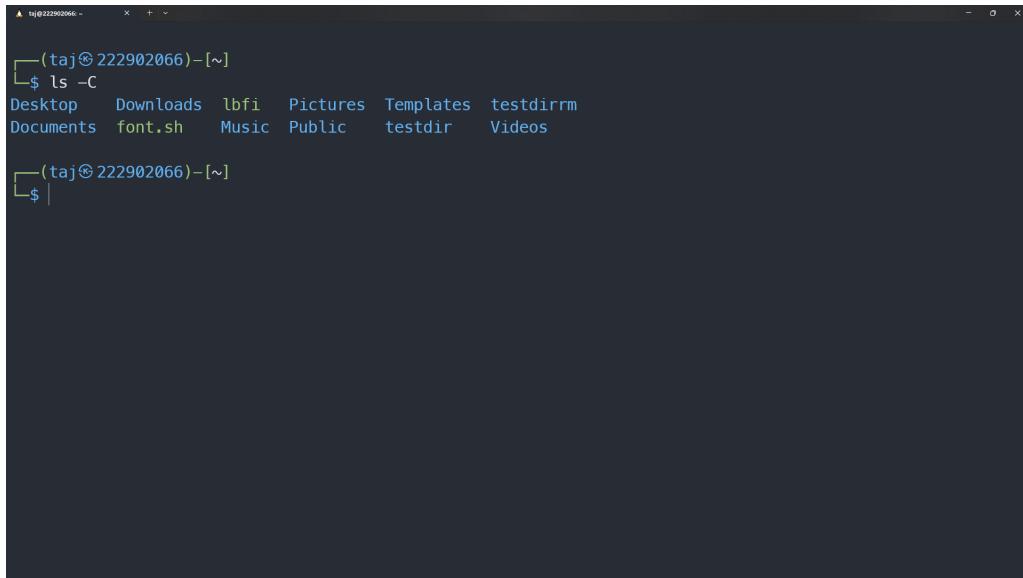
13. ls -c -> Sort by modification time.



```
taj@222902066:~$ ls -c
testdir  Downloads  font.sh  Documents  Pictures  Templates
testdirrm  lbf1      Desktop   Music      Public    Videos

taj@222902066:~$ |
```

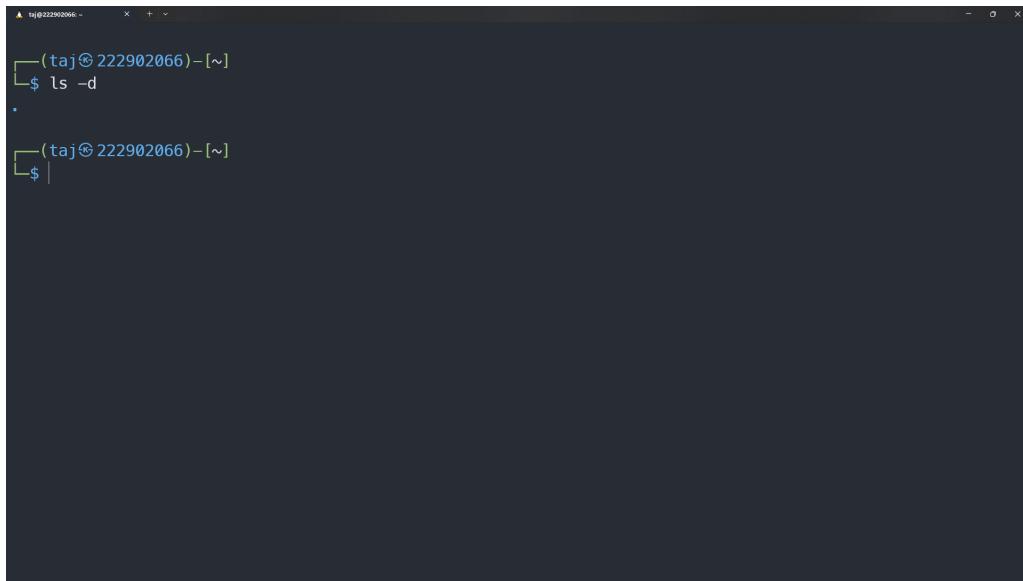
14. ls -C -> List entries by columns.



```
taj@222902066:~$ ls -C
Desktop  Downloads  lbf1  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public    testdir    Videos

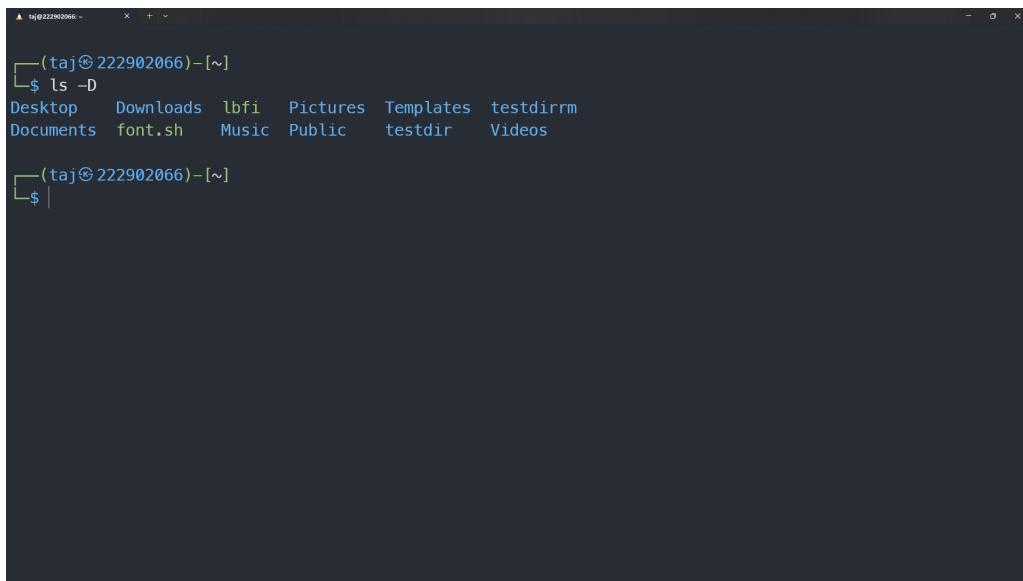
taj@222902066:~$ |
```

15. ls -d -> List only directories.



```
taj@222902066:~$ ls -d
.
```

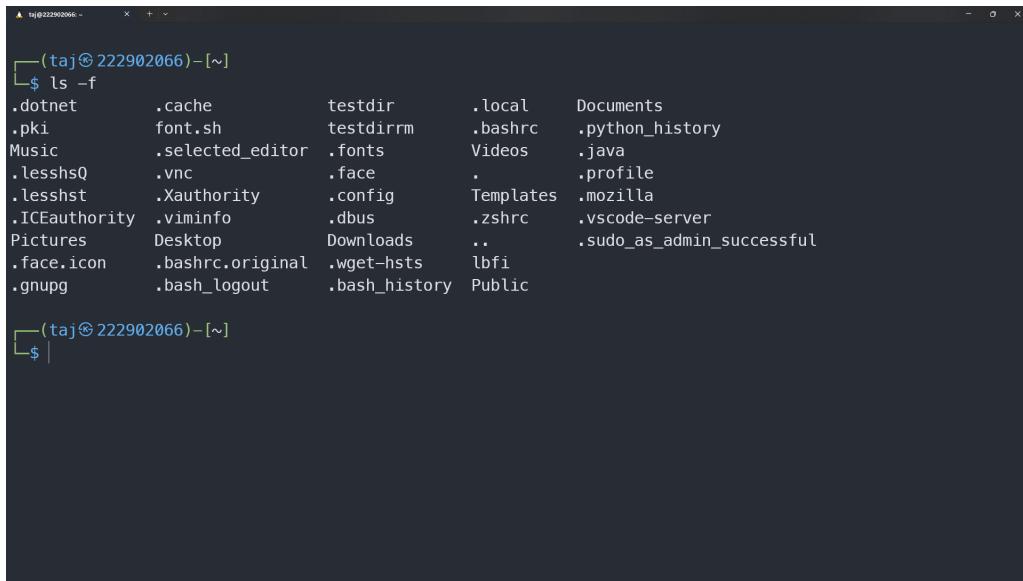
16. ls -D -> Unsupported, likely a typo or unused.



```
taj@222902066:~$ ls -D
Desktop  Downloads  lbf1  Pictures  Templates  testdirrm
Documents  font.sh  Music  Public  testdir  Videos

taj@222902066:~$
```

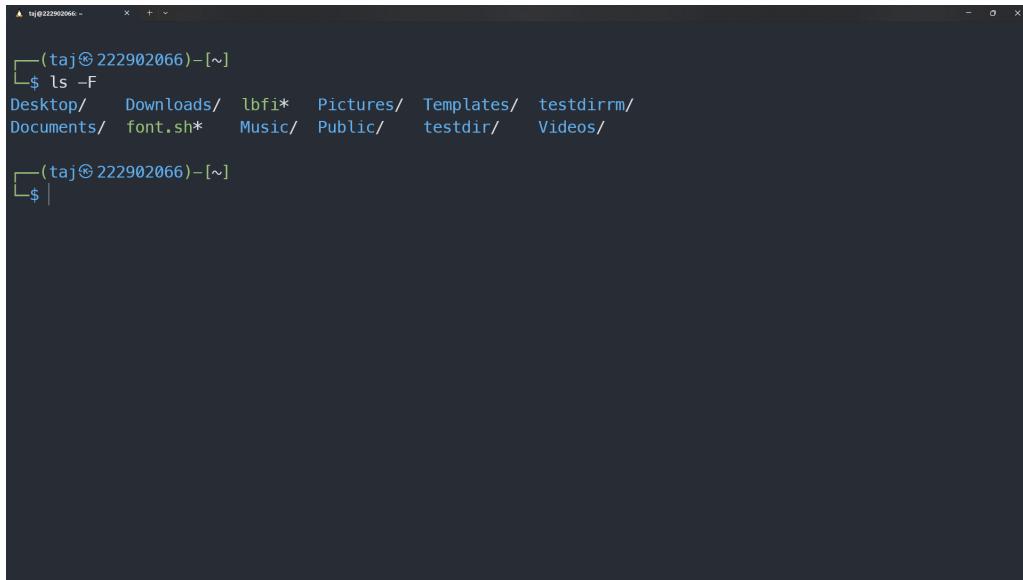
17. ls -f -> List without sorting, includes `.` and `..`.



```
taj@222902066:~$ ls -f
.dotnet      .cache        testdir      .local    Documents
.pki         font.sh      testdirrm    .bashrc   .python_history
Music        .selected_editor .fonts       Videos    .java
.lesshsQ     .vnc          .face        .        .profile
.lesshst     .Xauthority   .config      Templates .mozilla
.ICEauthority .viminfo    .dbus        .zshrc   .vscode-server
Pictures     Desktop      Downloads   ..        .sudo_as_admin_successful
.face.icon   .bashrc.original .wget-hsts  lbf़i    Public
.gnupg       .bash_logout   .bash_history  Public

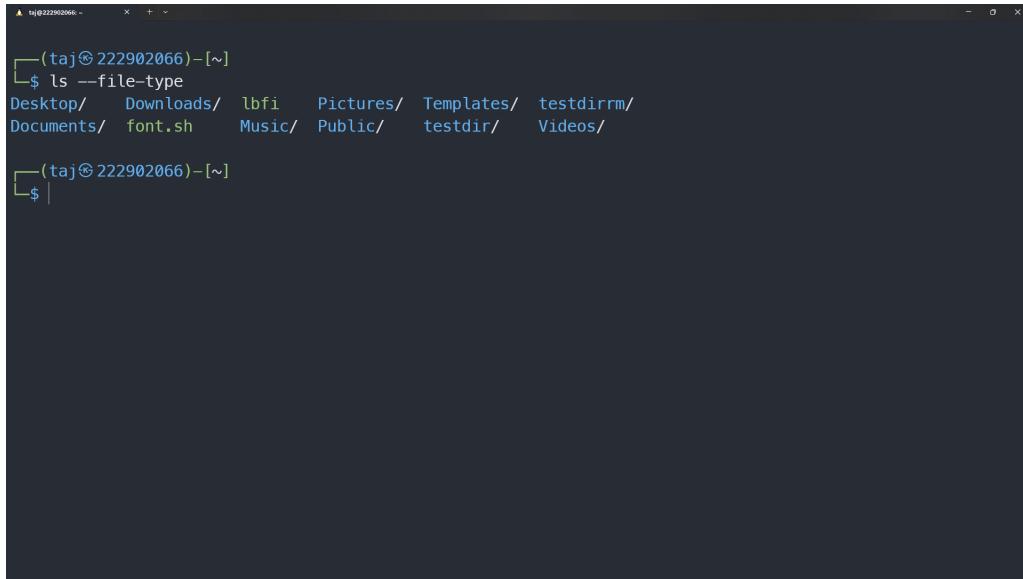
taj@222902066:~$ |
```

18. ls -F -> Append indicators (e.g., `/ for directories).



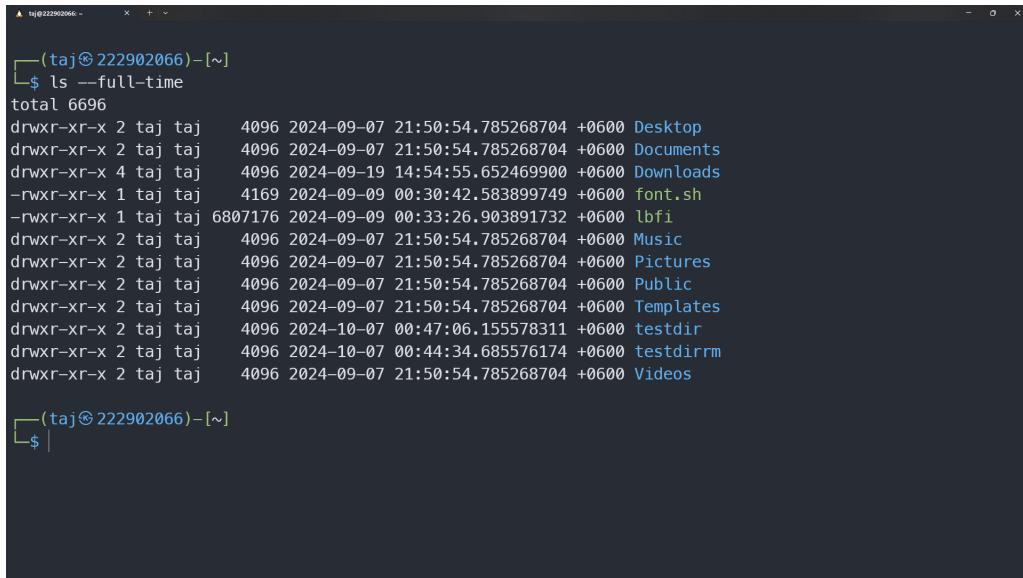
```
taj@222902066:~$ ls -F
Desktop/    Downloads/  lbf़i*    Pictures/  Templates/  testdirrm/
Documents/  font.sh*    Music/   Public/    testdir/    Videos/
taj@222902066:~$ |
```

19. ls --file-type -> Indicate file types without `` for executables.



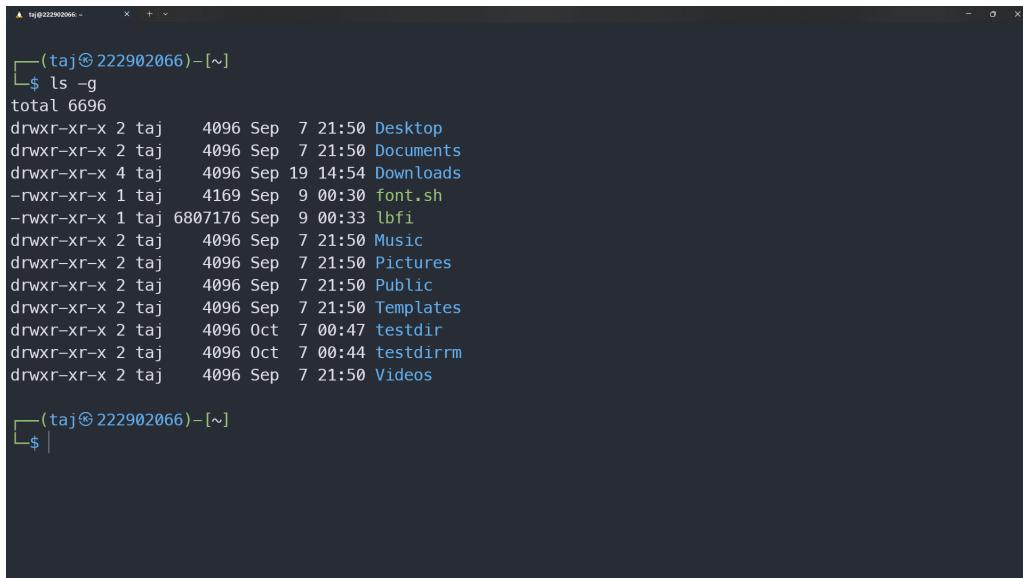
```
taj@222902066:~$ ls --file-type
Desktop/    Downloads/  lbfi    Pictures/  Templates/  testdirrm/
Documents/  font.sh    Music/   Public/   testdir/   Videos/
taj@222902066:~$ |
```

20. ls --full-time -> Display full date and time.



```
taj@222902066:~$ ls --full-time
total 6696
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Desktop
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Documents
drwxr-xr-x 4 taj taj 4096 2024-09-19 14:54:55.652469900 +0600 Downloads
-rw-r--r-- 1 taj taj 4169 2024-09-09 00:30:42.583899749 +0600 font.sh
-rw-r--r-- 1 taj taj 6807176 2024-09-09 00:33:26.903891732 +0600 lbfi
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Music
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Pictures
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Public
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Templates
drwxr-xr-x 2 taj taj 4096 2024-10-07 00:47:06.155578311 +0600 testdir
drwxr-xr-x 2 taj taj 4096 2024-10-07 00:44:34.685576174 +0600 testdirrm
drwxr-xr-x 2 taj taj 4096 2024-09-07 21:50:54.785268704 +0600 Videos
taj@222902066:~$ |
```

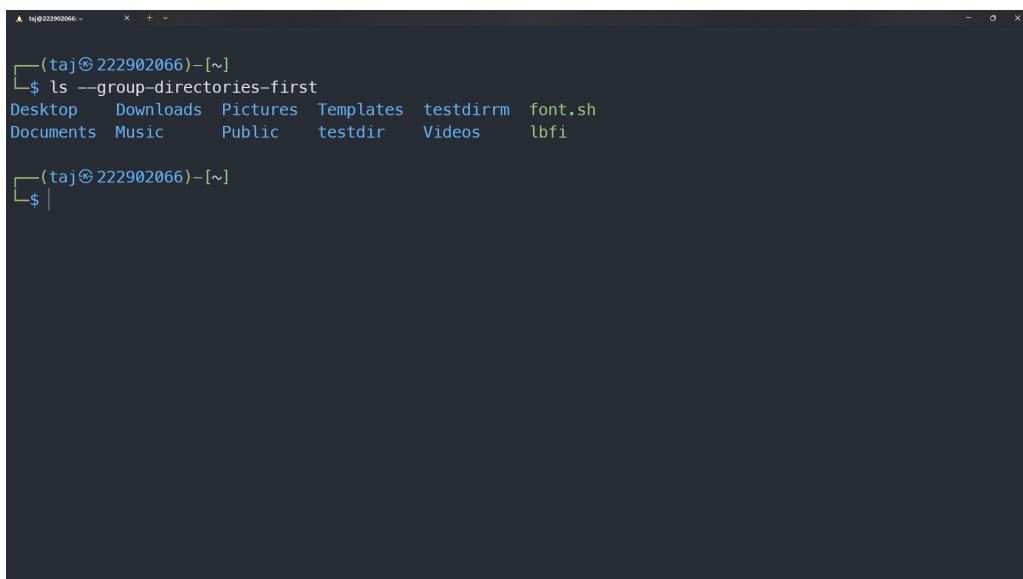
21. ls -g -> Like `l`, but omits owner.



```
taj@222902066:~$ ls -g
total 6696
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Desktop
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Documents
drwxr-xr-x 4 taj 4096 Sep 19 14:54 Downloads
-rw-r--r-- 1 taj 4169 Sep  9 00:30 font.sh
-rw-r--r-- 1 taj 6807176 Sep  9 00:33 lbfi
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Music
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Pictures
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Public
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Templates
drwxr-xr-x 2 taj 4096 Oct  7 00:47 testdir
drwxr-xr-x 2 taj 4096 Oct  7 00:44 testdirrm
drwxr-xr-x 2 taj 4096 Sep  7 21:50 Videos

taj@222902066:~$ |
```

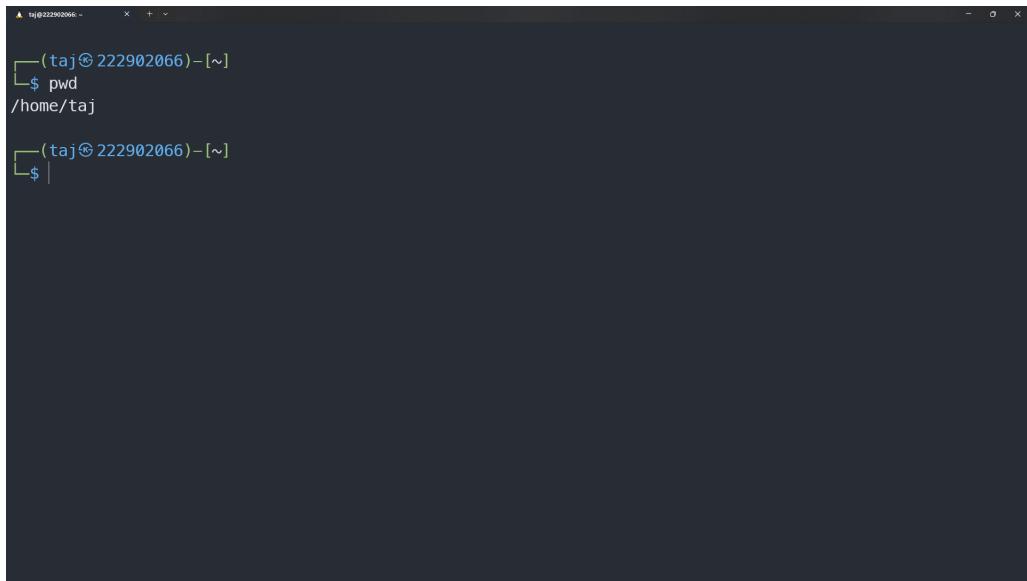
22. ls --group-directories-first -> List directories first.



```
taj@222902066:~$ ls --group-directories-first
Desktop  Downloads  Pictures  Templates  testdirrm  font.sh
Documents  Music    Public    testdir    Videos    lbfi

taj@222902066:~$ |
```

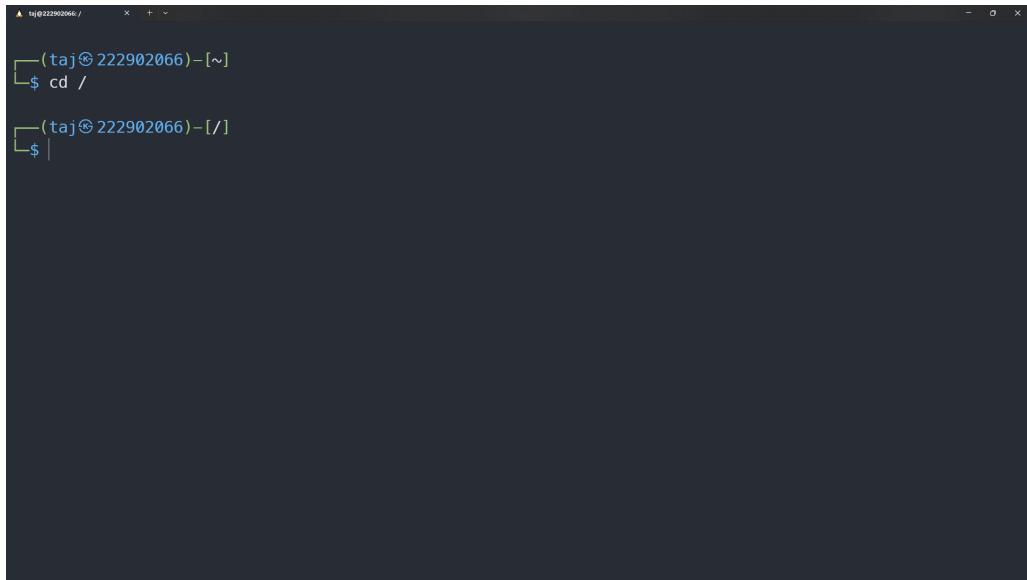
23. pwd -> Print working directory.



```
taj@222902066 ~
└─$ pwd
/home/taj
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls (minimize, maximize, close) at the top right. The terminal itself is dark-themed. It shows a single command being run: "pwd". The output of the command, "/home/taj", is displayed below the prompt. The cursor is shown as a vertical bar at the end of the line.

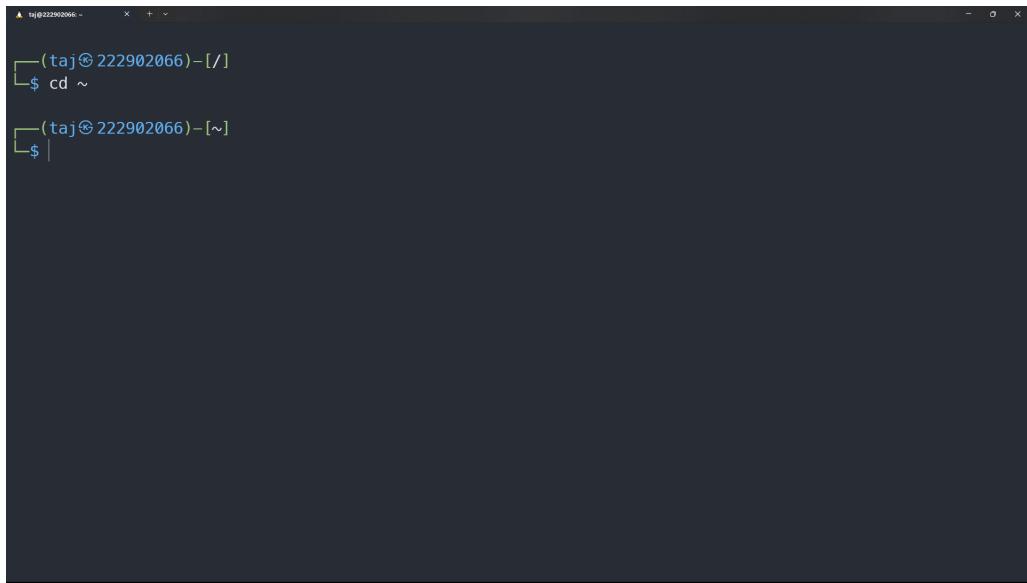
24. cd / -> Change to the root directory.



```
taj@222902066 /
└─$ cd /
└─$ |
```

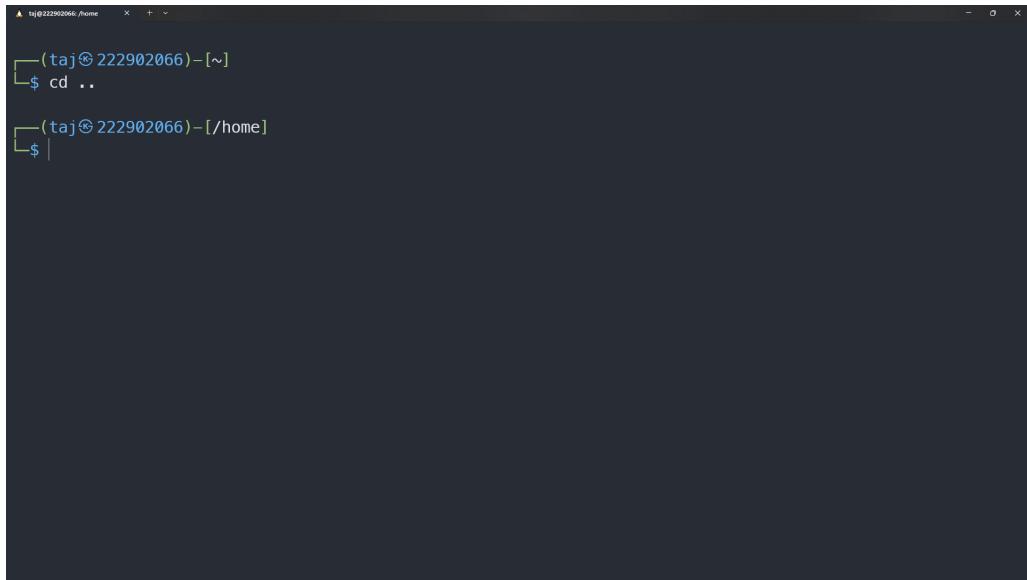
A screenshot of a terminal window titled "taj@222902066 /". The window has standard window controls (minimize, maximize, close) at the top right. The terminal is dark-themed. It shows a single command being run: "cd /". The output of the command, indicating the change to the root directory, is displayed below the prompt. The cursor is shown as a vertical bar at the end of the line.

25. cd ~ -> Change to the home directory.



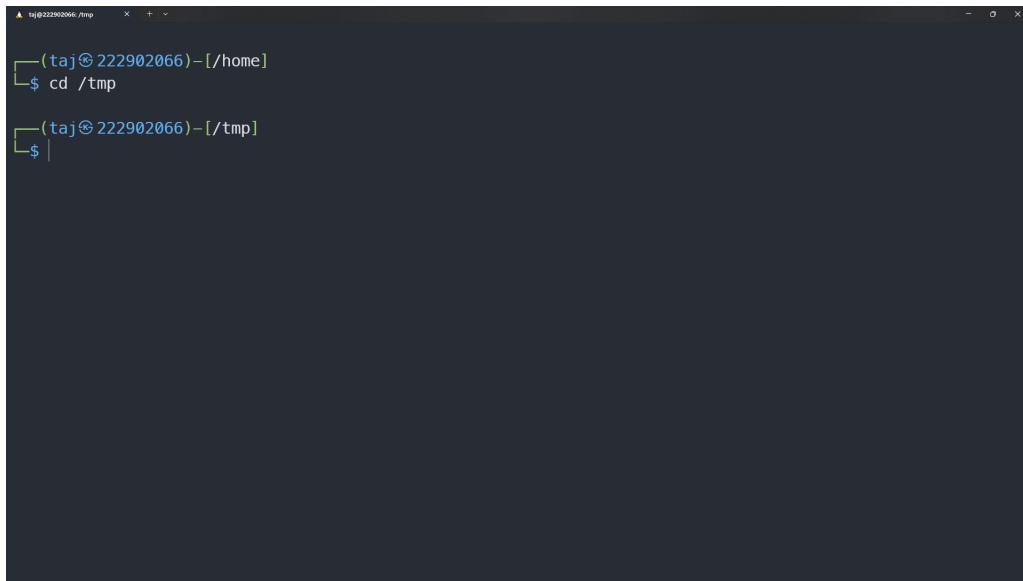
```
taj@222902066:~$ cd ~
```

26. cd .. -> Move up one directory.



```
taj@222902066:~/home$ cd ..
```

27. cd /tmp -> Change to the `/tmp` directory.



```
taj@222902066:/tmp
└─$ cd /tmp
└─$ |
```

A screenshot of a terminal window titled "taj@222902066:/tmp". The window has standard window controls at the top right. Inside, there are two lines of text. The first line shows the command "cd /tmp" being typed. The second line shows the command completed, with the cursor positioned at the end of the line.

28. cd /usr/bin -> Change to `/usr/bin`.



```
taj@222902066:/usr/bin
└─$ cd /usr/bin
└─$ |
```

A screenshot of a terminal window titled "taj@222902066:/usr/bin". The window has standard window controls at the top right. Inside, there are two lines of text. The first line shows the command "cd /usr/bin" being typed. The second line shows the command completed, with the cursor positioned at the end of the line.

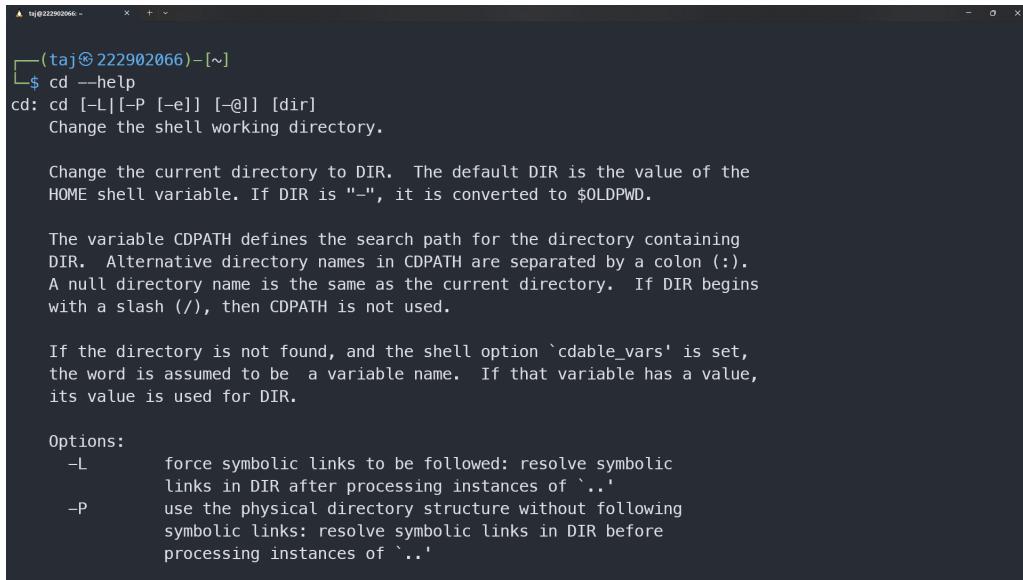
29. cd -P -> Change to the physical directory.



```
taj@222902066 ~
└─$ cd -P
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard Linux-style window controls at the top. Inside, there are two lines of text. The first line shows the command "cd -P" being typed. The second line shows the result, which is a blank line with a cursor, indicating the command has been executed successfully.

30. cd --help -> Display help for the `cd` command.



```
taj@222902066 ~
└─$ cd --help
cd: cd [-L|-P [-e]] [-@] [dir]
      Change the shell working directory.

      Change the current directory to DIR.  The default DIR is the value of the
      HOME shell variable.  If DIR is "-", it is converted to $OLDPWD.

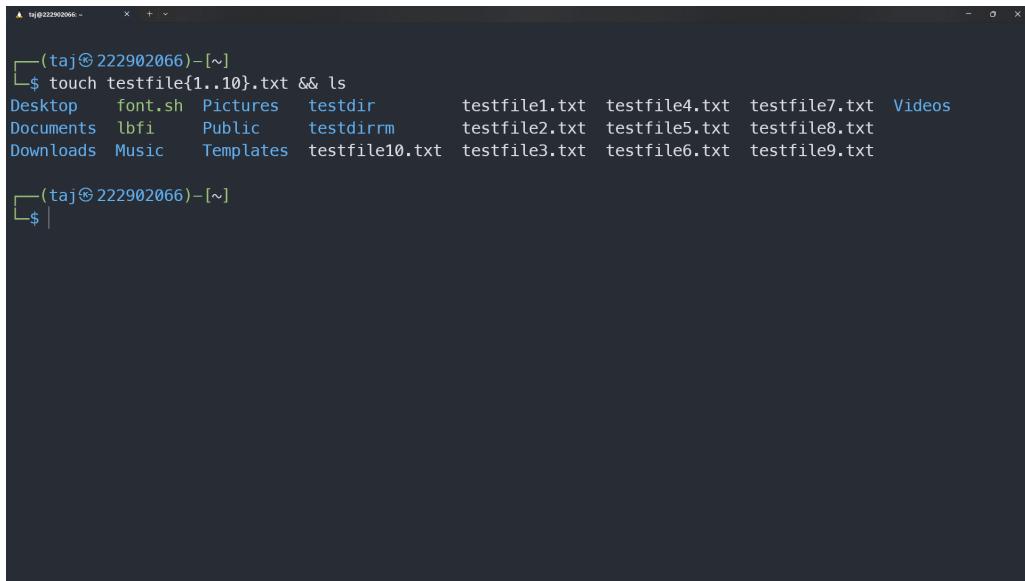
      The variable CDPATH defines the search path for the directory containing
      DIR.  Alternative directory names in CDPATH are separated by a colon (:).
      A null directory name is the same as the current directory.  If DIR begins
      with a slash (/), then CDPATH is not used.

      If the directory is not found, and the shell option `cable_vars' is set,
      the word is assumed to be a variable name.  If that variable has a value,
      its value is used for DIR.

Options:
-L      force symbolic links to be followed: resolve symbolic
       links in DIR after processing instances of `..'
-P      use the physical directory structure without following
       symbolic links: resolve symbolic links in DIR before
       processing instances of `..'
```

A screenshot of a terminal window titled "taj@222902066 ~". The window displays the output of the "cd --help" command. It provides detailed documentation on how the "cd" command works, including options for changing the working directory, handling symbolic links, and using environment variables. The text is presented in a monospaced font typical of terminal outputs.

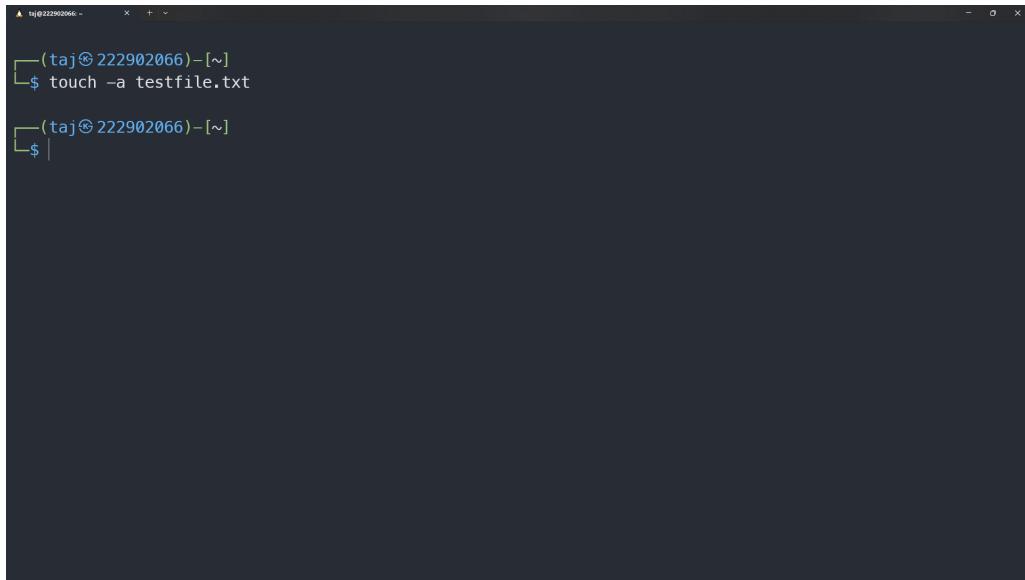
31. touch testfile{1..10}.txt && ls -> Create multiple files and list them.



```
taj@222902066:~$ touch testfile{1..10}.txt && ls
Desktop  font.sh  Pictures  testdir      testfile1.txt  testfile4.txt  testfile7.txt  Videos
Documents  lbf1    Public    testdirm     testfile2.txt  testfile5.txt  testfile8.txt
Downloads  Music   Templates  testfile10.txt testfile3.txt  testfile6.txt  testfile9.txt

taj@222902066:~$ |
```

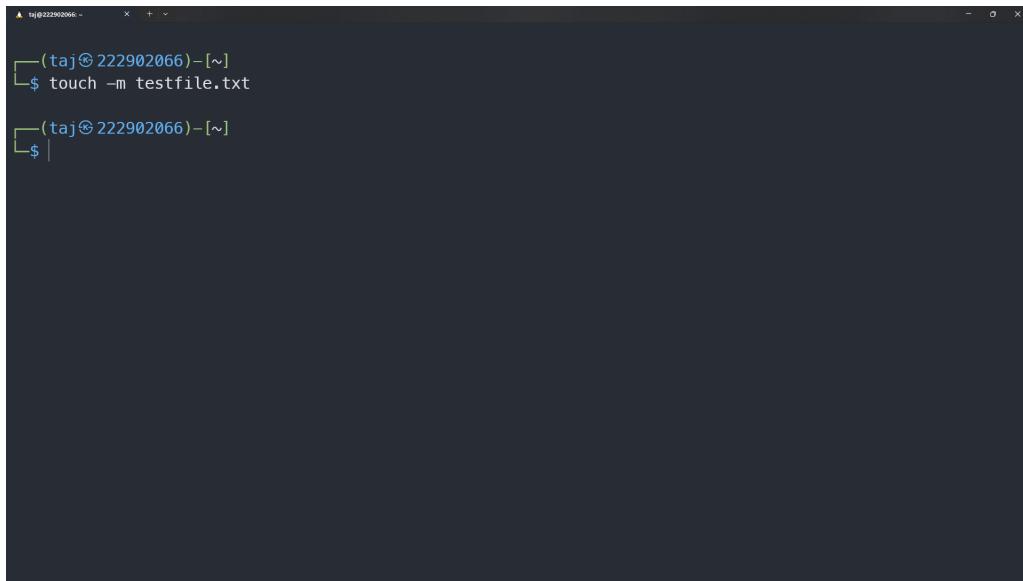
32. touch -a testfile.txt -> Update access time of the file.



```
taj@222902066:~$ touch -a testfile.txt

taj@222902066:~$ |
```

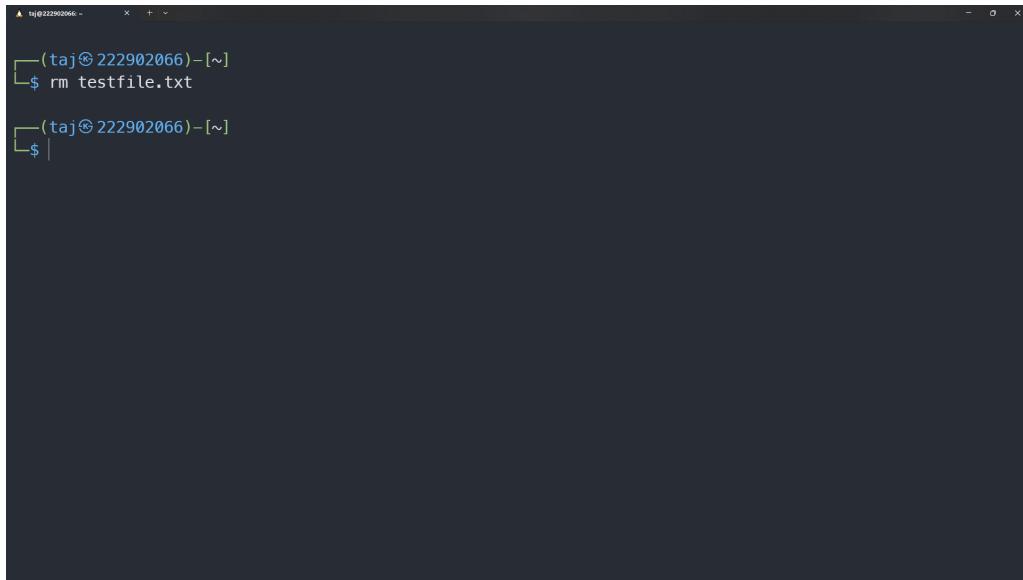
33. touch -m testfile.txt -> Update modification time of the file.



```
taj@222902066: ~
└─$ touch -m testfile.txt
└─$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window has standard window controls at the top. Inside, there is a single line of text: "\$ touch -m testfile.txt". Below this line, there is a vertical cursor bar with a small vertical tick mark at the bottom, indicating where the user can type the next command.

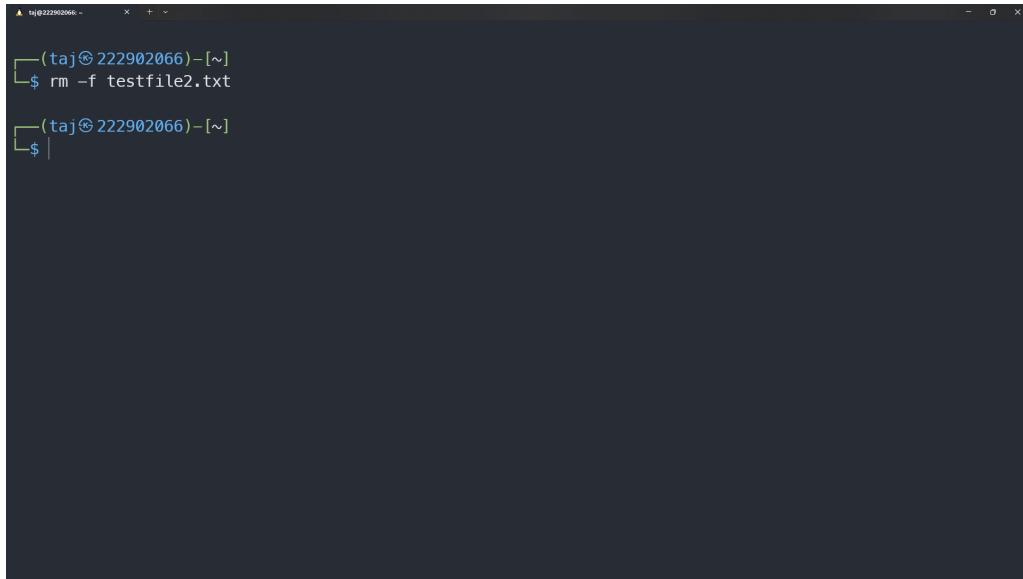
34. rm testfile.txt -> Remove a file.



```
taj@222902066: ~
└─$ rm testfile.txt
└─$ |
```

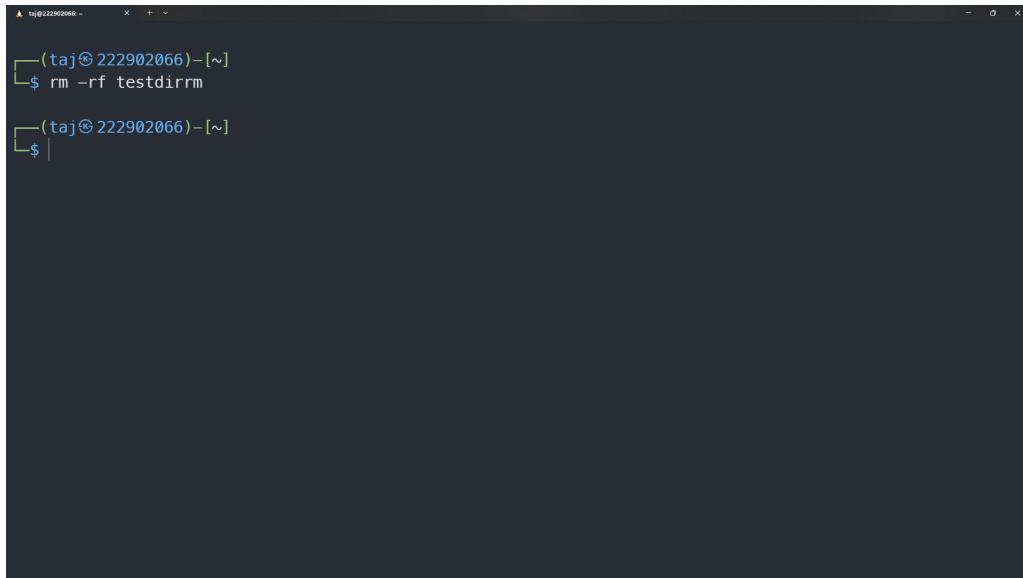
A screenshot of a terminal window titled "taj@222902066: ~". The window has standard window controls at the top. Inside, there is a single line of text: "\$ rm testfile.txt". Below this line, there is a vertical cursor bar with a small vertical tick mark at the bottom, indicating where the user can type the next command.

35. rm -f testfile2.txt -> Force remove a file.



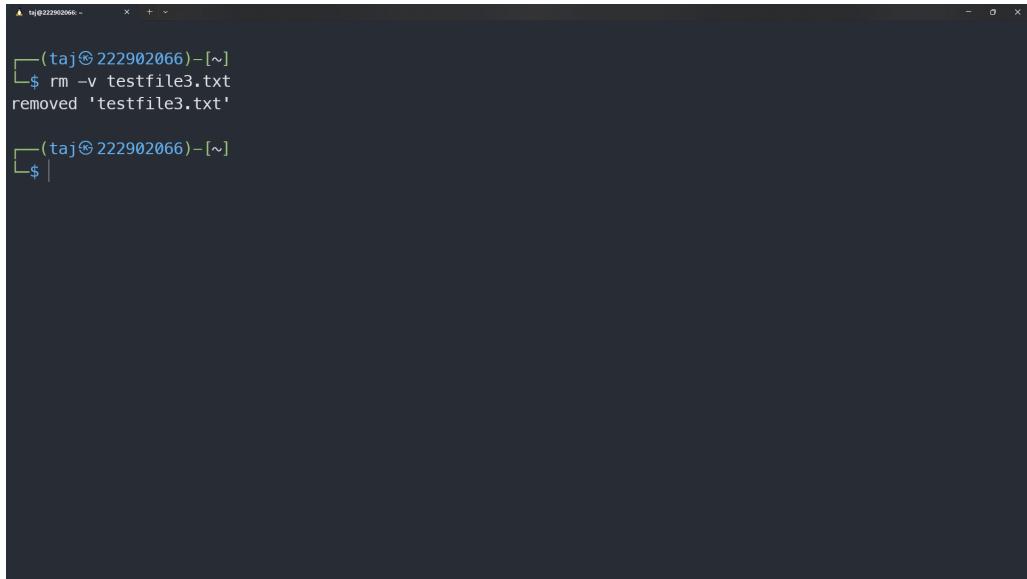
```
taj@222902066:~$ rm -f testfile2.txt
```

36. rm -rf testdir -> Force remove a directory and its contents.



```
taj@222902066:~$ rm -rf testdir
```

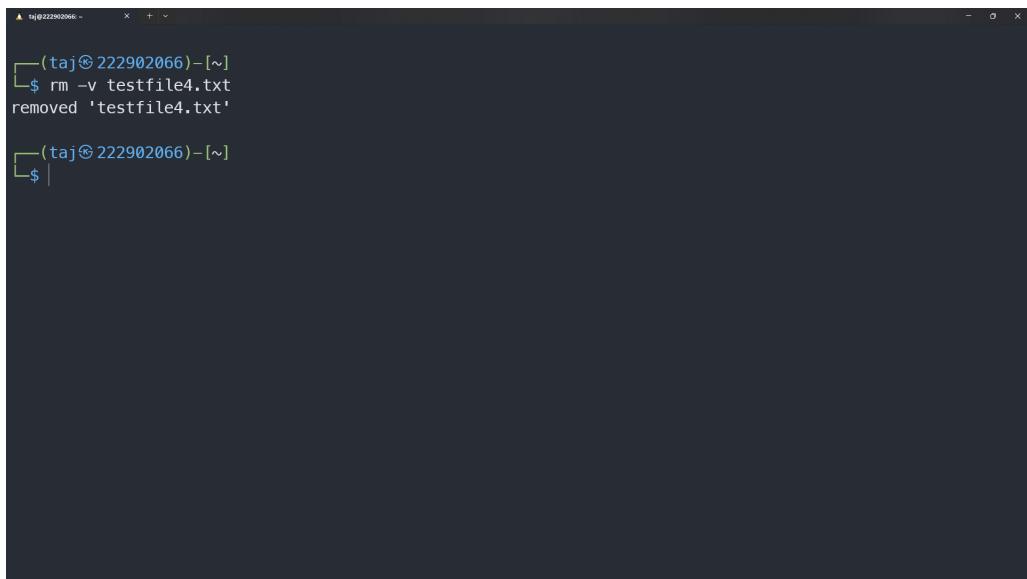
37. rm -i testfile3.txt -> Interactive remove a file.



```
taj@222902066: ~
└─$ rm -i testfile3.txt
removed 'testfile3.txt'

└─$ |
```

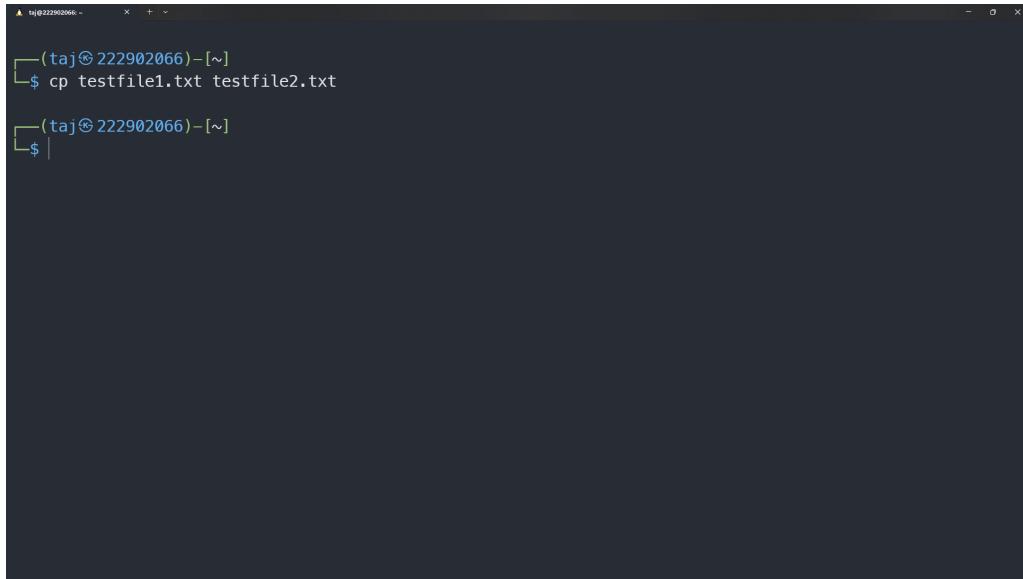
38. rm -v testfile4.txt -> Verbose remove, show files being removed.



```
taj@222902066: ~
└─$ rm -v testfile4.txt
removed 'testfile4.txt'

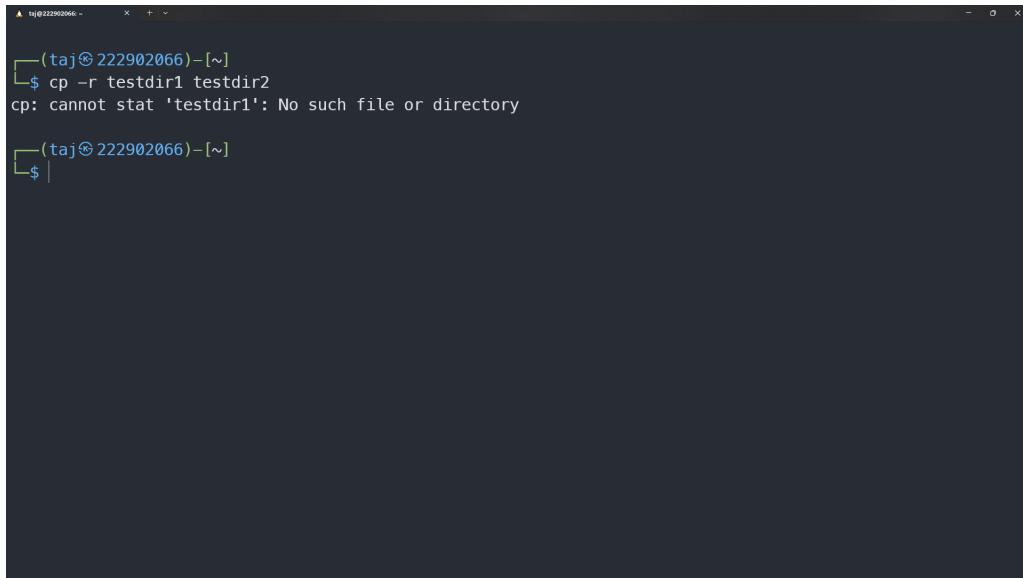
└─$ |
```

39. cp testfile1.txt testfile2.txt -> Copy a file.



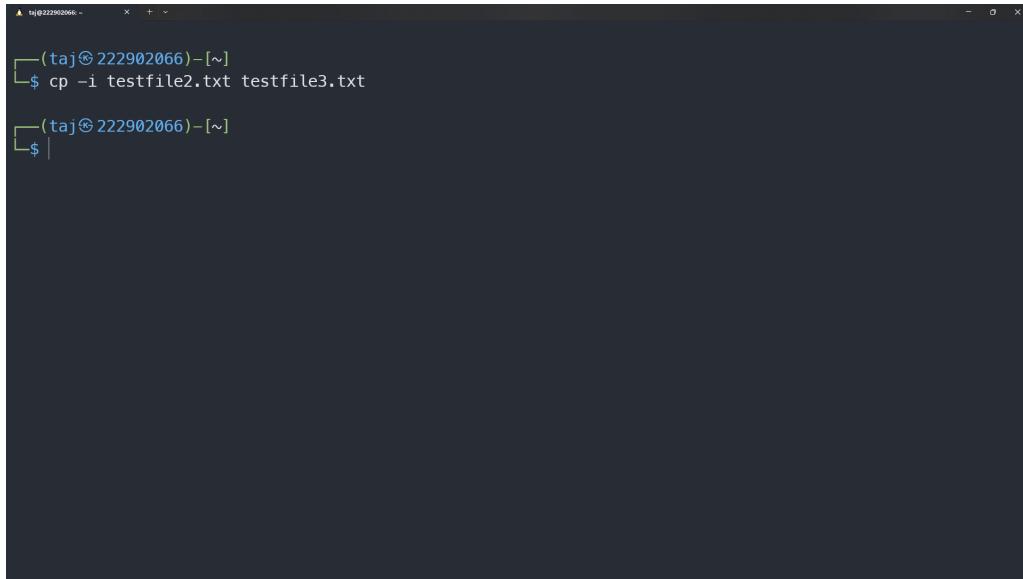
```
taj@222902066:~$ cp testfile1.txt testfile2.txt
```

40. cp -r testdir1 testdir2 -> Recursively copy a directory.



```
taj@222902066:~$ cp -r testdir1 testdir2
cp: cannot stat 'testdir1': No such file or directory
```

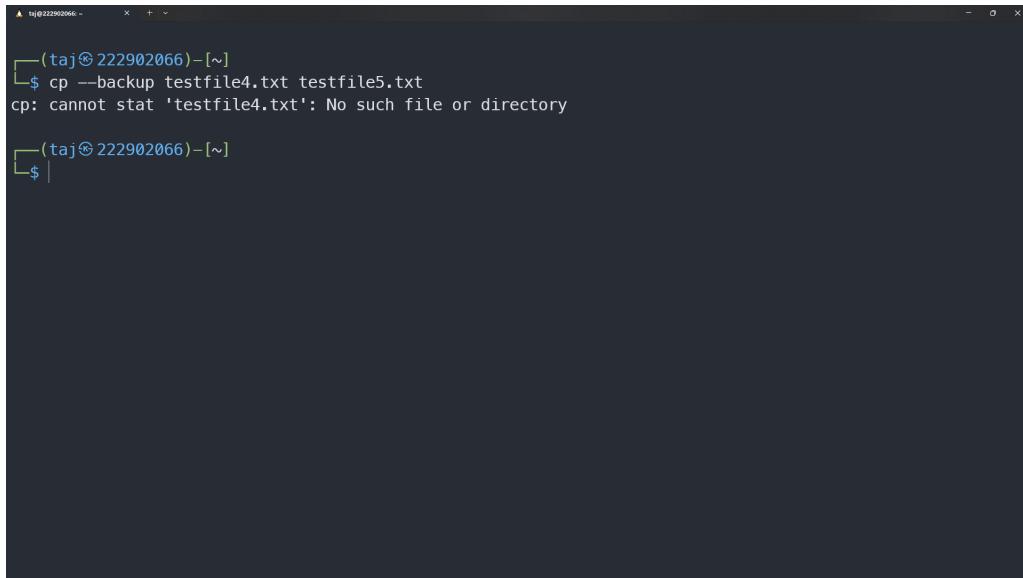
41. cp -i testfile2.txt testfile3.txt -> Interactive copy, prompt before overwrite.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command-line interface with the following text:

```
taj@222902066 ~
└─$ cp -i testfile2.txt testfile3.txt
└─$ |
```

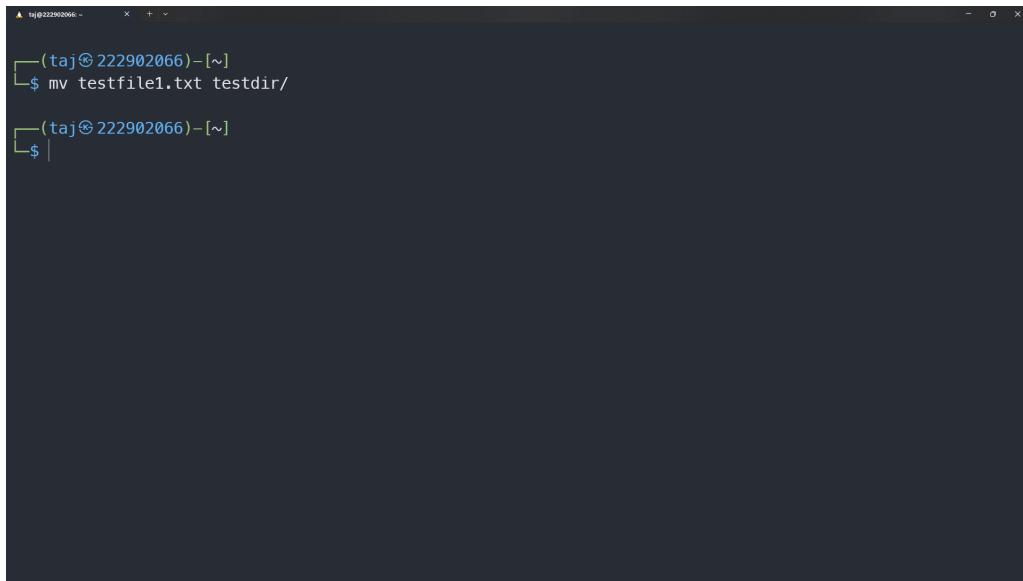
42. cp --backup testfile4.txt testfile5.txt -> Backup file before copying.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command-line interface with the following text:

```
taj@222902066 ~
└─$ cp --backup testfile4.txt testfile5.txt
cp: cannot stat 'testfile4.txt': No such file or directory
└─$ |
```

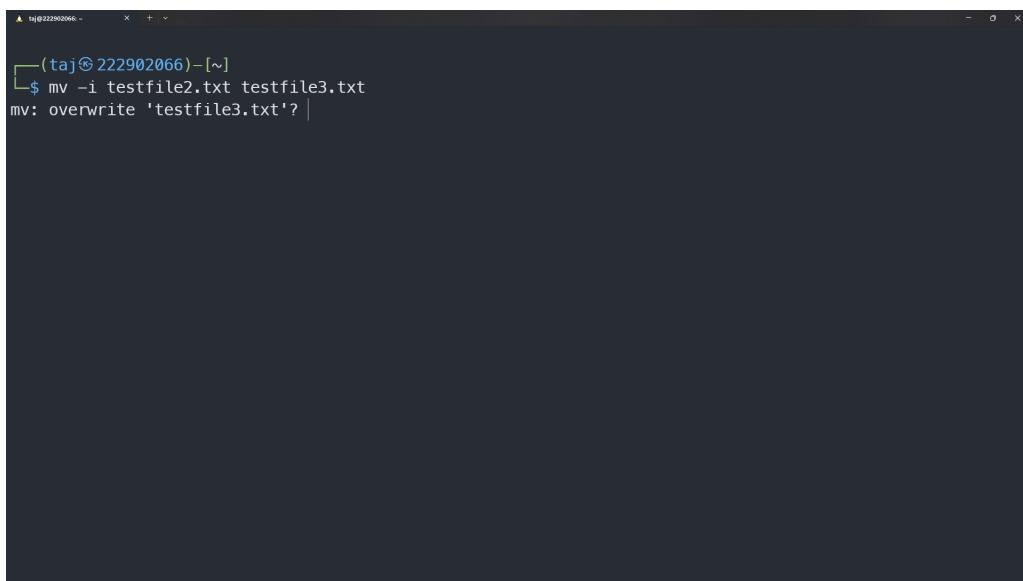
43. mv testfile1.txt testdir/ -> Move a file to a directory.



```
taj@222902066: ~
└─$ mv testfile1.txt testdir/
└─$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window has standard window controls at the top right. Inside, there is a single line of text: "\$ mv testfile1.txt testdir/". Below the command prompt, there is a blank line starting with a dollar sign, indicating the command has been run and its output is being displayed.

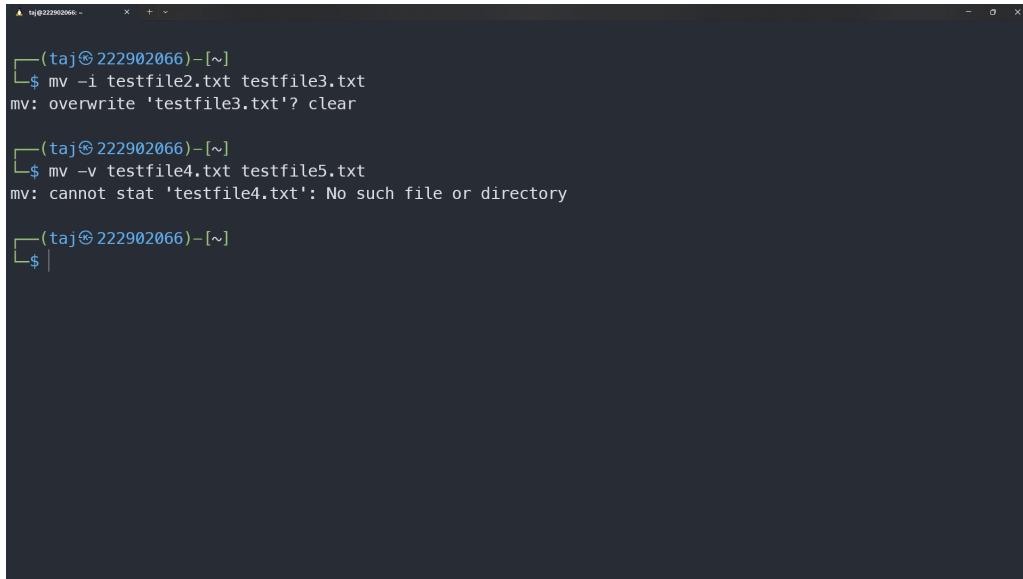
44. mv -i testfile2.txt testfile3.txt -> Interactive move, prompt before overwrite.



```
taj@222902066: ~
└─$ mv -i testfile2.txt testfile3.txt
mv: overwrite 'testfile3.txt'? |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window has standard window controls at the top right. Inside, there is a line of text: "\$ mv -i testfile2.txt testfile3.txt". Directly below it is a question mark followed by a blank line starting with a dollar sign, indicating the system is prompting for confirmation before overwriting the file.

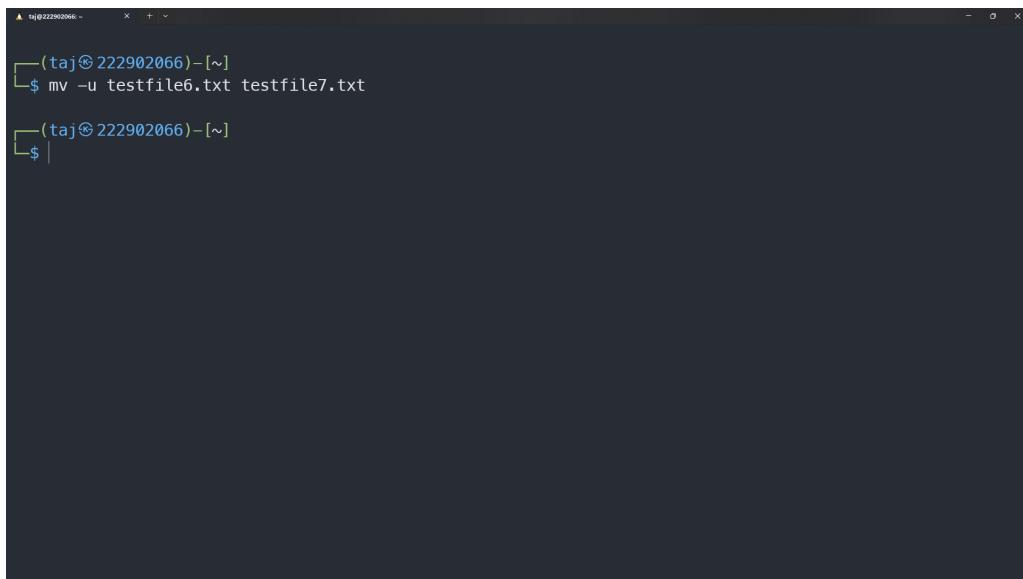
45. mv -v testfile4.txt testfile5.txt -> Verbose move, show files being moved.



```
taj@222902066:~$ mv -v testfile2.txt testfile3.txt
mv: overwrite 'testfile3.txt'? clear
taj@222902066:~$ mv -v testfile4.txt testfile5.txt
mv: cannot stat 'testfile4.txt': No such file or directory
taj@222902066:~$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". It shows two commands being run. The first command, "mv -v testfile2.txt testfile3.txt", prompts the user with "mv: overwrite 'testfile3.txt'? clear". The second command, "mv -v testfile4.txt testfile5.txt", fails with the message "mv: cannot stat 'testfile4.txt': No such file or directory". The terminal has a dark background with light-colored text and a standard window title bar.

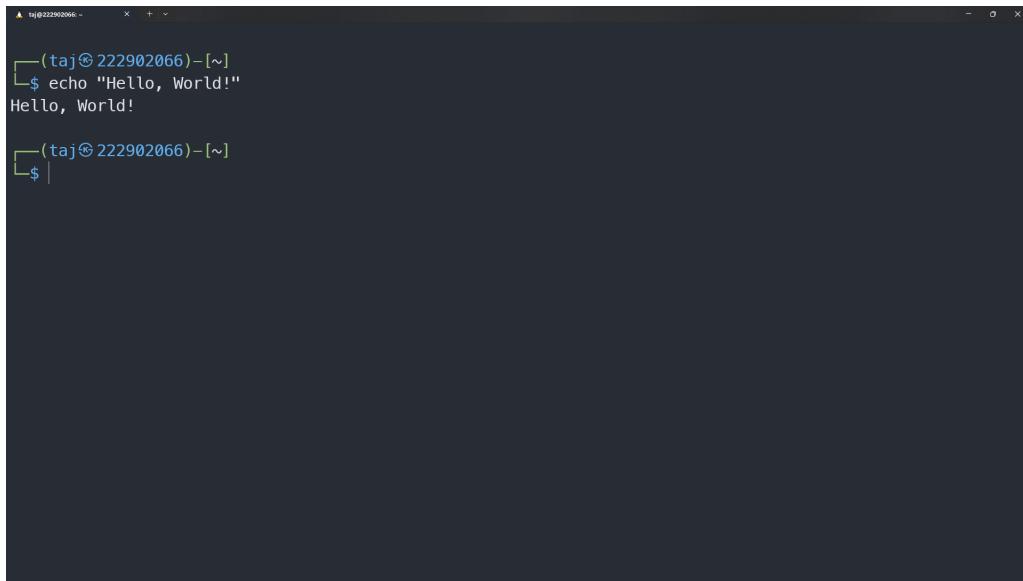
46. mv -u testfile6.txt testfile7.txt -> Move only if source is newer than destination.



```
taj@222902066:~$ mv -u testfile6.txt testfile7.txt
taj@222902066:~$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". It shows a single command "mv -u testfile6.txt testfile7.txt" being run. The terminal has a dark background with light-colored text and a standard window title bar.

47. echo "Hello, World!" -> Print "Hello, World!" to the terminal.



```
taj@222902066: ~
└─$ echo "Hello, World!"
Hello, World!
└─$ |
```

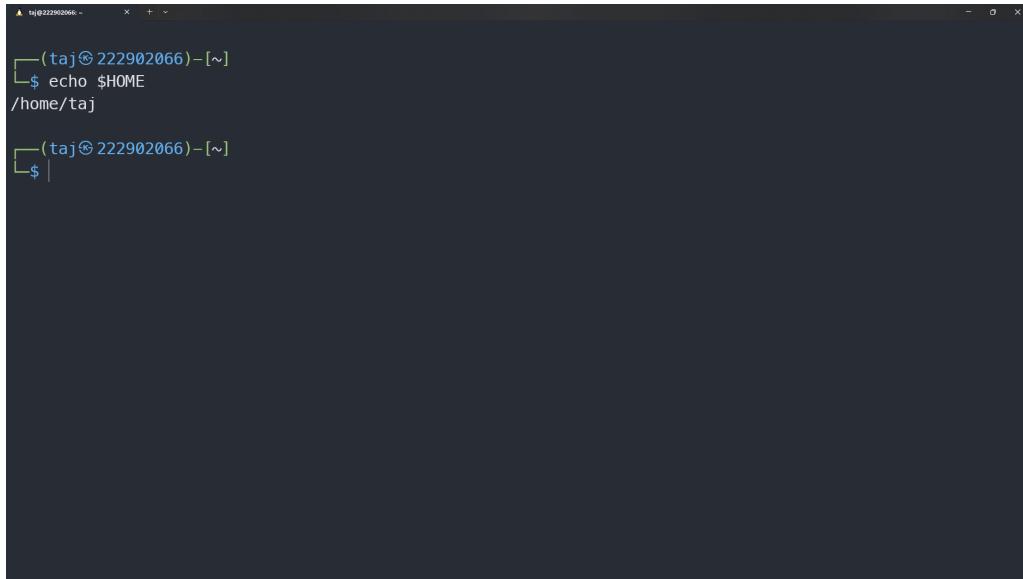
48. echo \$PATH -> Display the PATH environment variable.



```
taj@222902066: ~
└─$ echo $PATH
/home/taj/.local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/
games:/usr/lib/wsl/lib:/mnt/c/Program Files/ImageMagick-7.1.1-Q16-HDRI:/mnt/c/Program Files/Common Files
/Oracle/Java/javapath:/mnt/c/Windows/system32:/mnt/c/Windows:/mnt/c/Windows/System32/Wbem:/mnt/c/Windows
/System32/WindowsPowerShell/v1.0:/mnt/c/Windows/System32/OpenSSH:/mnt/c/Program Files/dotnet:/mnt/c/P
rogram Files (x86)/Intel/Intel(R) Management Engine Components/DAL:/mnt/c/Program Files/Intel/Intel(R) M
anagement Engine Components/DAL:/mnt/c/Program Files/Git/cmd:/mnt/c/python312/Scripts:/mnt/c/python312/
:/mnt/c/Users/jalal/AppData/Local/Programs/Python/Launcher:/mnt/c/Users/jalal/AppData/Local/Microsoft/W
indowsApps:/mnt/c/Users/jalal/AppData/Local/Programs/Microsoft VS Code/bin:/mnt/c/adb:/mnt/c/Program Fil
es/nodejs:/mnt/c/python312/Scripts:/mnt/c/python312:/mnt/c/Users/jalal/AppData/Local/Programs/Python/
Launcher:/mnt/c/Users/jalal/AppData/Local/Microsoft/WindowsApps:/mnt/c/Users/jalal/AppData/Local/Progra
ms/Microsoft VS Code/bin:/mnt/c/Users/jalal/AppData/Local/Programs/Ollama:/mnt/c/Program Files/JetBrains
/IntelliJ IDEA 2024.2.1/bin:/mnt/c/Users/jalal/AppData/Local/Programs/oh-my-posh/bin:/mnt/c/Users/jalal/
AppData/Roaming/npm:/new/path:/new/path

└─$ |
```

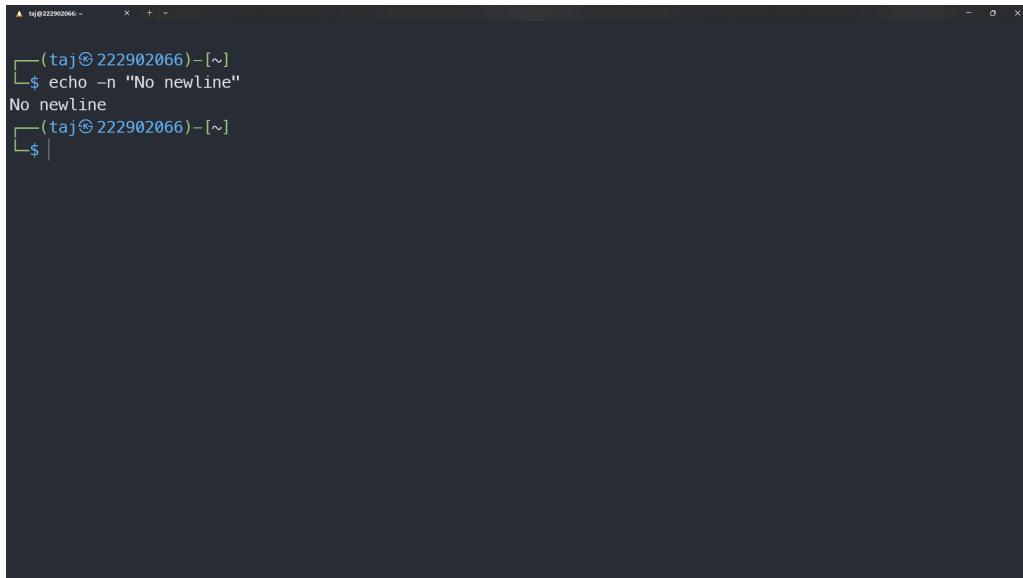
49. echo \$HOME -> Display the HOME environment variable.



```
taj@222902066 ~
└$ echo $HOME
/home/taj
└$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". It shows a single command being run: "echo \$HOME". The output is "/home/taj", which is displayed on a new line below the command. The terminal has a dark background with light-colored text and a standard window title bar.

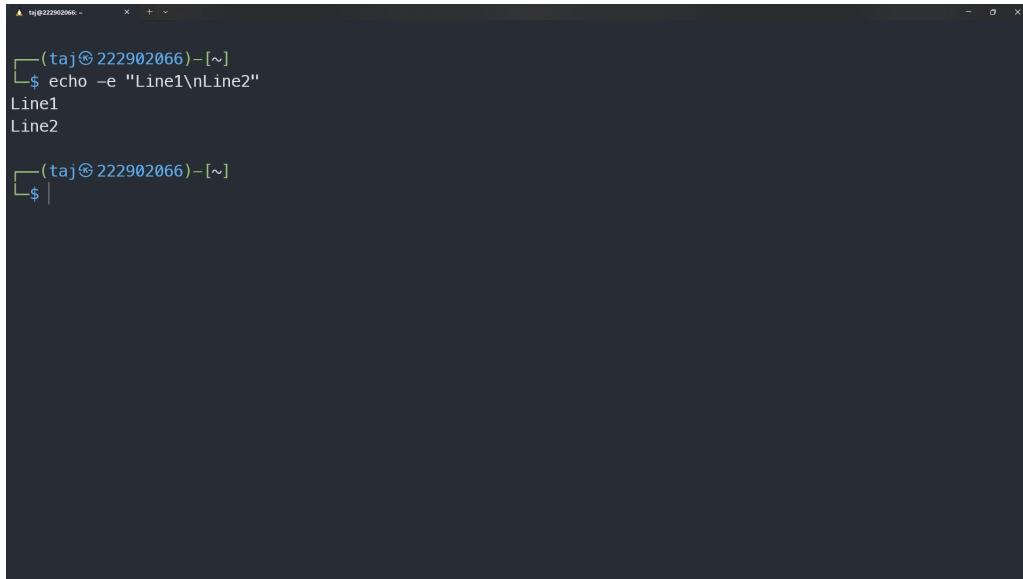
50. echo -n "No newline" -> Print without a newline.



```
taj@222902066 ~
└$ echo -n "No newline"
No newline
└$ |
```

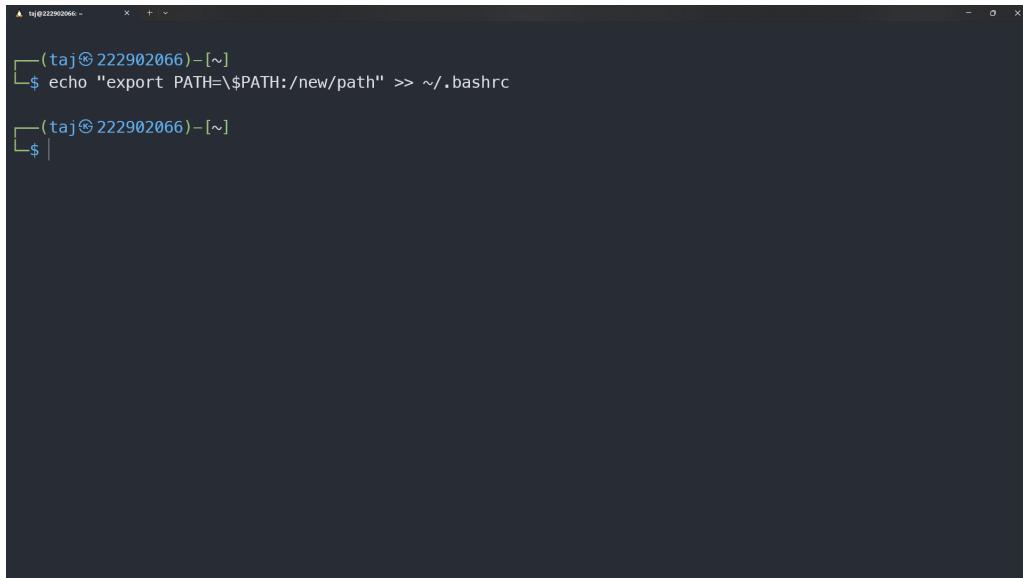
A screenshot of a terminal window titled "taj@222902066 ~". It shows a single command being run: "echo -n "No newline"". The output is "No newline", which is displayed on the same line as the command, indicating that no newline character was printed. The terminal has a dark background with light-colored text and a standard window title bar.

51. echo -e "Line1\nLine2" -> Enable interpretation of backslash escapes.



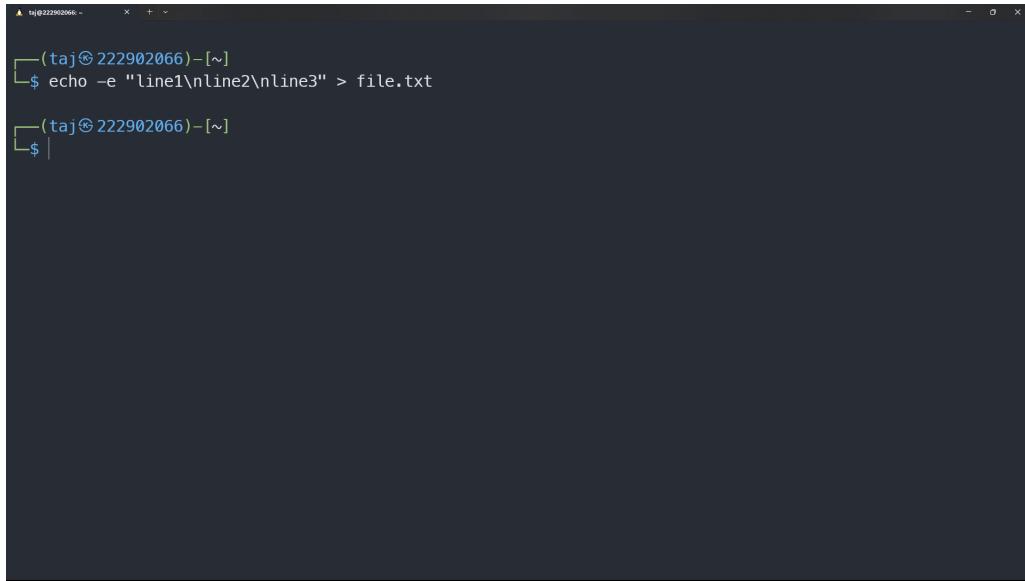
```
taj@222902066 ~
└─$ echo -e "Line1\nLine2"
Line1
Line2
└─$ |
```

52. echo "export PATH=\$PATH:/new/path" >> ~/.bashrc -> Append to `~/.bashrc` file.



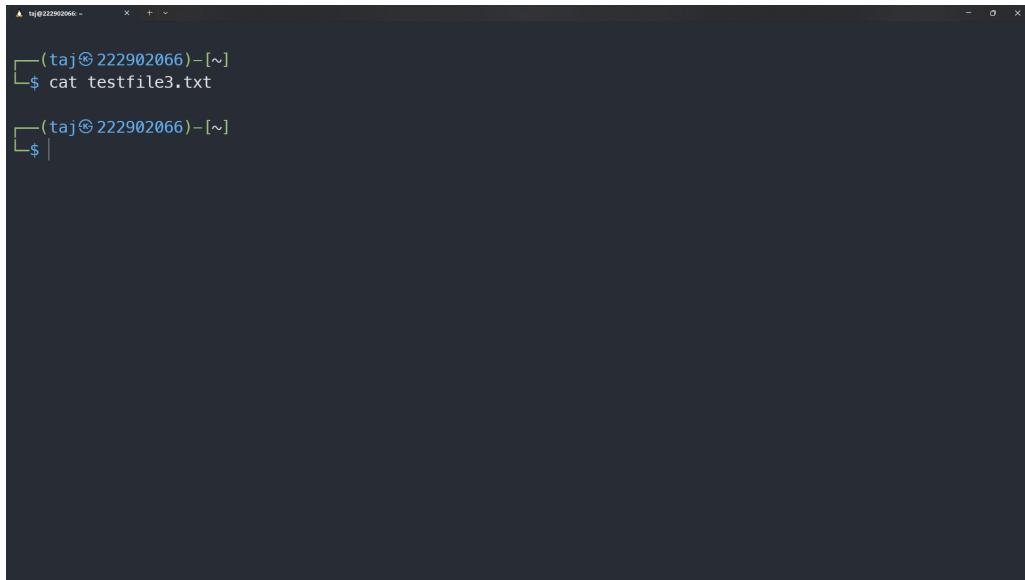
```
taj@222902066 ~
└─$ echo "export PATH=$PATH:/new/path" >> ~/.bashrc
└─$ |
```

53. echo -e "line1\nline2\nline3" > file.txt -> Write multiple lines to a file.



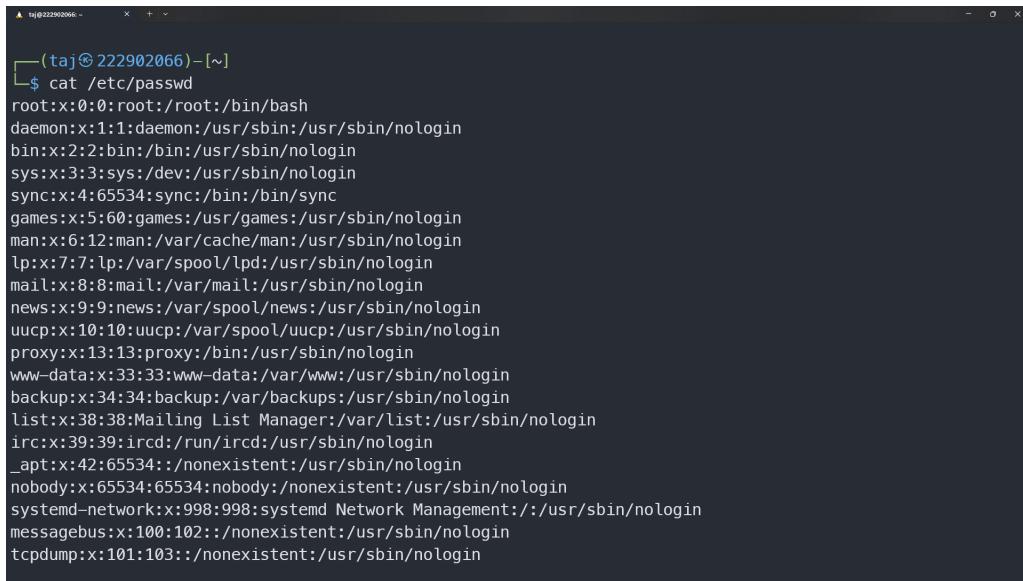
```
taj@222902066 ~
└─$ echo -e "line1\nline2\nline3" > file.txt
└─$ |
```

54. cat testfile3.txt -> Display contents of a file.



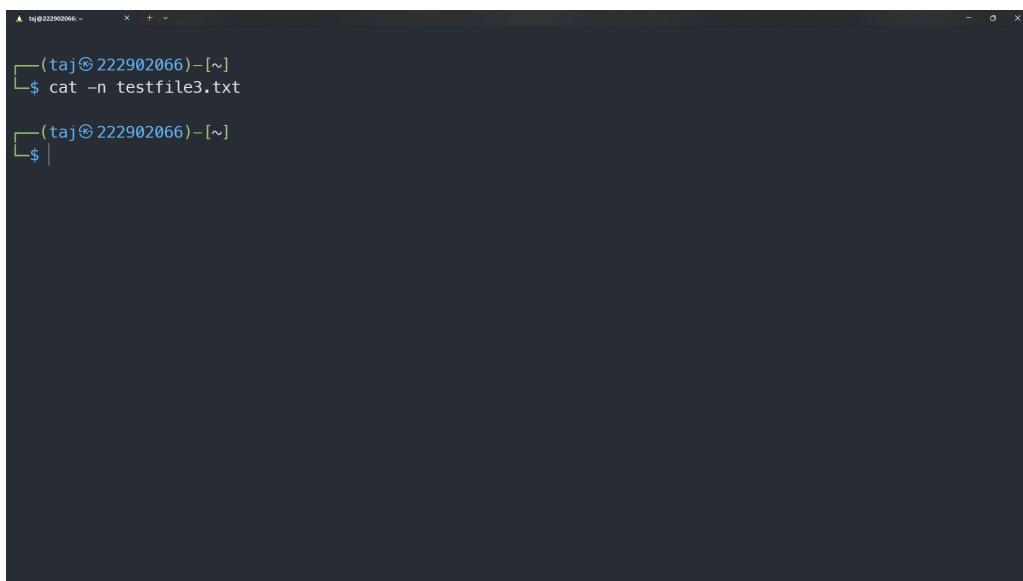
```
taj@222902066 ~
└─$ cat testfile3.txt
└─$ |
```

55. cat /etc/passwd -> Display system users' information.



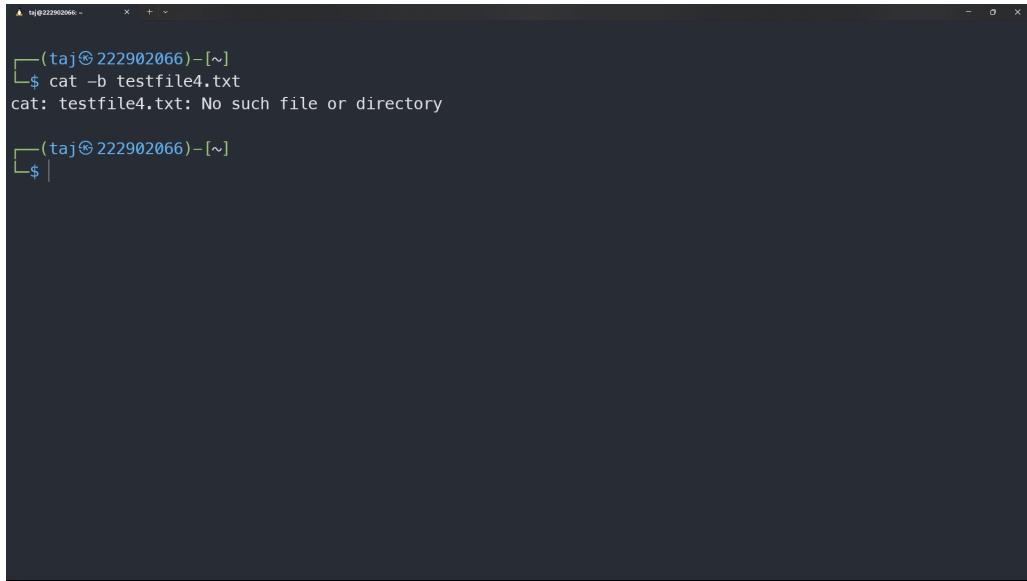
```
taj@222902066:~$ cat /etc/passwd
root:x:0:0:root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
_apt:x:42:65534::/nonexistent:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:998:998:systemd Network Management:/:/usr/sbin/nologin
messagebus:x:100:102::/nonexistent:/usr/sbin/nologin
tcpdump:x:101:103::/nonexistent:/usr/sbin/nologin
```

56. cat -n testfile3.txt -> Display contents with line numbers.



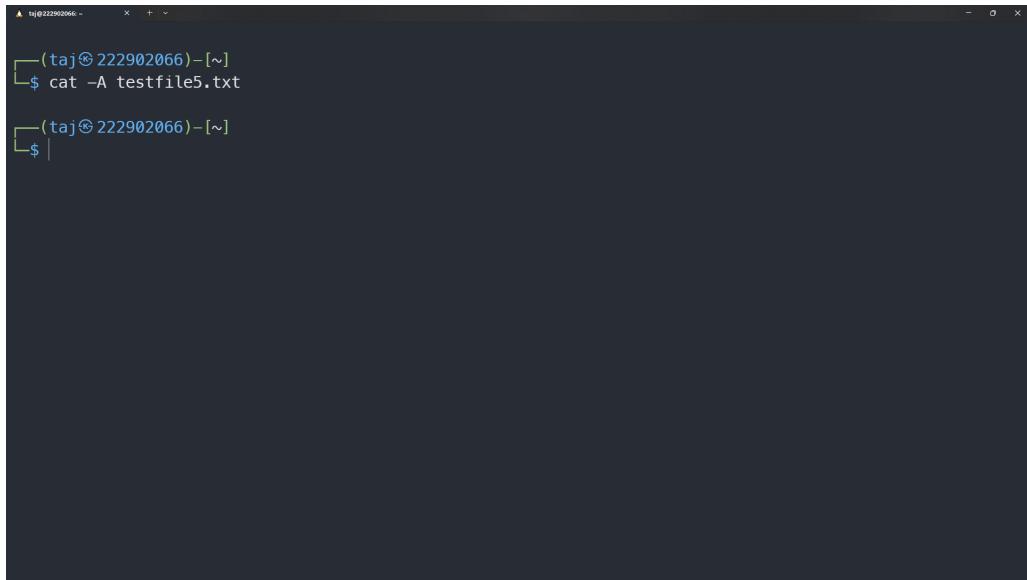
```
taj@222902066:~$ cat -n testfile3.txt
taj@222902066:~$ |
```

57. cat -b testfile4.txt -> Number non-blank lines.



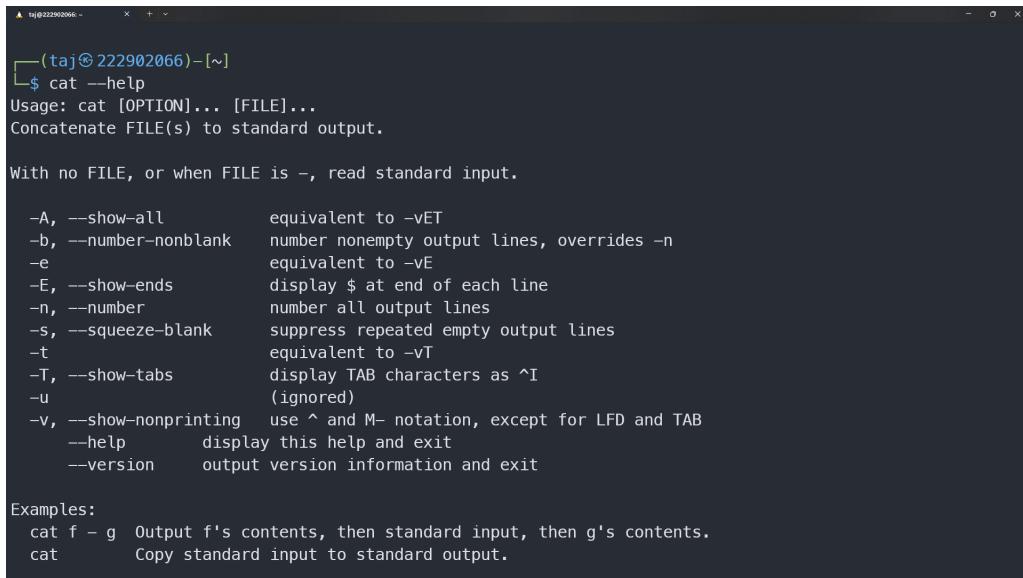
```
taj@222902066: ~
└─$ cat -b testfile4.txt
cat: testfile4.txt: No such file or directory
└─$ |
```

58. cat -A testfile5.txt -> Display non-printing characters.



```
taj@222902066: ~
└─$ cat -A testfile5.txt
└─$ |
```

59. cat --help -> Display help for the `cat` command.



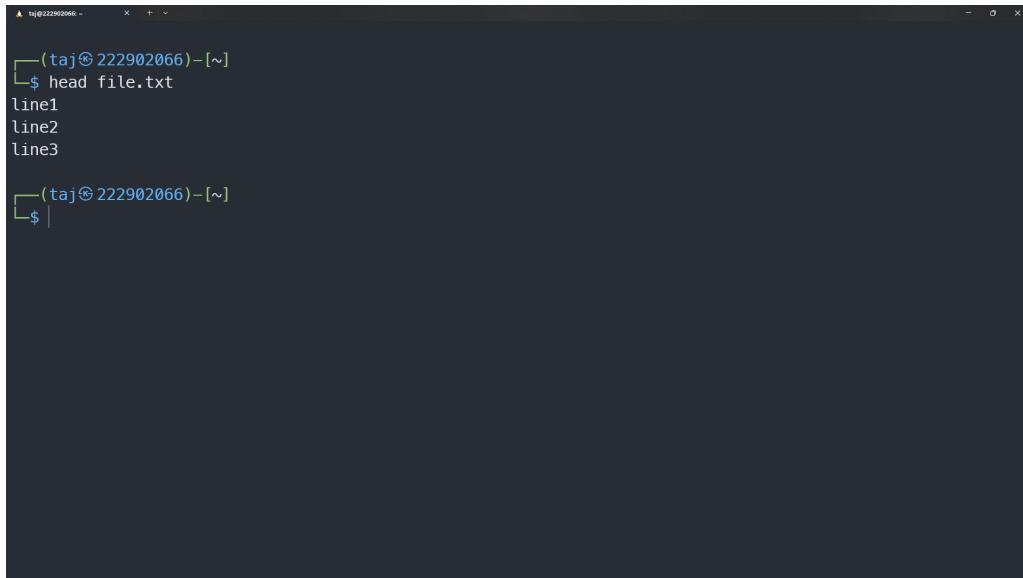
```
taj@222902066:~$ cat --help
Usage: cat [OPTION]... [FILE]...
Concatenate FILE(s) to standard output.

With no FILE, or when FILE is -, read standard input.

-A, --show-all      equivalent to -vET
-b, --number-nonblank number nonempty output lines, overrides -n
-e                equivalent to -vE
-E, --show-ends    display $ at end of each line
-n, --number       number all output lines
-s, --squeeze-blank suppress repeated empty output lines
-t                equivalent to -vT
-T, --show-tabs    display TAB characters as ^I
-u                (ignored)
-v, --show-nonprinting use ^ and M- notation, except for LFD and TAB
--help            display this help and exit
--version         output version information and exit

Examples:
cat f - g  Output f's contents, then standard input, then g's contents.
cat        Copy standard input to standard output.
```

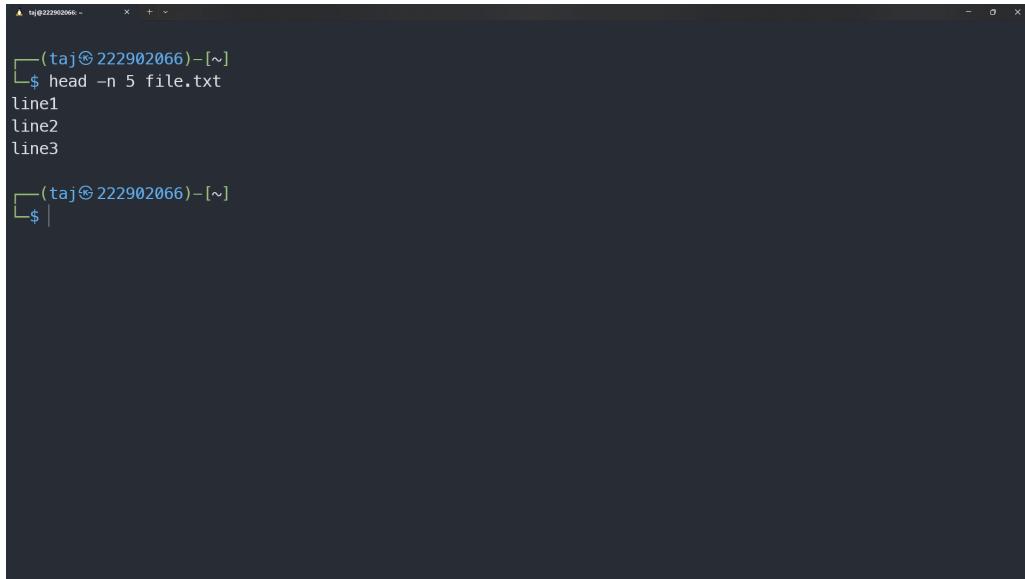
60. head file.txt -> Display the first 10 lines of a file.



```
taj@222902066:~$ head file.txt
line1
line2
line3

taj@222902066:~$ |
```

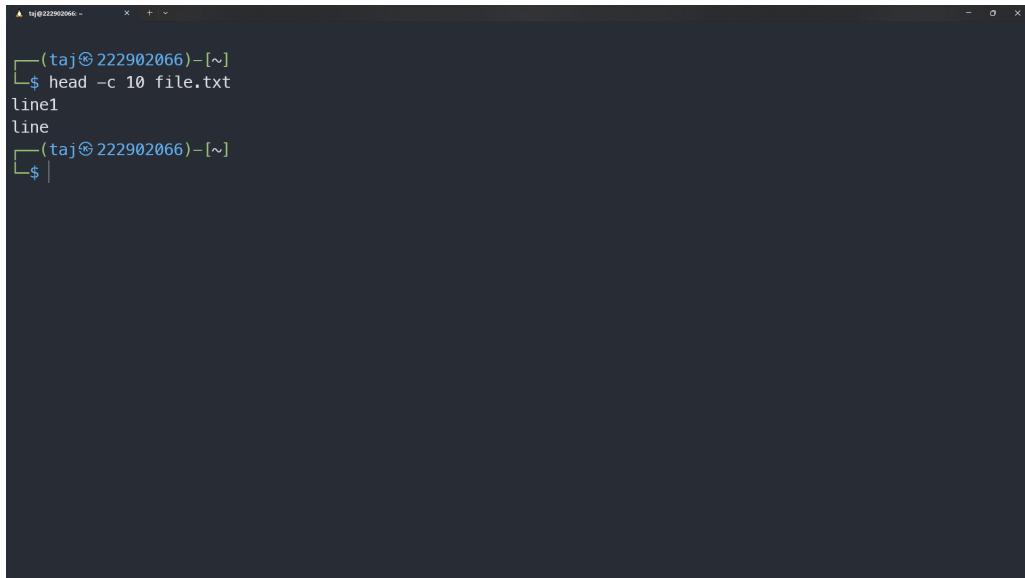
61. head -n 5 file.txt -> Display the first 5 lines of a file.



```
taj@222902066:~$ head -n 5 file.txt
line1
line2
line3
taj@222902066:~$ |
```

A screenshot of a terminal window titled "taj@222902066:~". The window shows the command "head -n 5 file.txt" being run. The output consists of three lines of text: "line1", "line2", and "line3". After the command, there is a blank line followed by the prompt "\$ |".

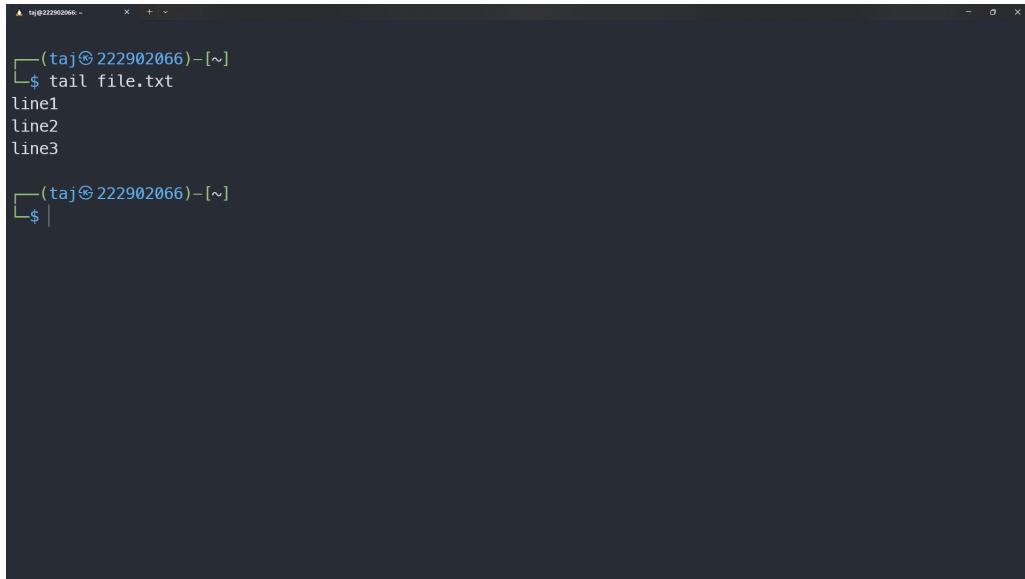
62. head -c 10 file.txt -> Display the first 10 bytes of a file.



```
taj@222902066:~$ head -c 10 file.txt
line1
line
taj@222902066:~$ |
```

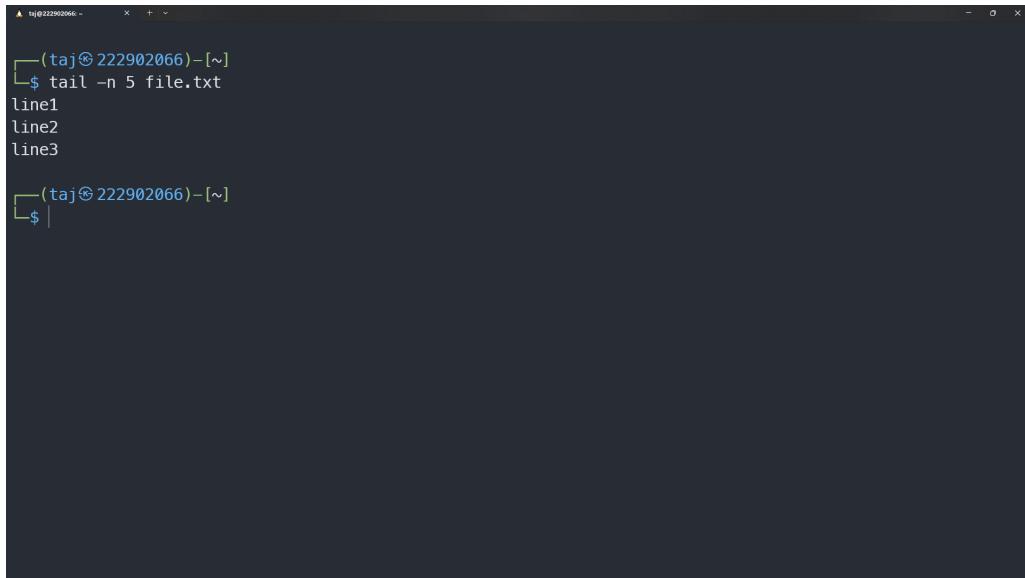
A screenshot of a terminal window titled "taj@222902066:~". The window shows the command "head -c 10 file.txt" being run. The output consists of two lines of text: "line1" and "line". After the command, there is a blank line followed by the prompt "\$ |".

63. tail file.txt -> Display the last 10 lines of a file.



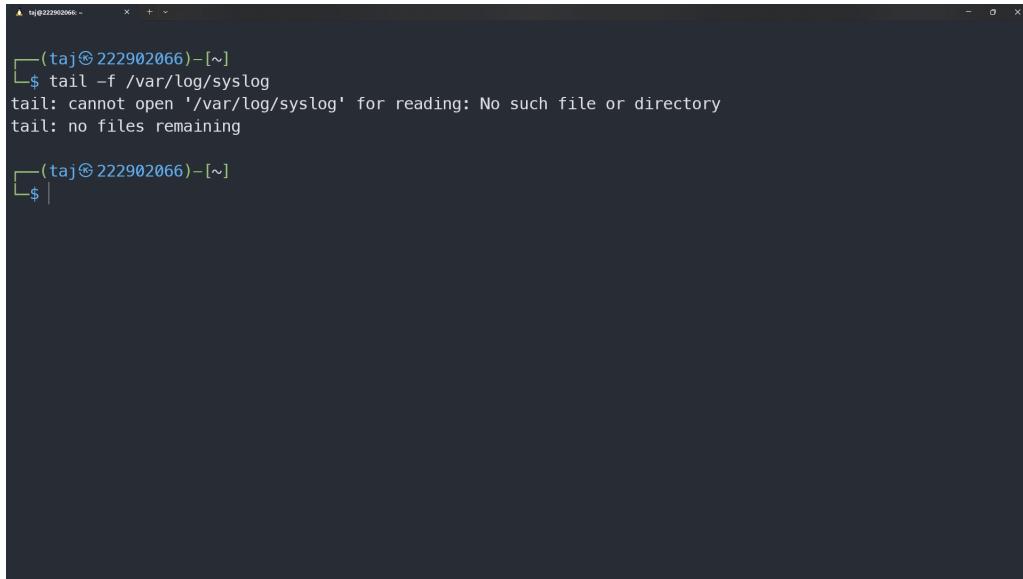
```
taj@222902066:~$ tail file.txt
line1
line2
line3
taj@222902066:~$ |
```

64. tail -n 5 file.txt -> Display the last 5 lines of a file.



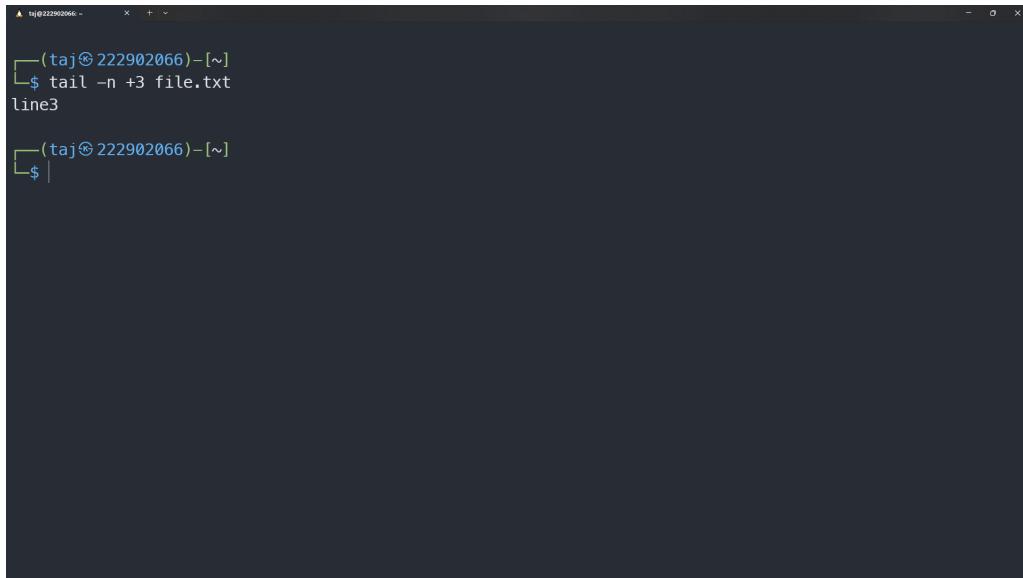
```
taj@222902066:~$ tail -n 5 file.txt
line1
line2
line3
taj@222902066:~$ |
```

65. tail -f /var/log/syslog -> Continuously display log file as it updates.



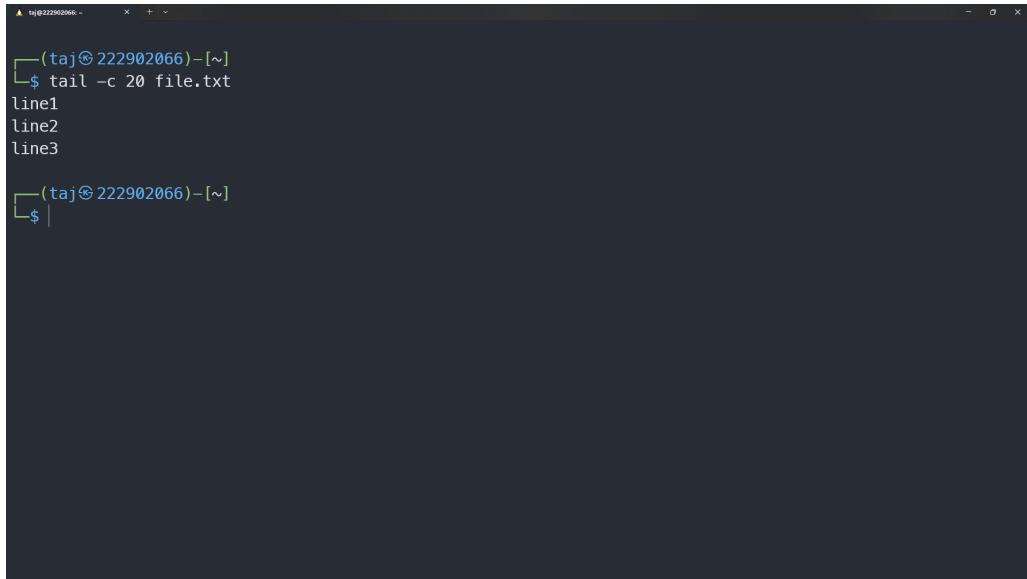
```
taj@222902066:~$ tail -f /var/log/syslog
tail: cannot open '/var/log/syslog' for reading: No such file or directory
tail: no files remaining
```

66. tail -n +3 file.txt -> Skip first 2 lines and display the rest.



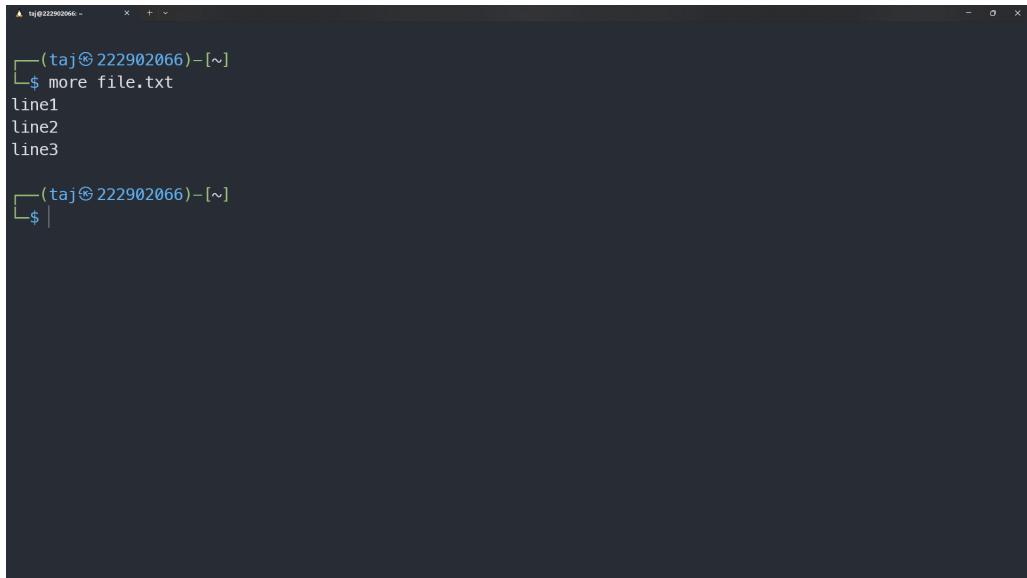
```
taj@222902066:~$ tail -n +3 file.txt
line3
```

67. tail -c 20 file.txt -> Display the last 20 bytes of a file.



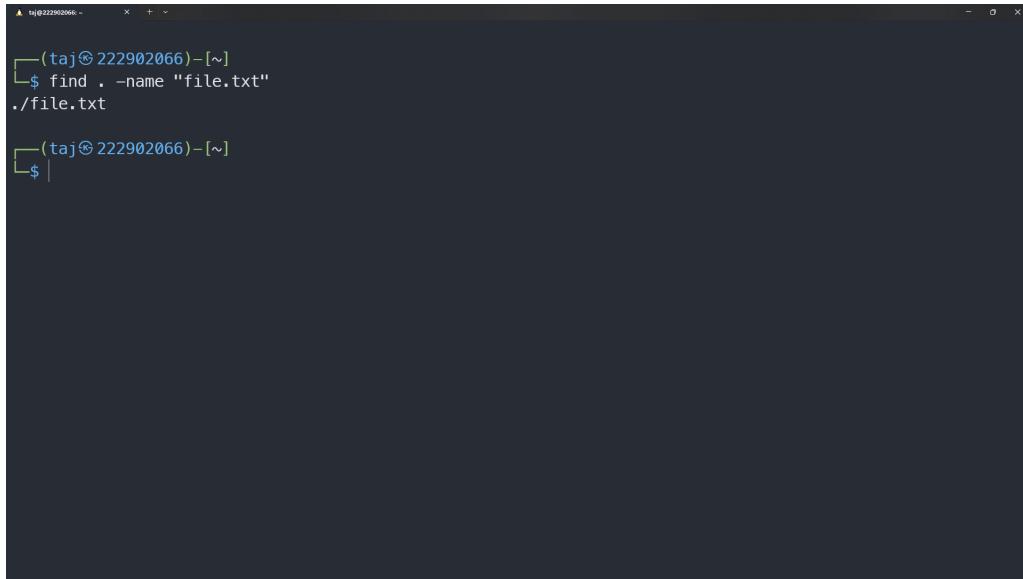
```
taj@222902066:~$ tail -c 20 file.txt
line1
line2
line3
```

68. more file.txt -> View a file page by page.



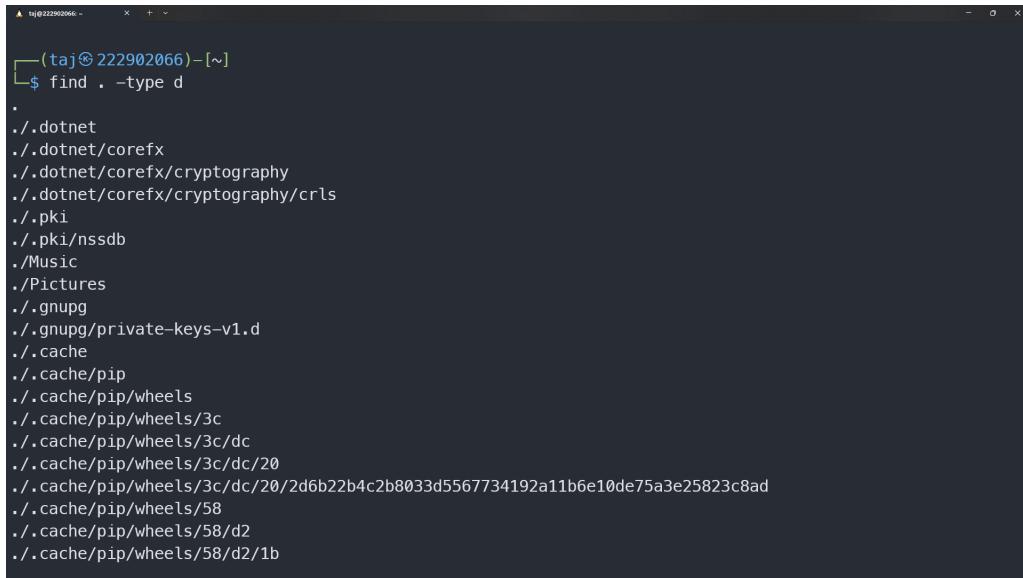
```
taj@222902066:~$ more file.txt
line1
line2
line3
```

69. find . -name "file.txt" -> Find a file by name.



```
taj@222902066:~$ find . -name "file.txt"
./file.txt
taj@222902066:~$
```

70. find . -type d -> Find directories only.



```
taj@222902066:~$ find . -type d
.
./.dotnet
./.dotnet/corefx
./.dotnet/corefx/cryptography
./.dotnet/corefx/cryptography/crls
./.pki
./.pki/nssdb
./Music
./Pictures
./gnupg
./gnupg/private-keys-v1.d
./cache
./cache/pip
./cache/pip/wheels
./cache/pip/wheels/3c
./cache/pip/wheels/3c/dc
./cache/pip/wheels/3c/dc/20
./cache/pip/wheels/3c/dc/20/2d6b22b4c2b8033d5567734192a11b6e10de75a3e25823c8ad
./cache/pip/wheels/58
./cache/pip/wheels/58/d2
./cache/pip/wheels/58/d2/1b
```

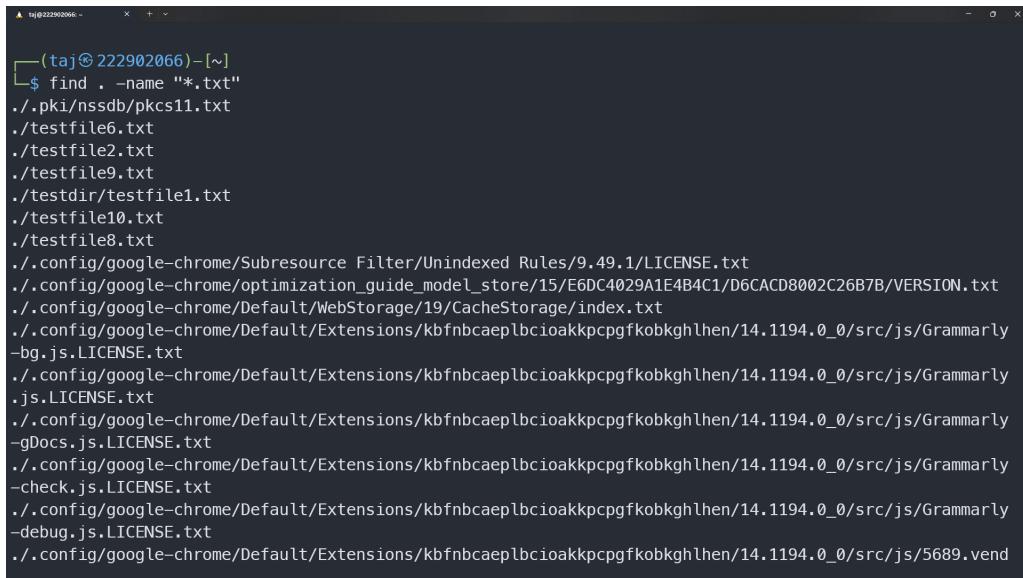
71. find . -type f -> Find files only.

```
taj@222902066: ~
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-38.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-32.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-safari-96.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-19.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-16.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-48.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-safari-48.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/app/ico
n-128.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/icon32-
safari-gray.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/icon32-
safari-bang.png
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/favicon
.ico
./.config/google-chrome/Default/Extensions/kbfnbcaepLbcioakkpcpgfkobkghlhen/14.1194.0_0/src/icon/icon32-
safari.png
```

72. find . -size +1M -> Find files larger than 1MB.

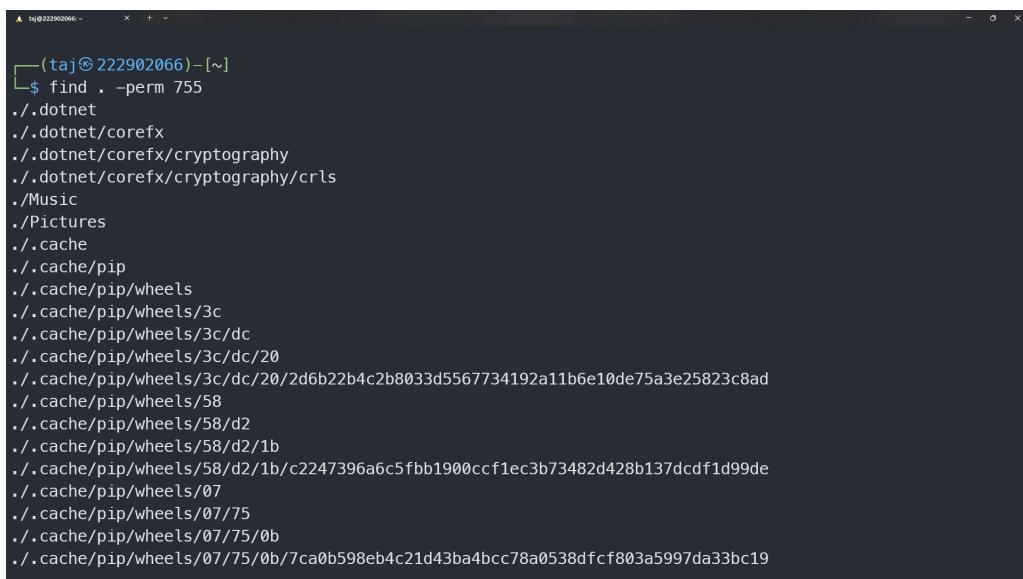
```
taj@222902066: ~
└─$ find . -size +1M
./.cache/pip/http-v2/0/4/9/1/3/04913e6ed91046ac58c7318fa4680857b7e130fee9f1428aea5245fb.body
./.cache/pip/http-v2/7/c/6/4/d/7c64dee1e329fc5ace88d92078a105ec6cd1caf4000ba61e7da7db6.body
./.cache/pip/http-v2/f/5/2/1/d/f521d066c3c11e577ff9bac4a7e16276a9949d9058b502022df3ca88.body
./.cache/google-chrome/Default/Cache/Cache_Data/a332d552409e6451_0
./.cache/google-chrome/Default/Cache/Cache_Data/53f1423575a61e4c_0
./.cache/google-chrome/Default/Cache/Cache_Data/18ffe6bf64759c2_0
./.cache/mozilla/firefox/dmx2srwt.default-esr/cache2/entries/79B58A51AE8BA891E64611DEDBAA2BB4461D3500
./.cache/mozilla/firefox/dmx2srwt.default-esr/cache2/entries/35AB9A2D0D8C4627DDFD6D93117F4996DC56ED9B7
./.cache/mozilla/firefox/dmx2srwt.default-esr/safebrowsing/google4/goog-phish-proto.vlpset
./.cache/mozilla/firefox/dmx2srwt.default-esr/safebrowsing/google-trackwhite-digest256.vlpset
./.cache/mozilla/firefox/dmx2srwt.default-esr/startupCache/scriptCache-current.bin
./.cache/mozilla/firefox/dmx2srwt.default-esr/startupCache/startupCache.8.little
./.cache/mozilla/firefox/dmx2srwt.default-esr/startupCache/scriptCache-child-current.bin
./.cache/gstreamer-1.0/registry.x86_64.bin
./.config/google-chrome/optimization_guide_model_store/40/E6DC4029A1E4B4C1/91768F6CC2E5BBB2/ts.bin
./.config/google-chrome/optimization_guide_model_store/40/E6DC4029A1E4B4C1/91768F6CC2E5BBB2/ts_spm.model
./.config/google-chrome/optimization_guide_model_store/25/E6DC4029A1E4B4C1/9C479CBC0A4CD75E/visual_model_
desktop.tflite
./.config/google-chrome/optimization_guide_model_store/13/E6DC4029A1E4B4C1/4F123D869DC58B39/model.tflite
./.config/google-chrome/optimization_guide_model_store/15/E6DC4029A1E4B4C1/D6CACD8002C26B7B/model.tflite
./.config/google-chrome/optimization_guide_model_store/34/E6DC4029A1E4B4C1/9FF2EF09D4342254/model.tflite
```

73. find . -name "*.txt" -> Find all text files.



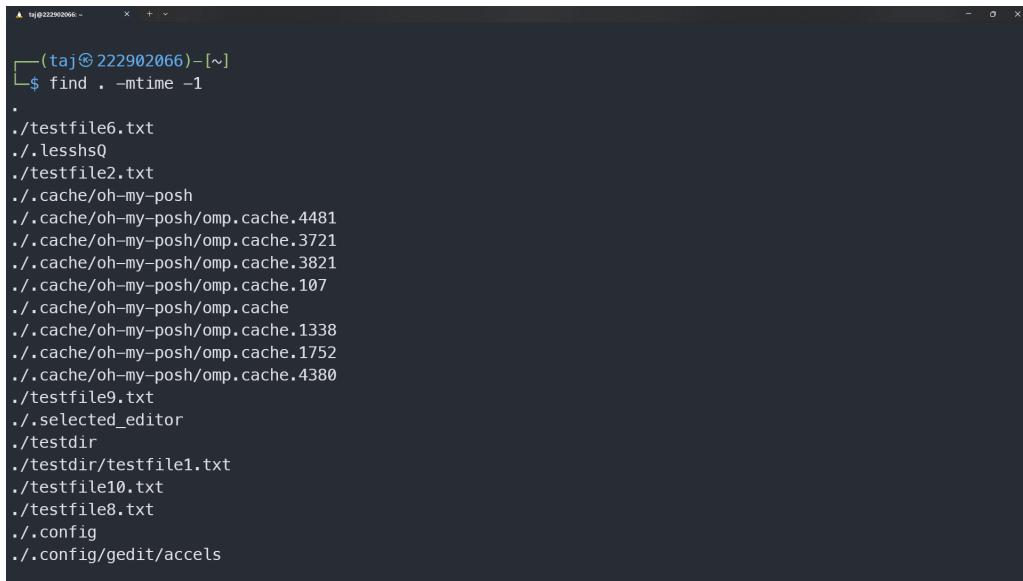
```
taj@222902066:~$ find . -name *.txt
./.pki/nssdb/pkcs11.txt
./testfile6.txt
./testfile2.txt
./testfile9.txt
./testdir/testfile1.txt
./testfile10.txt
./testfile8.txt
./config/google-chrome/Subresource Filter/Unindexed Rules/9.49.1/LICENSE.txt
./config/google-chrome/optimization_guide_model_store/15/E6DC4029A1E4B4C1/D6CACD8002C26B7B/VERSION.txt
./config/google-chrome/Default/WebStorage/19/CacheStorage/index.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/Grammarly
-bg.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/Grammarly
.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/Grammarly
-gDocs.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/Grammarly
-check.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/Grammarly
-debug.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkgħlhen/14.1194.0_0/src/js/5689.vend
```

74. find . -perm 755 -> Find files with permission 755.



```
taj@222902066:~$ find . -perm 755
./dotnet
./dotnet/corefx
./dotnet/corefx/cryptography
./dotnet/corefx/cryptography/crls
./Music
./Pictures
./cache
./cache/pip
./cache/pip/wheels
./cache/pip/wheels/3c
./cache/pip/wheels/3c/dc
./cache/pip/wheels/3c/dc/20
./cache/pip/wheels/3c/dc/20/2d6b22b4c2b8033d5567734192a11b6e10de75a3e25823c8ad
./cache/pip/wheels/58
./cache/pip/wheels/58/d2
./cache/pip/wheels/58/d2/1b
./cache/pip/wheels/58/d2/1b/c2247396a6c5fbb1900ccf1ec3b73482d428b137dcdf1d99de
./cache/pip/wheels/07
./cache/pip/wheels/07/75
./cache/pip/wheels/07/75/0b
./cache/pip/wheels/07/75/0b/7ca0b598eb4c21d43ba4bcc78a0538dfcf803a5997da33bc19
```

75. find . -mtime -1 -> Find files modified within the last day.



```
taj@222902066:~$ find . -mtime -1
.
./testfile6.txt
./lesshsQ
./testfile2.txt
./cache/oh-my-posh
./cache/oh-my-posh/omp.cache.4481
./cache/oh-my-posh/omp.cache.3721
./cache/oh-my-posh/omp.cache.3821
./cache/oh-my-posh/omp.cache.107
./cache/oh-my-posh/omp.cache
./cache/oh-my-posh/omp.cache.1338
./cache/oh-my-posh/omp.cache.1752
./cache/oh-my-posh/omp.cache.4380
./testfile9.txt
./selected_editor
./testdir
./testdir/testfile1.txt
./testfile10.txt
./testfile8.txt
./config
./config/gedit/acclls
```

76. find . -maxdepth 1 -> Limit search to the current directory.



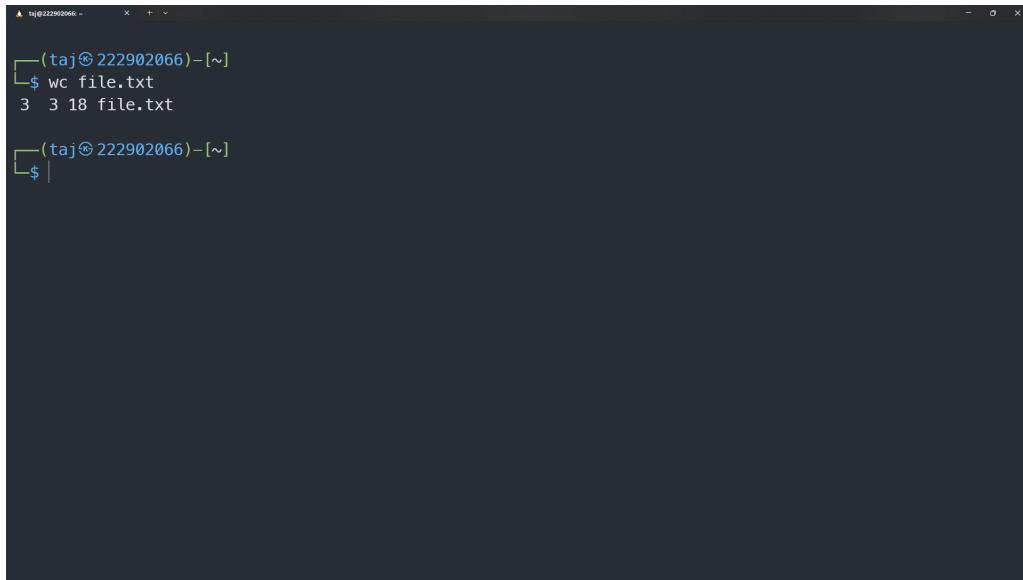
```
taj@222902066:~$ find . -maxdepth 1
.
./dotnet
./pk1
./Music
./testfile6.txt
./lesshsQ
./lessht
./ICEauthority
./Pictures
./testfile2.txt
./face.icon
./gnupg
./cache
./testfile9.txt
./font.sh
./selected_editor
./vnc
./Xauthority
./viminfo
./Desktop
./bashrc.original
```

77. find . -empty -> Find empty files or directories.



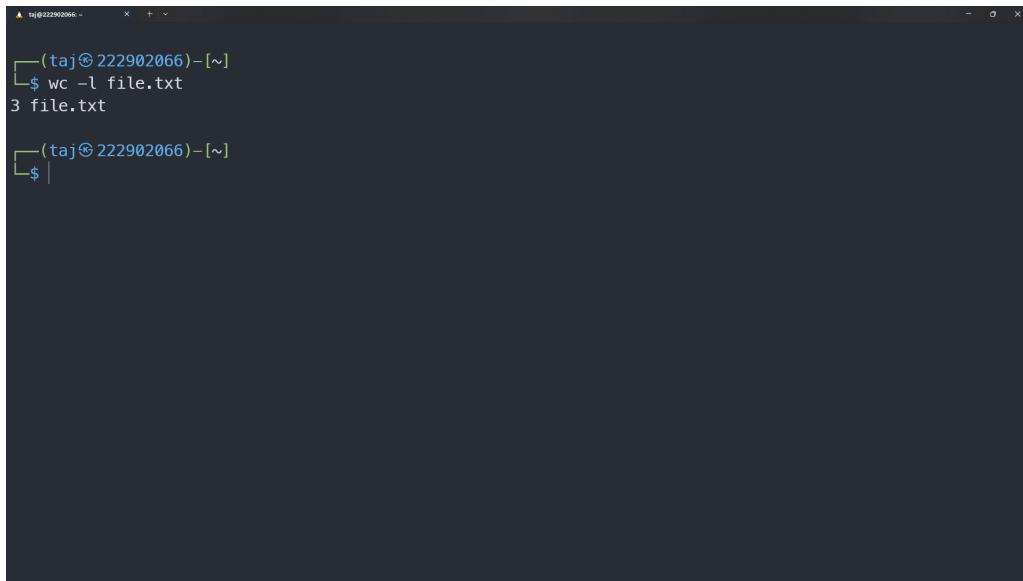
```
taj@222902066:~$ find . -empty
./Music
./testfile6.txt
./lesshsQ
./ICEauthority
./Pictures
./testfile2.txt
./gnupg/private-keys-v1.d
./cache/google-chrome/Default/Storage/ext/nmmhkkegccagldgiimedpiccmgmieda/def/Cache/Cache_Data
./cache/mozilla/firefox/dmx2srwt.default-esr/cache2/doomed
./cache/mozilla/firefox/dmx2srwt.default-esr-thumbnails
./cache/mozilla/firefox/u7yrvzgk.default
./testfile9.txt
./selected_editor
./Desktop
./testdir/testfile1.txt
./testfile10.txt
./.fonts/lساBanglaFonts
./testfile8.txt
./config/google-chrome/SSLErrorAssistant
./config/google-chrome/OriginTrials
./config/google-chrome/MEIPreload
```

78. wc file.txt -> Display line, word, and byte count.



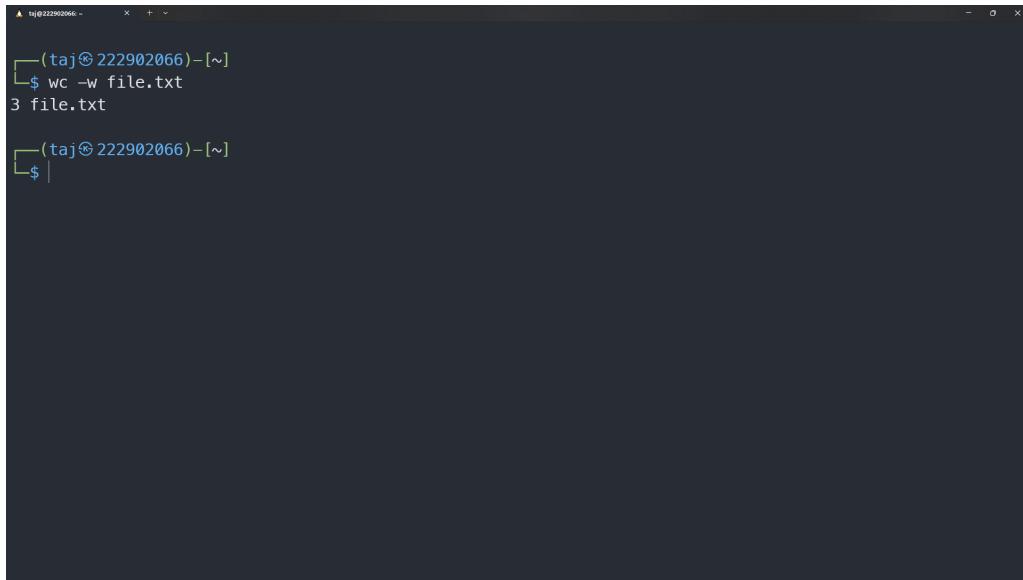
```
taj@222902066:~$ wc file.txt
3 3 18 file.txt
taj@222902066:~$ |
```

79. `wc -l file.txt` -> Display line count.



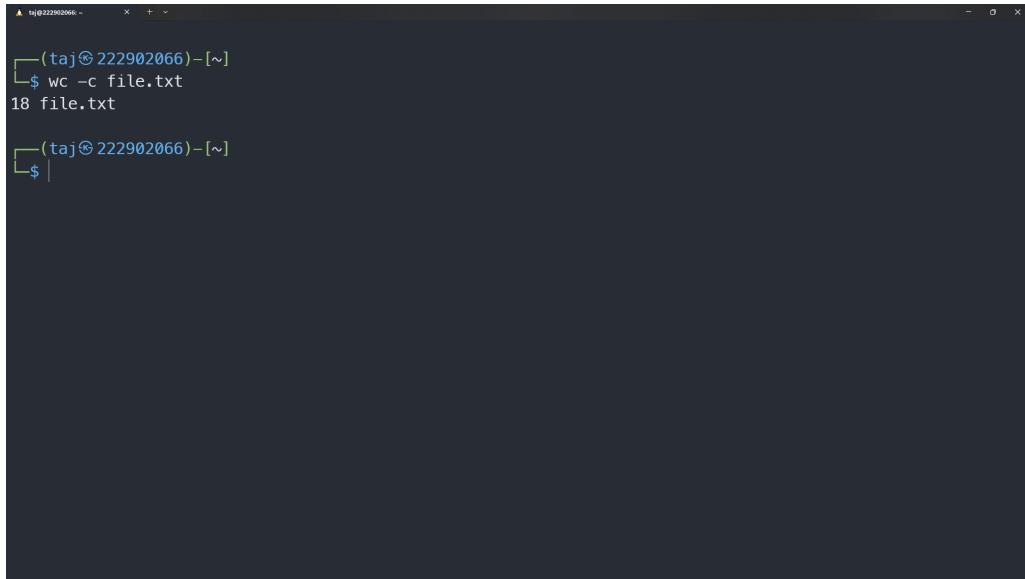
A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command-line interface with the following text:
└─(taj㉿222902066)~
└\$ wc -l file.txt
3 file.txt
└\$ |

80. `wc -w file.txt` -> Display word count.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command-line interface with the following text:
└─(taj㉿222902066)~
└\$ wc -w file.txt
3 file.txt
└\$ |

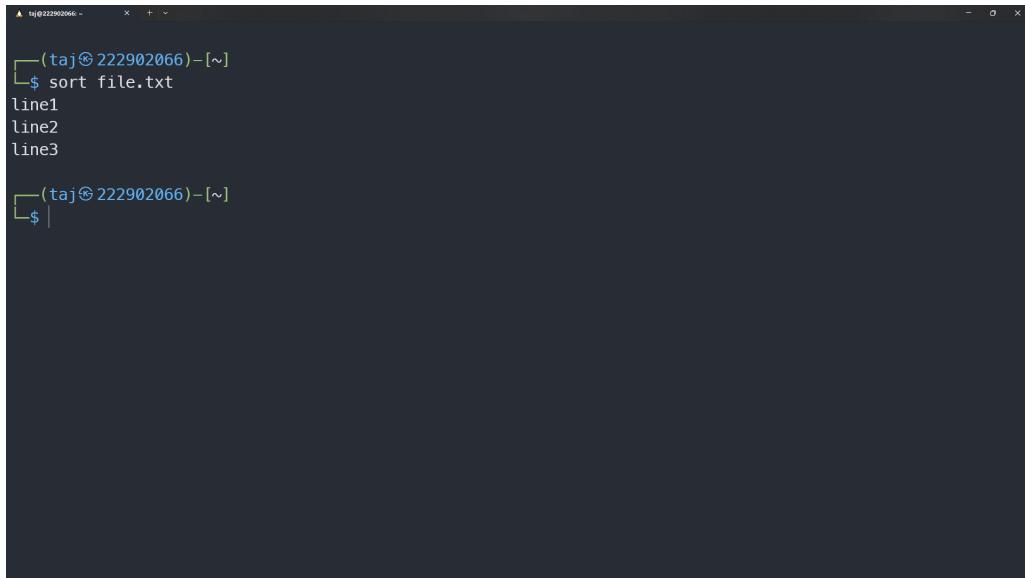
81. wc -c file.txt -> Display byte count.



```
taj@222902066 ~
└─$ wc -c file.txt
18 file.txt
└─$ |
```

A screenshot of a terminal window titled '(taj@222902066) - [~]'. The command 'wc -c file.txt' is entered, resulting in the output '18 file.txt'. The cursor is positioned at the end of the line.

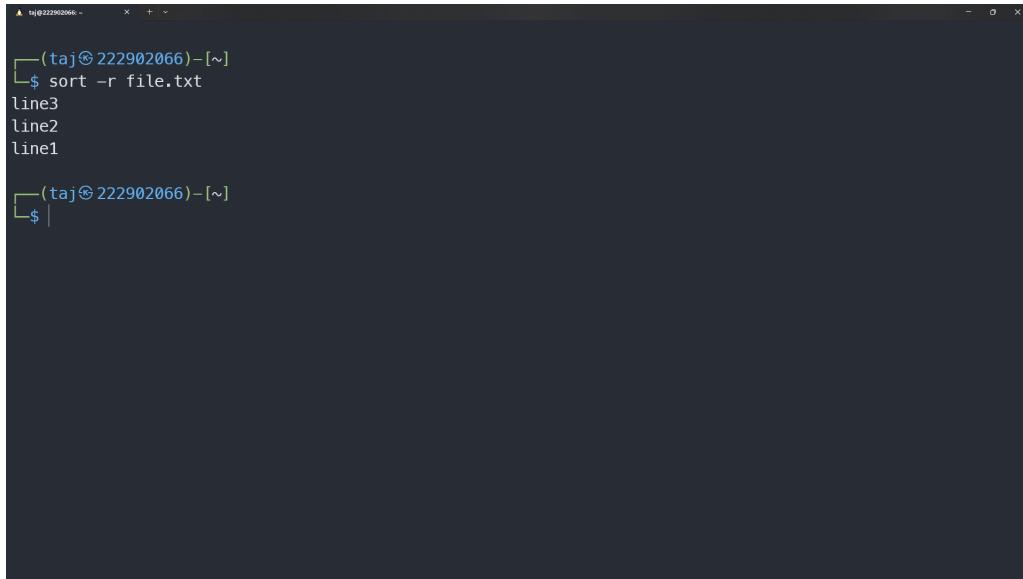
82. sort file.txt -> Sort the contents of a file.



```
taj@222902066 ~
└─$ sort file.txt
line1
line2
line3
└─$ |
```

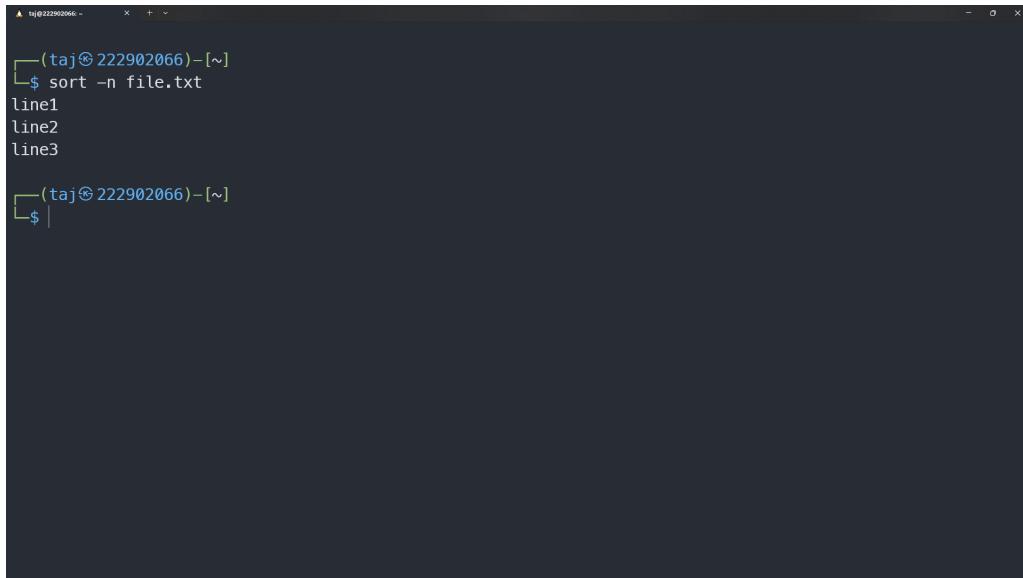
A screenshot of a terminal window titled '(taj@222902066) - [~]'. The command 'sort file.txt' is entered, resulting in the output 'line1', 'line2', and 'line3'. The cursor is positioned at the end of the line.

83. sort -r file.txt -> Sort in reverse order.



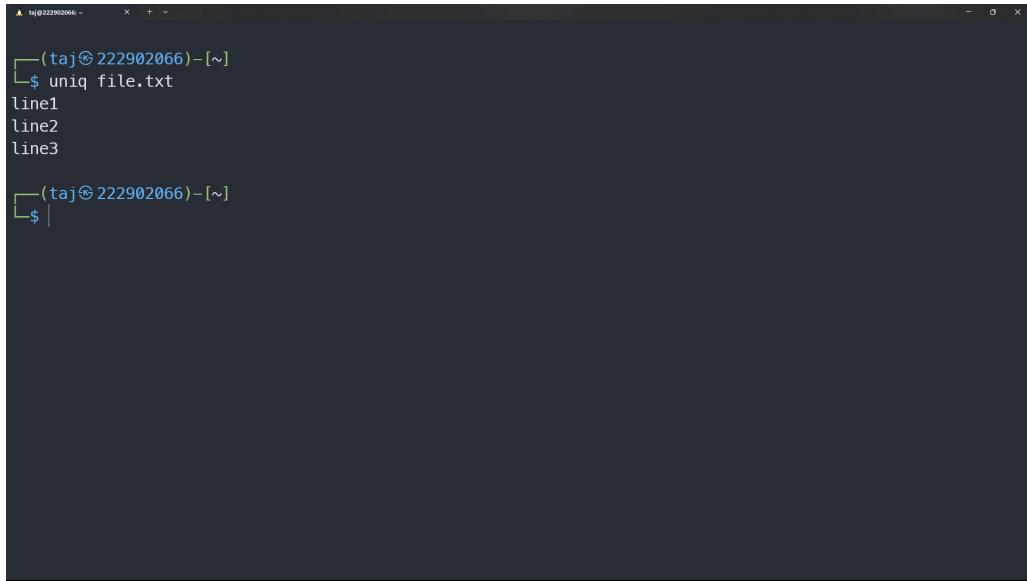
```
taj@222902066: ~
└─$ sort -r file.txt
line3
line2
line1
└─$ |
```

84. sort -n file.txt -> Sort numerically.



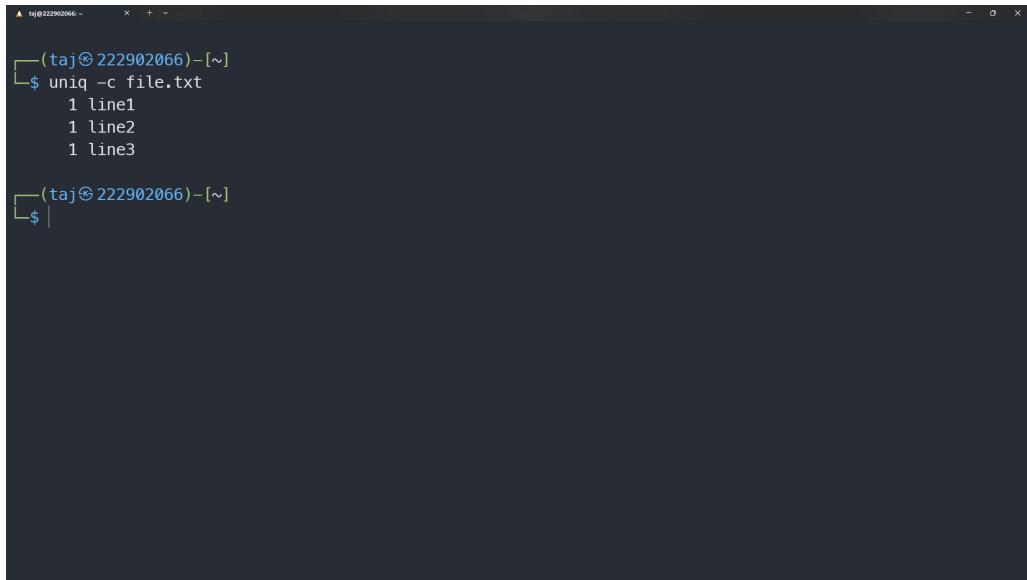
```
taj@222902066: ~
└─$ sort -n file.txt
line1
line2
line3
└─$ |
```

85. uniq file.txt -> Filter out duplicate lines.



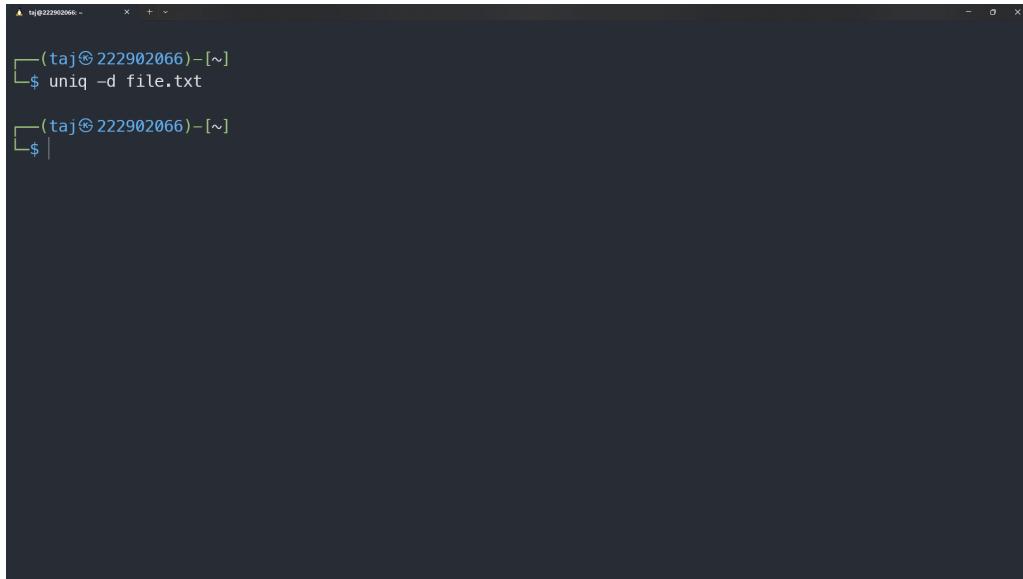
```
taj@222902066:~$ uniq file.txt
line1
line2
line3
taj@222902066:~$
```

86. uniq -c file.txt -> Count and display repeated lines.



```
taj@222902066:~$ uniq -c file.txt
 1 line1
 1 line2
 1 line3
taj@222902066:~$
```

87. uniq -d file.txt -> Display only duplicate lines.



```
taj@222902066:~$ uniq -d file.txt
```

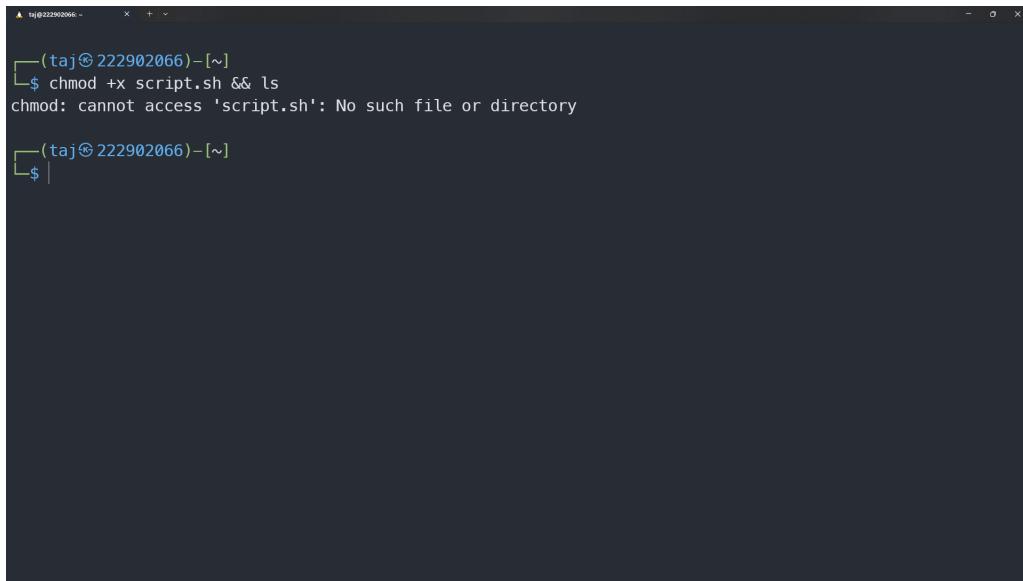
88. chmod 644 file.txt && ls -> Change file permissions and list.



```
taj@222902066:~$ chmod 644 file.txt && ls
Desktop   file.txt  Music      Templates      testfile2.txt  testfile6.txt  testfile9.txt
Documents  font.sh    Pictures   testdir       testfile3.txt  testfile7.txt  Videos
Downloads  lbf1      Public     testfile10.txt testfile5.txt  testfile8.txt

taj@222902066:~$
```

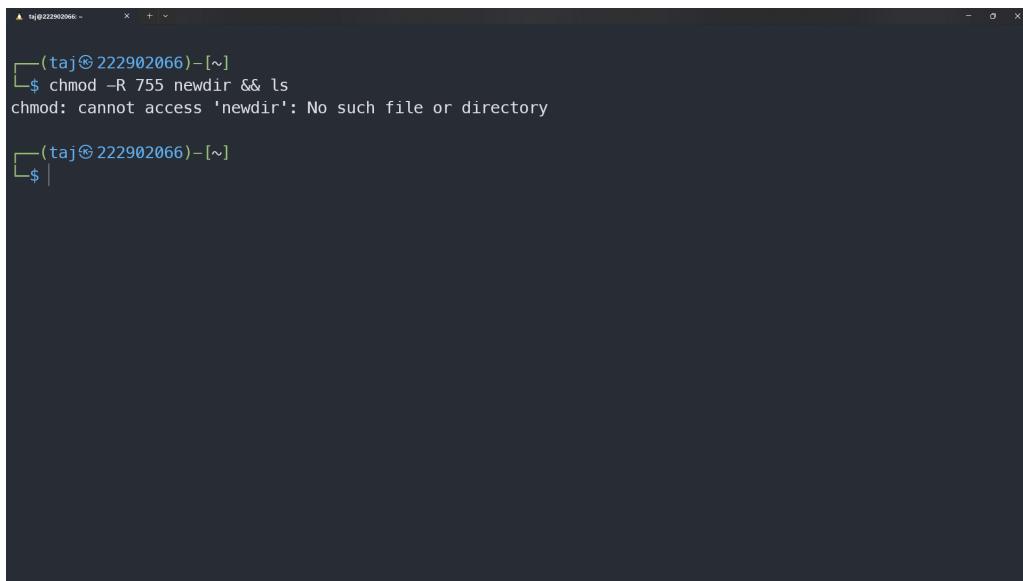
89. chmod +x script.sh && ls -> Make script executable and list.



```
taj@222902066: ~
└$ chmod +x script.sh && ls
chmod: cannot access 'script.sh': No such file or directory
└$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window has standard Linux-style window controls at the top. Inside, there is a single line of text: "\$ chmod +x script.sh && ls". Below this, an error message is displayed: "chmod: cannot access 'script.sh': No such file or directory". At the bottom of the terminal, there is a small vertical pipe symbol "|".

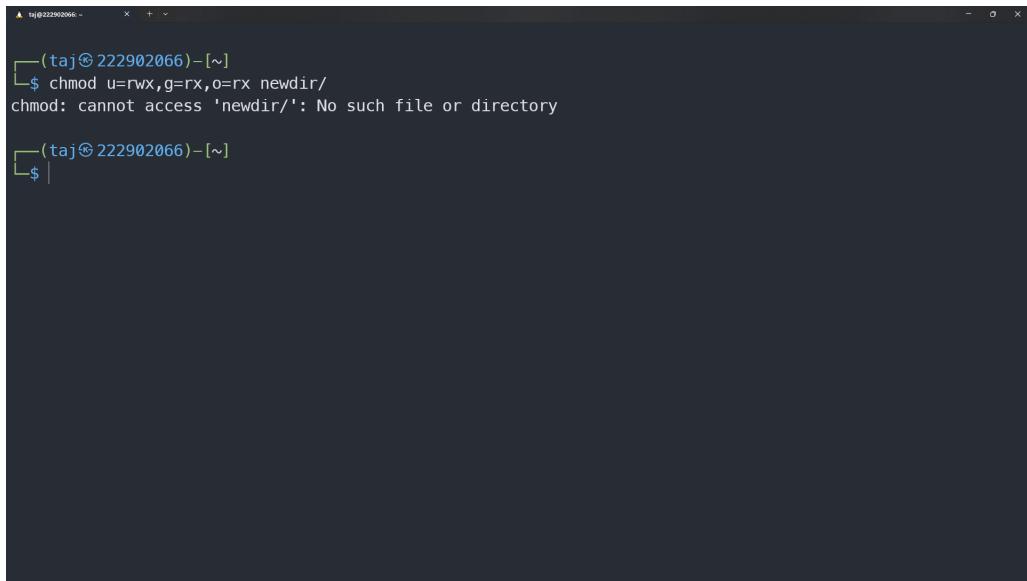
90. chmod -R 755 newdir && ls -> Change permissions recursively and list.



```
taj@222902066: ~
└$ chmod -R 755 newdir && ls
chmod: cannot access 'newdir': No such file or directory
└$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window has standard Linux-style window controls at the top. Inside, there is a single line of text: "\$ chmod -R 755 newdir && ls". Below this, an error message is displayed: "chmod: cannot access 'newdir': No such file or directory". At the bottom of the terminal, there is a small vertical pipe symbol "|".

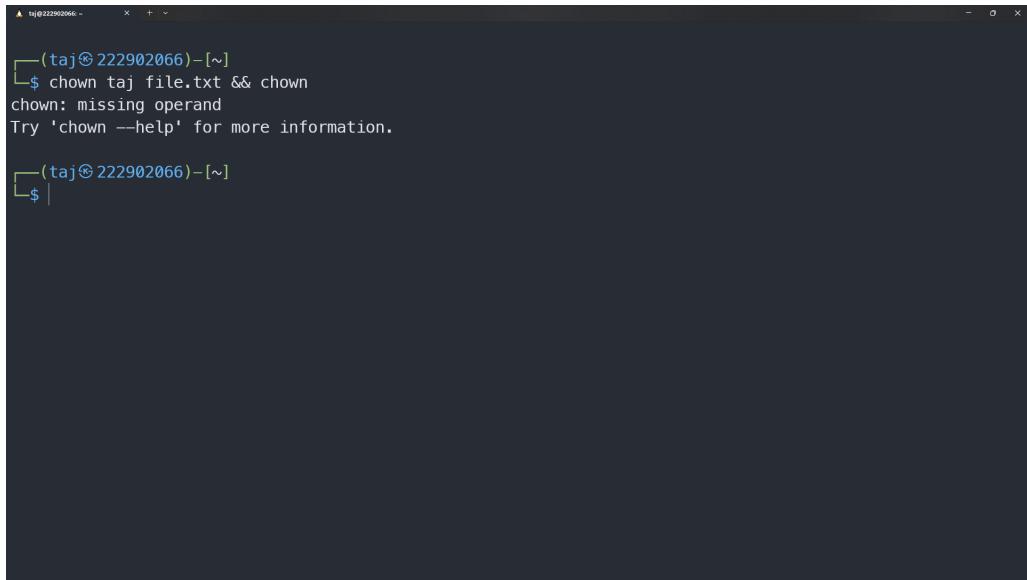
91. chmod u=rwx,g=rx,o=rx newdir/ -> Set directory permissions.



A terminal window with a dark background and light-colored text. The title bar says "taj@222902066 ~". The command entered is "chmod u=rwx,g=rx,o=rx newdir/". The output shows an error message: "chmod: cannot access 'newdir/': No such file or directory". The prompt "\$" is visible at the bottom left.

```
taj@222902066 ~
$ chmod u=rwx,g=rx,o=rx newdir/
chmod: cannot access 'newdir/': No such file or directory
$ |
```

92. chown taj file.txt && chown -> Change file ownership to user `taj`.



A terminal window with a dark background and light-colored text. The title bar says "taj@222902066 ~". The command entered is "chown taj file.txt && chown". The output shows an error message: "chown: missing operand" followed by "Try 'chown --help' for more information.". The prompt "\$" is visible at the bottom left.

```
taj@222902066 ~
$ chown taj file.txt && chown
chown: missing operand
Try 'chown --help' for more information.
$ |
```

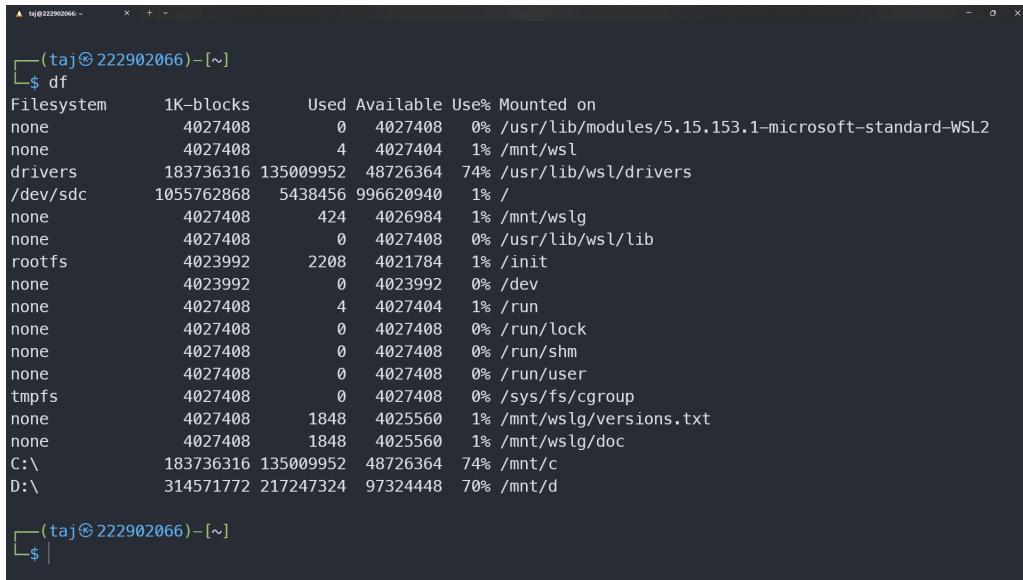
93. chown -R taj testdir/ && ls -> Change ownership recursively and list.



```
taj@222902066:~$ chown -R taj testdir/ && ls
Desktop    file.txt  Music    Templates      testfile2.txt  testfile6.txt  testfile9.txt
Documents  font.sh   Pictures  testdir       testfile3.txt  testfile7.txt  Videos
Downloads  lbfi      Public    testfile10.txt testfile5.txt  testfile8.txt

taj@222902066:~$ |
```

94. df -> Display disk space usage.



```
taj@222902066:~$ df
Filesystem 1K-blocks Used Available Use% Mounted on
none        4027408   0 4027408  0% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
none        4027408   4 4027404  1% /mnt/wsl
drivers     183736316 135009952 48726364 74% /usr/lib/wsl/drivers
/dev/sdc   1055762868 5438456 996620940 1% /
none        4027408   424 4026984  1% /mnt/wslg
none        4027408   0 4027408  0% /usr/lib/wsl/lib
rootfs     4023992   2208 4021784  1% /init
none        4023992   0 4023992  0% /dev
none        4027408   4 4027404  1% /run
none        4027408   0 4027408  0% /run/lock
none        4027408   0 4027408  0% /run/shm
none        4027408   0 4027408  0% /run/user
tmpfs      4027408   0 4027408  0% /sys/fs/cgroup
none        4027408   1848 4025560  1% /mnt/wslg/versions.txt
none        4027408   1848 4025560  1% /mnt/wslg/doc
C:\        183736316 135009952 48726364 74% /mnt/c
D:\        314571772 217247324 97324448 70% /mnt/d

taj@222902066:~$ |
```

95. df -h -> Display disk space in human-readable format.

```
taj@222902066:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
none            3.9G   0    3.9G  0% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
none            3.9G  4.0K  3.9G  1% /mnt/wsl
drivers          176G  129G  47G  74% /usr/lib/wsl/drivers
/dev/sdc        1007G  5.2G  951G  1% /
none            3.9G  424K  3.9G  1% /mnt/wslg
none            3.9G   0    3.9G  0% /usr/lib/wsl/lib
rootfs          3.9G  2.2M  3.9G  1% /init
none            3.9G   0    3.9G  0% /dev
none            3.9G  4.0K  3.9G  1% /run
none            3.9G   0    3.9G  0% /run/lock
none            3.9G   0    3.9G  0% /run/shm
none            3.9G   0    3.9G  0% /run/user
tmpfs           3.9G   0    3.9G  0% /sys/fs/cgroup
none            3.9G  1.9M  3.9G  1% /mnt/wslg/versions.txt
none            3.9G  1.9M  3.9G  1% /mnt/wslg/doc
C:\             176G  129G  47G  74% /mnt/c
D:\             300G  208G  93G  70% /mnt/d

taj@222902066:~$ |
```

96. df -i -> Show inode usage.

```
taj@222902066:~$ df -i
Filesystem     INodes  IUsed   IFree IUse% Mounted on
none          1006852     4  1006848  1% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
none          1006852     2  1006850  1% /mnt/wsl
drivers         999 -999001 1000000   - /usr/lib/wsl/drivers
/dev/sdc       67108864 183466 66925398  1% /
none          1006852    43  1006809  1% /mnt/wslg
none          1006852     4  1006848  1% /usr/lib/wsl/lib
rootfs         1005998    12  1005986  1% /init
none          1005998   165  1005833  1% /dev
none          1006852    13  1006839  1% /run
none          1006852     2  1006850  1% /run/lock
none          1006852     1  1006851  1% /run/shm
none          1006852     1  1006851  1% /run/user
tmpfs          1006852    16  1006836  1% /sys/fs/cgroup
none          1006852    86  1006766  1% /mnt/wslg/versions.txt
none          1006852    86  1006766  1% /mnt/wslg/doc
C:\             999 -999001 1000000   - /mnt/c
D:\             999 -999001 1000000   - /mnt/d

taj@222902066:~$ |
```

97. df -T -> Show file system types.

```
taj@222902066:~$ df -T
Filesystem  Type      1K-blocks    Used   Available Use% Mounted on
none        overlay     4027408       0    4027408  0% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
none        tmpfs       4027408       4    4027404  1% /mnt/wsl
drivers     9p        183736316 135082076 48654240 74% /usr/lib/wsl/drivers
/dev/sdc    ext4      1055762868 5438456 996620940 1% /
none        tmpfs       4027408       4    4026984  1% /mnt/wslg
none        overlay     4027408       0    4027408  0% /usr/lib/wsl/lib
rootfs      rootfs      4023992      2208  4021784  1% /init
none        devtmpfs    4023992       0    4023992  0% /dev
none        tmpfs       4027408       4    4027404  1% /run
none        tmpfs       4027408       0    4027408  0% /run/lock
none        tmpfs       4027408       0    4027408  0% /run/shm
none        tmpfs       4027408       0    4027408  0% /run/user
tmpfs       tmpfs       4027408       0    4027408  0% /sys/fs/cgroup
none        overlay     4027408      1848  4025560  1% /mnt/wslg/versions.txt
none        overlay     4027408      1848  4025560  1% /mnt/wslg/doc
C:\         9p        183736316 135082076 48654240 74% /mnt/c
D:\         9p        314571772 217247352 97324420 70% /mnt/d

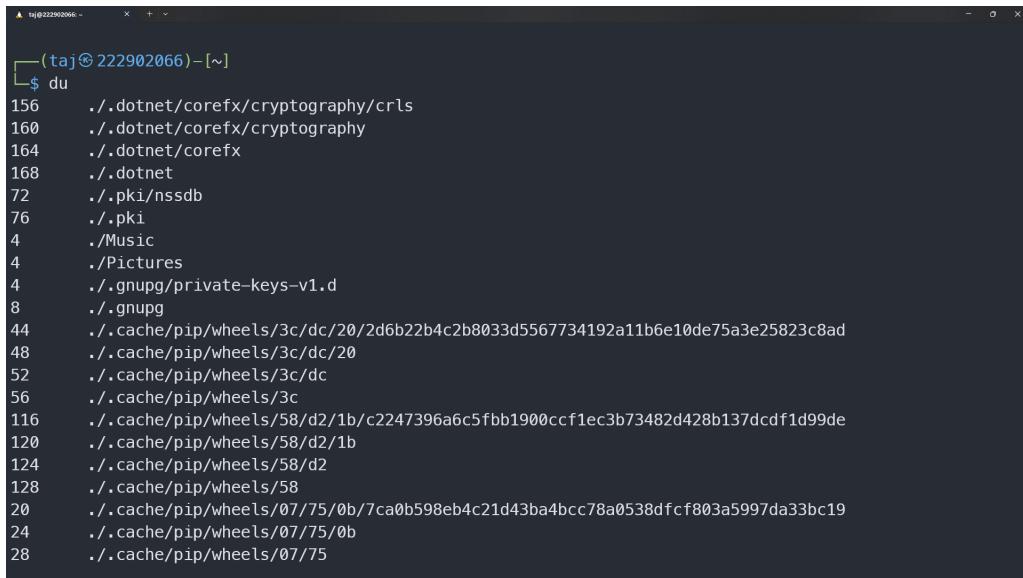
taj@222902066:~$
```

98. df -x tmpfs -> Exclude `tmpfs` file systems.

```
taj@222902066:~$ df -x tmpfs
Filesystem      1K-blocks    Used   Available Use% Mounted on
none           4027408       0    4027408  0% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
drivers        183736316 135010032 48726284 74% /usr/lib/wsl/drivers
/dev/sdc      1055762868 5438456 996620940 1% /
none           4027408       0    4027408  0% /usr/lib/wsl/lib
rootfs        4023992      2208  4021784  1% /init
none           4023992       0    4023992  0% /dev
none           4027408      1848  4025560  1% /mnt/wslg/versions.txt
none           4027408      1848  4025560  1% /mnt/wslg/doc
C:\            183736316 135010032 48726284 74% /mnt/c
D:\            314571772 217247392 97324380 70% /mnt/d

taj@222902066:~$ |
```

99. du -> Show disk usage.



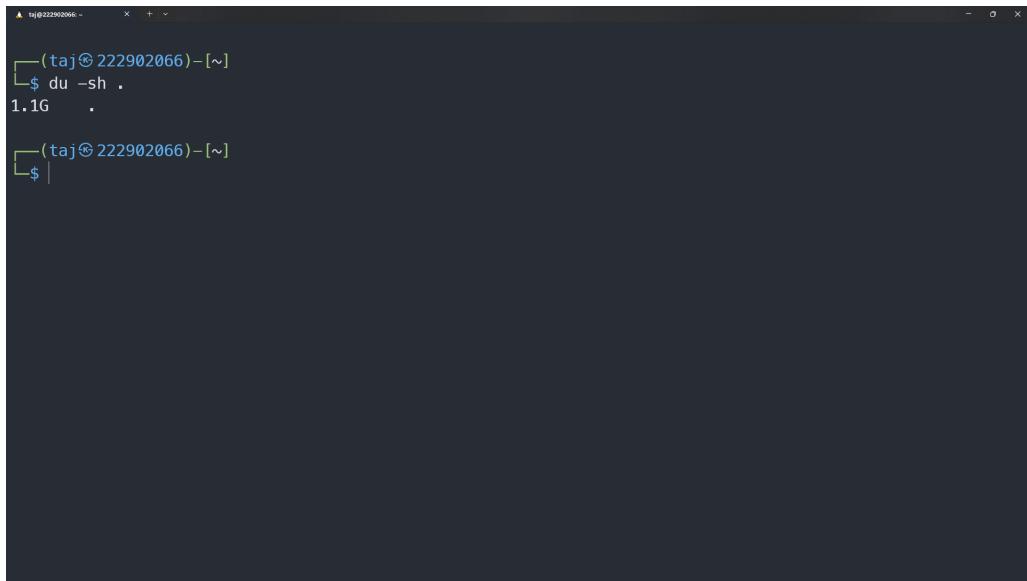
```
taj@222902066:~$ du
156  ./dotnet/corefx/cryptography/crls
160  ./dotnet/corefx/cryptography
164  ./dotnet/corefx
168  ./dotnet
72   ./pki/nssdb
76   ./pki
4    ./Music
4    ./Pictures
4    ./gnupg/private-keys-v1.d
8    ./gnupg
44   ./cache/pip/wheels/3c/dc/20/2d6b22b4c2b8033d5567734192a11b6e10de75a3e25823c8ad
48   ./cache/pip/wheels/3c/dc/20
52   ./cache/pip/wheels/3c/dc
56   ./cache/pip/wheels/3c
116  ./cache/pip/wheels/58/d2/1b/c2247396a6c5fbb1900ccf1ec3b73482d428b137dcdf1d99de
120  ./cache/pip/wheels/58/d2/1b
124  ./cache/pip/wheels/58/d2
128  ./cache/pip/wheels/58
20   ./cache/pip/wheels/07/75/0b/7ca0b598eb4c21d43ba4bcc78a0538dfcf803a5997da33bc19
24   ./cache/pip/wheels/07/75/0b
28   ./cache/pip/wheels/07/75
```

100. du -h -> Show disk usage in human-readable format.



```
taj@222902066:~$ du -h
156K  ./dotnet/corefx/cryptography/crls
160K  ./dotnet/corefx/cryptography
164K  ./dotnet/corefx
168K  ./dotnet
72K   ./pki/nssdb
76K   ./pki
4.0K  ./Music
4.0K  ./Pictures
4.0K  ./gnupg/private-keys-v1.d
8.0K  ./gnupg
44K   ./cache/pip/wheels/3c/dc/20/2d6b22b4c2b8033d5567734192a11b6e10de75a3e25823c8ad
48K   ./cache/pip/wheels/3c/dc/20
52K   ./cache/pip/wheels/3c/dc
56K   ./cache/pip/wheels/3c
116K  ./cache/pip/wheels/58/d2/1b/c2247396a6c5fbb1900ccf1ec3b73482d428b137dcdf1d99de
120K  ./cache/pip/wheels/58/d2/1b
124K  ./cache/pip/wheels/58/d2
128K  ./cache/pip/wheels/58
20K   ./cache/pip/wheels/07/75/0b/7ca0b598eb4c21d43ba4bcc78a0538dfcf803a5997da33bc19
24K   ./cache/pip/wheels/07/75/0b
28K   ./cache/pip/wheels/07/75
```

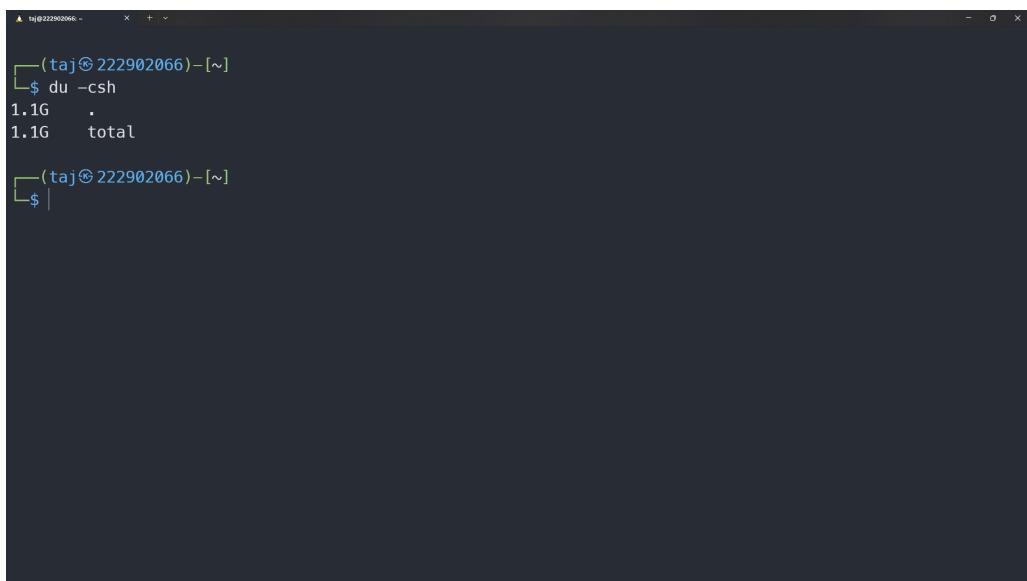
101. du -sh . -> Show total size of current directory.



```
taj@222902066:~$ du -sh .
1.1G .


taj@222902066:~$
```

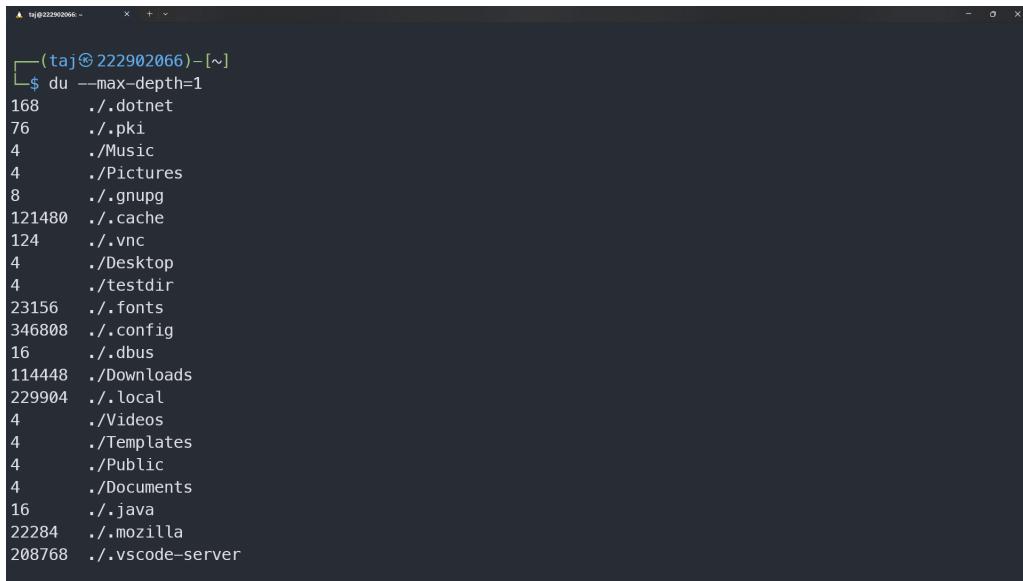
102. du -csh -> Show cumulative size of directories.



```
taj@222902066:~$ du -csh
1.1G  .
1.1G  total


taj@222902066:~$
```

103. du --max-depth=1 -> Limit depth of directories listed.



```
taj@222902066:~$ du --max-depth=1
168    ./dotnet
76     ./pki
4      ./Music
4      ./Pictures
8      ./gnupg
121480  ./cache
124    ./vnc
4      ./Desktop
4      ./testdir
23156   ./fonts
346808  ./config
16     ./dbus
114448  ./Downloads
229904  ./local
4      ./Videos
4      ./Templates
4      ./Public
4      ./Documents
16     ./java
22284   ./mozilla
208768  ./vscode-server
```

104. ps -> Show active processes.



```
taj@222902066:~$ ps
 PID TTY      TIME CMD
22864 pts/2    00:00:01 bash
23214 pts/2    00:00:00 ps

taj@222902066:~$ |
```

105. ps aux -> Show detailed list of all processes.

```
taj@222902066:~$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START  TIME COMMAND
root        1  0.0  0.0  2616 1760 hvc0      S+ Oct06  0:00 /init
root        6  0.0  0.0  2632 132 hvc0      S+ Oct06  0:00 plan9 --control-socket 5 --log-level 4
root       961  0.0  0.0  2616 124 ?          S Oct06  0:00 /init
taj      2986  0.0  0.0  8560 2028 ?          S Oct06  0:00 dbus-launch --autolaunch=29df11d3c3c546
taj      2988  0.0  0.0  8512 2632 ?          Ss Oct06  0:00 /usr/bin/dbus-daemon --syslog-only --fo
taj      2996  0.0  0.0 383548 7556 ?          Sl Oct06  0:00 /usr/libexec/at-spi-bus-launcher
taj      3005  0.0  0.0  8264 3920 ?          S Oct06  0:00 /usr/bin/dbus-daemon --config-file=/usr
taj      3007  0.0  0.2 479356 18832 ?         Sl Oct06  0:00 /usr/libexec/xdg-desktop-portal
taj      3013  0.0  0.1 608544 9340 ?         Sl Oct06  0:00 /usr/libexec/xdg-document-portal
taj      3018  0.0  0.0 311024 5320 ?         Sl Oct06  0:00 /usr/libexec/xdg-permission-store
root     3025  0.0  0.0   2500 1004 ?          Ss Oct06  0:00 fusermount3 -o rw,nosuid,nodev,fsname=p
taj      3029  0.0  0.3 410824 24904 ?         Sl Oct06  0:00 /usr/libexec/xdg-desktop-portal-gtk
taj      3036  0.0  0.0 312100 7524 ?         Sl Oct06  0:00 /usr/libexec/gvfsd
taj      3042  0.0  0.1 457344 9932 ?         Sl Oct06  0:00 /usr/libexec/gvfsd-fuse /mnt/wslg/runti
taj      3051  0.0  0.0 236808 7656 ?         Sl Oct06  0:00 /usr/libexec/at-spi2-registryd --use-gn
taj      3090  0.0  0.0 230360 5824 ?         Sl Oct06  0:00 /usr/libexec/dconf-service
root     22762 0.0  0.0  2616 124 ?          Ss 00:04  0:00 /init
root     22763 0.0  0.0  2616 124 ?          S  00:04  0:00 /init
taj      22764 0.0  0.0   7304 4208 pts/1      Ss+ 00:04  0:00 -bash
taj      22782 0.0  0.0   5456 1060 pts/1      T  00:04  0:00 crontab -e
```

106. ps -ef -> Show full-format listing of processes.

```
taj@222902066:~$ ps -ef
UID      PID  PPID  C STIME TTY      TIME CMD
root        1  0  0 Oct06 hvc0  00:00:00 /init
root        6  1  0 Oct06 hvc0  00:00:00 plan9 --control-socket 5 --log-level 4 --server-fd 6 --p
root       961  1  0 Oct06 ?  00:00:00 /init
taj      2986  961  0 Oct06 ?  00:00:00 dbus-launch --autolaunch=29df11d3c3c546209259abe21b1512a
taj      2988  961  0 Oct06 ?  00:00:00 /usr/bin/dbus-daemon --syslog-only --fork --print-pid 5
taj      2996  961  0 Oct06 ?  00:00:00 /usr/libexec/at-spi-bus-launcher
taj      3005  2996  0 Oct06 ?  00:00:00 /usr/bin/dbus-daemon --config-file=/usr/share/defaults/a
taj      3007  961  0 Oct06 ?  00:00:00 /usr/libexec/xdg-desktop-portal
taj      3013  961  0 Oct06 ?  00:00:00 /usr/libexec/xdg-document-portal
taj      3018  961  0 Oct06 ?  00:00:00 /usr/libexec/xdg-permission-store
root     3025  3013  0 Oct06 ?  00:00:00 fusermount3 -o rw,nosuid,nodev,fsname=portal,auto_unmoun
taj      3029  961  0 Oct06 ?  00:00:00 /usr/libexec/xdg-desktop-portal-gtk
taj      3036  961  0 Oct06 ?  00:00:00 /usr/libexec/gvfsd
taj      3042  961  0 Oct06 ?  00:00:00 /usr/libexec/gvfsd-fuse /mnt/wslg/runtime-dir/gvfs -f
taj      3051  961  0 Oct06 ?  00:00:00 /usr/libexec/at-spi2-registryd --use-gnome-session
taj      3090  961  0 Oct06 ?  00:00:00 /usr/libexec/dconf-service
root     22762  1  0 00:04 ?  00:00:00 /init
root     22763 22762  0 00:04 ?  00:00:00 /init
taj      22764 22763  0 00:04 pts/1  00:00:00 -bash
taj      22782 22764  0 00:04 pts/1  00:00:00 crontab -e
```

107. ps -u taj -> Show processes of user `taj` .

```
taj@222902066:~$ ps -u taj
PID TTY      TIME CMD
2986 ?        00:00:00 dbus-launch
2988 ?        00:00:00 dbus-daemon
2996 ?        00:00:00 at-spi-bus-laun
3005 ?        00:00:00 dbus-daemon
3007 ?        00:00:00 xdg-desktop-por
3013 ?        00:00:00 xdg-document-po
3018 ?        00:00:00 xdg-permission-
3029 ?        00:00:00 xdg-desktop-por
3036 ?        00:00:00 gvfsd
3042 ?        00:00:00 gvfsd-fuse
3051 ?        00:00:00 at-spi2-registr
3090 ?        00:00:00 dconf-service
22764 pts/1   00:00:00 bash
22782 pts/1   00:00:00 crontab
22783 pts/1   00:00:00 sh
22784 pts/1   00:00:00 sensible-editor
22787 pts/1   00:00:00 select-editor
22864 pts/2   00:00:01 bash
23220 pts/2   00:00:00 ps
```

108. ps -eo pid,comm,%cpu,%mem -> Display process ID, command, CPU, and memory usage.

```
taj@222902066:~$ ps -eo pid,comm,%cpu,%mem
PID COMMAND      %CPU %MEM
 1 init(kali-linux) 0.0  0.0
 6 init          0.0  0.0
 961 Relay(962)  0.0  0.0
2986 dbus-launch  0.0  0.0
2988 dbus-daemon 0.0  0.0
2996 at-spi-bus-laun 0.0  0.0
3005 dbus-daemon 0.0  0.0
3007 xdg-desktop-por 0.0  0.2
3013 xdg-document-po 0.0  0.1
3018 xdg-permission- 0.0  0.0
3025 fusermount3  0.0  0.0
3029 xdg-desktop-por 0.0  0.3
3036 gvfsd        0.0  0.0
3042 gvfsd-fuse   0.0  0.1
3051 at-spi2-registr 0.0  0.0
3090 dconf-service 0.0  0.0
22762 SessionLeader 0.0  0.0
22763 Relay(22764) 0.0  0.0
22764 bash        0.0  0.0
22782 crontab     0.0  0.0
```

109. ps -p 1234 -> Display details of process ID `1234`.



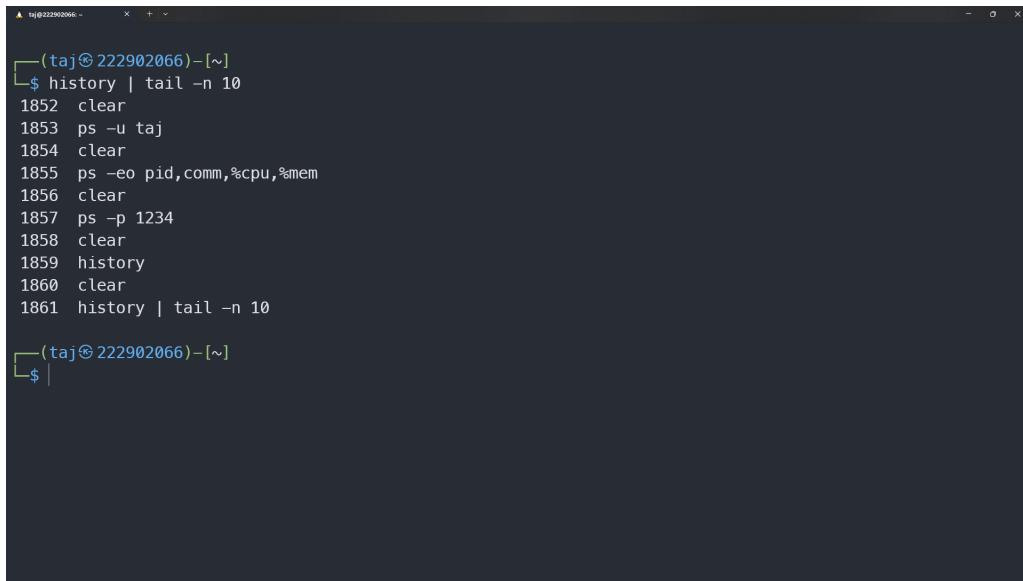
```
taj@222902066 ~
└─$ ps -p 1234
 PID TTY      TIME CMD
```

110. history -> Show command history.



```
taj@222902066 ~
└─$ history
 860 pip3
 861 terminal
 862 pip3 install -r requirements.txt
 863 kex
 864 clear
 865 ls
 866 cd Downloads/
 867 ls
 868 cd cse310/
 869 ls
 870 cd lab1/
 871 ls
 872 a.txt
 873 cat a.txt
 874 ls
 875 cd Downloads/
 876 ls
 877 cd cse310/
 878 mkdir lab4
 879 nano filter.txt
 880 cat filter.txt
```

111. history | tail -n 10 -> Show the last 10 commands.

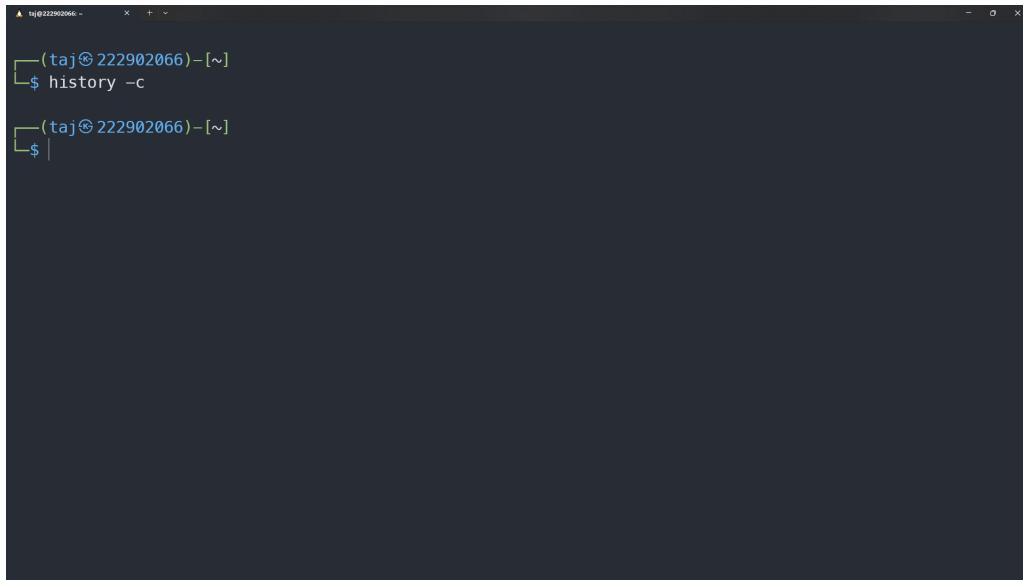


A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command history starting with "history | tail -n 10" and listing 14 previous commands. The last command listed is "history | tail -n 10". The prompt at the bottom is "\$ |".

```
taj@222902066 ~
└$ history | tail -n 10
1852 clear
1853 ps -u taj
1854 clear
1855 ps -eo pid,comm,%cpu,%mem
1856 clear
1857 ps -p 1234
1858 clear
1859 history
1860 clear
1861 history | tail -n 10

└$ |
```

112. history -c -> Clear command history.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a command history starting with "history -c" which clears the history. The prompt at the bottom is "\$ |".

```
taj@222902066 ~
└$ history -c

└$ |
```

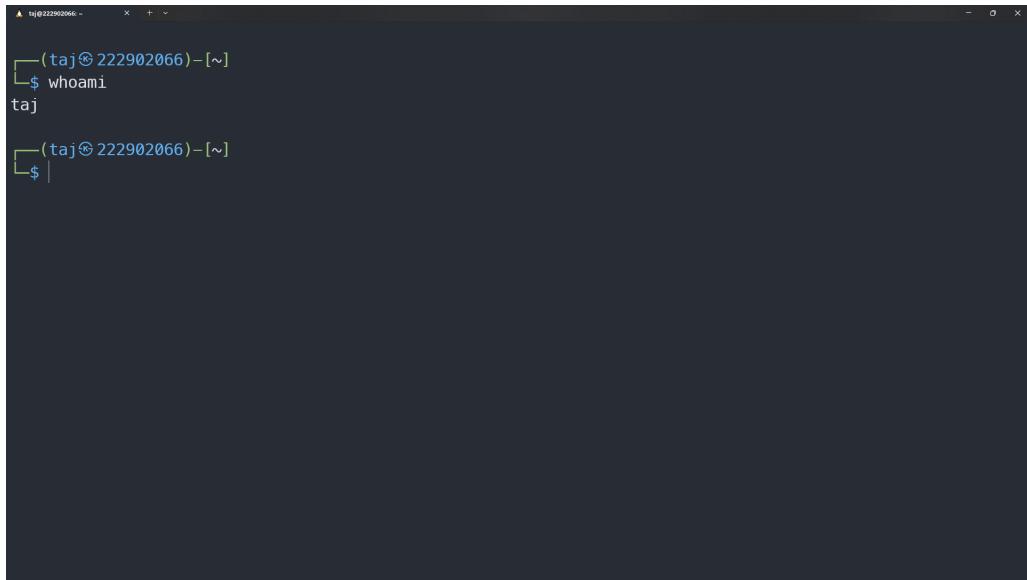
113. uptime -> Show system uptime.



```
taj@222902066 ~
└─$ uptime
 00:53:57 up 6:44, 0 user, load average: 0.00, 0.00, 0.00
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "uptime". The output of the command is displayed below the prompt. The terminal has a dark background with light-colored text and a standard window title bar.

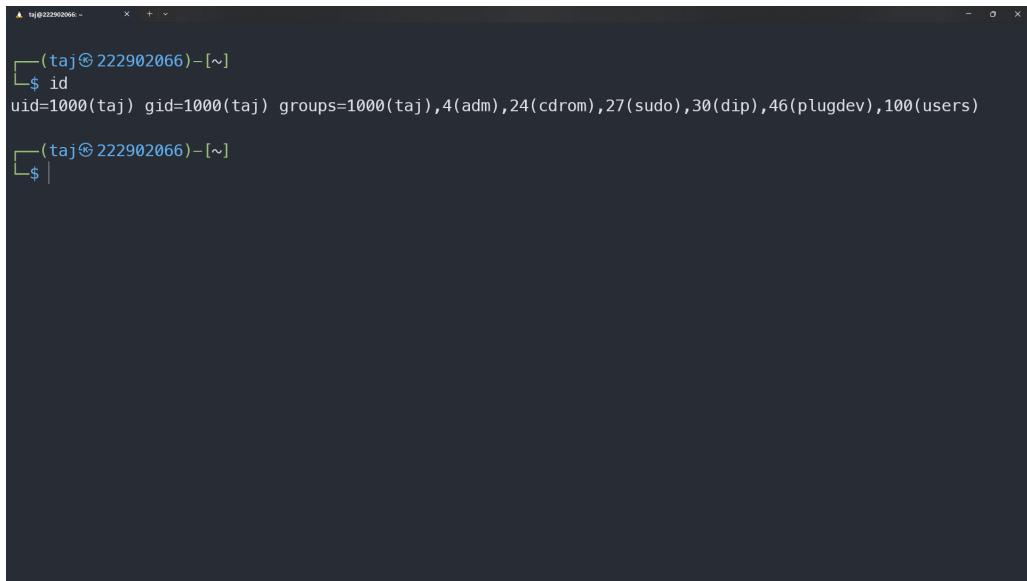
114. whoami -> Display the current user.



```
taj@222902066 ~
└─$ whoami
taj
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "whoami". The output of the command is displayed below the prompt. The terminal has a dark background with light-colored text and a standard window title bar.

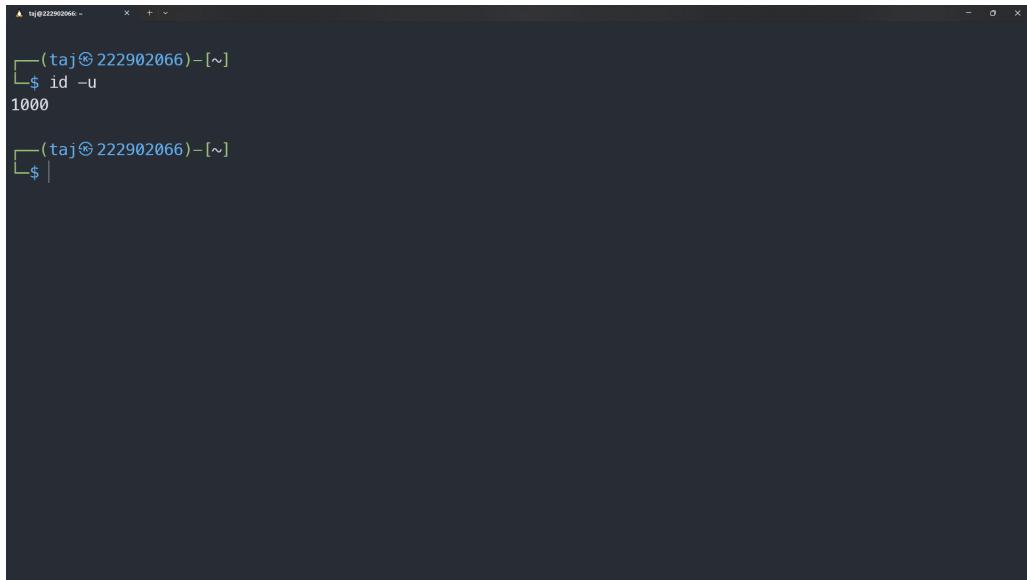
115. id -> Show user and group information.



A terminal window titled "taj@222902066 ~" with a dark background. The command "id" is entered and its output is displayed: "uid=1000(taj) gid=1000(taj) groups=1000(taj),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),100(users)". The prompt "\$" appears at the bottom left.

```
taj@222902066 ~
└$ id
uid=1000(taj) gid=1000(taj) groups=1000(taj),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),100(users)
└$ |
```

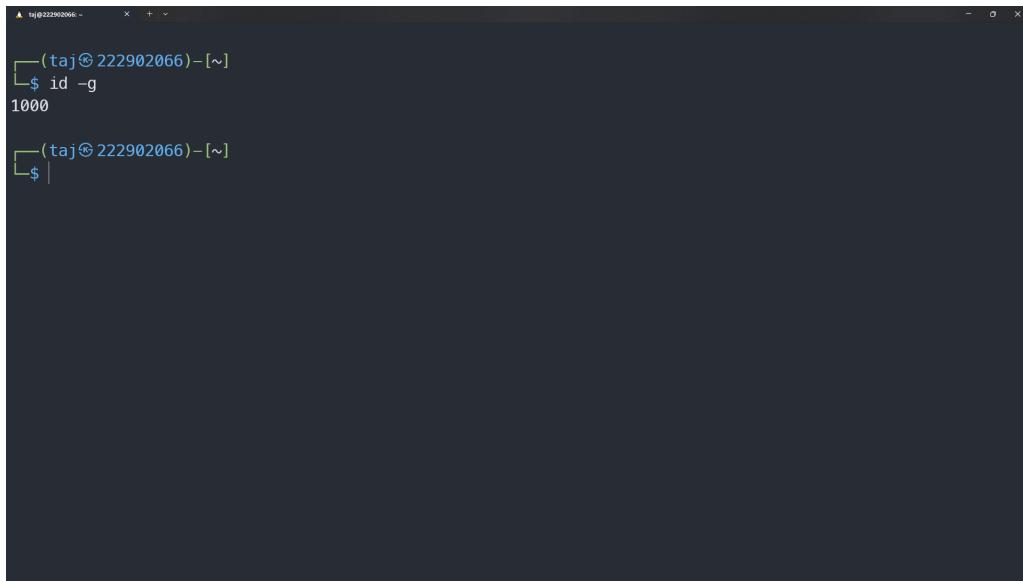
116. id -u -> Display the user ID.



A terminal window titled "taj@222902066 ~" with a dark background. The command "id -u" is entered and its output is displayed: "1000". The prompt "\$" appears at the bottom left.

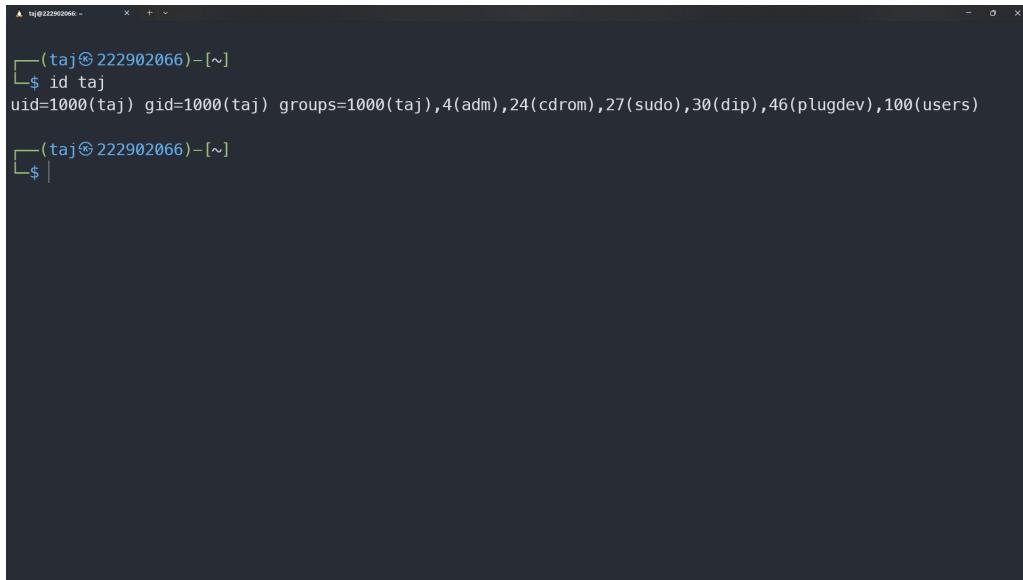
```
taj@222902066 ~
└$ id -u
1000
└$ |
```

117. id -g -> Display the group ID.



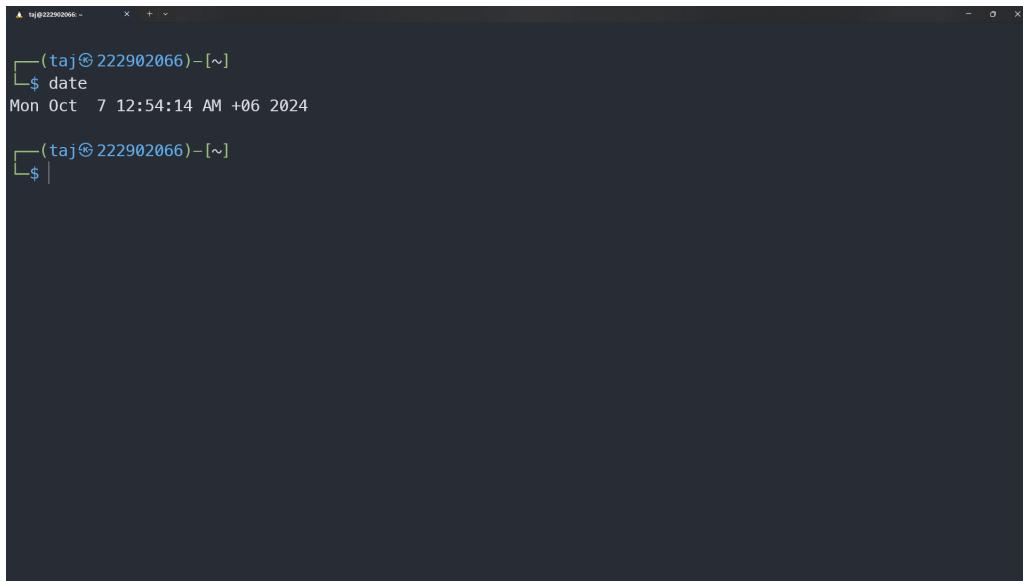
```
taj@222902066 ~
└$ id -g
1000
└$ |
```

118. id taj -> Display user information for `taj` .



```
taj@222902066 ~
└$ id taj
uid=1000(taj) gid=1000(taj) groups=1000(taj),4(adm),24(cdrom),27(sudo),30(dip),46(plugdev),100(users)
└$ |
```

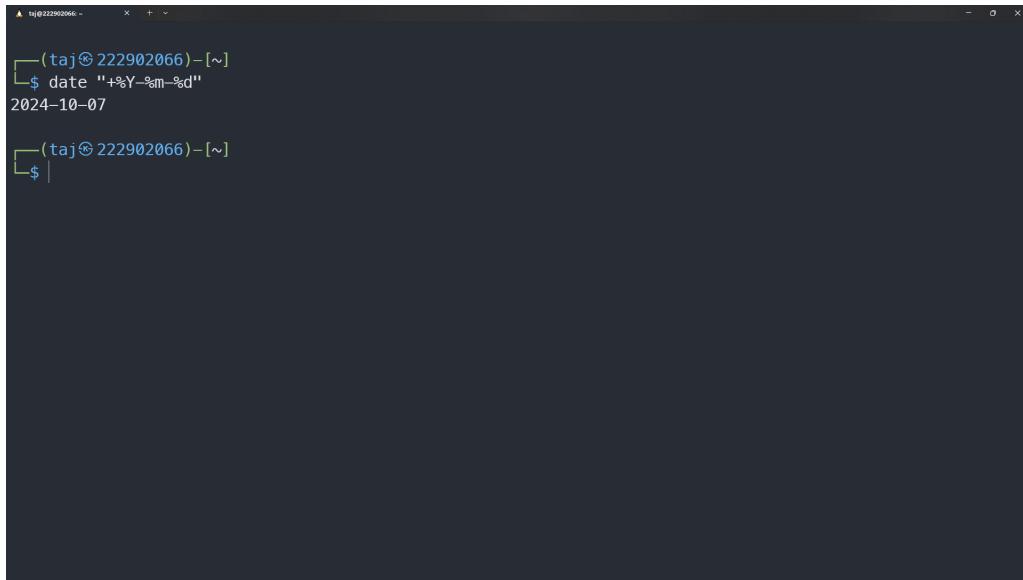
119. date -> Display current date and time.



```
taj@222902066 ~
└─$ date
Mon Oct  7 12:54:14 AM +06 2024
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "date". The output of the command is displayed below it, showing the current date and time: "Mon Oct 7 12:54:14 AM +06 2024". The terminal has a dark background with light-colored text and a standard window title bar.

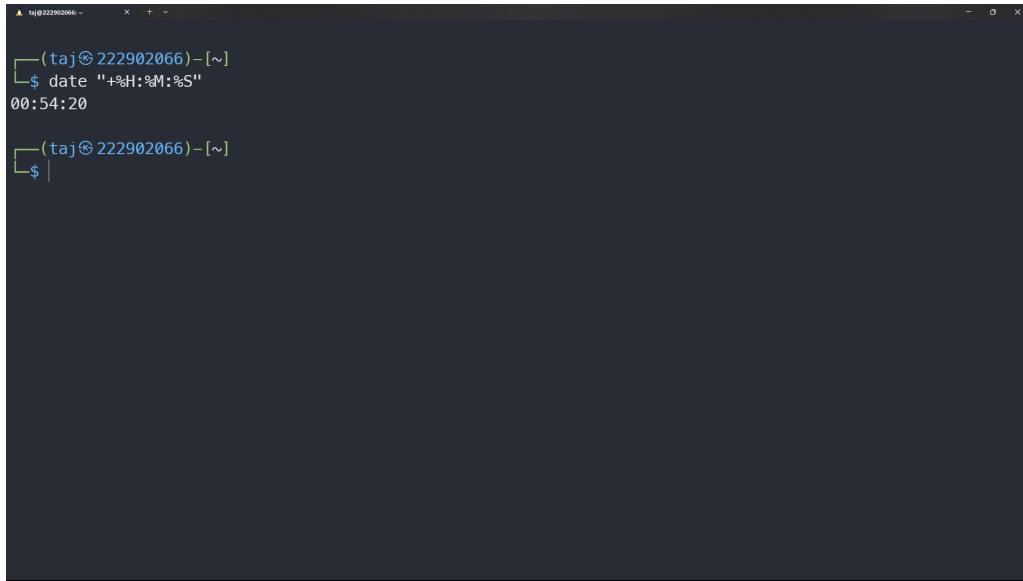
120. date "+%Y-%m-%d" -> Display current date in `YYYY-MM-DD` format.



```
taj@222902066 ~
└─$ date "+%Y-%m-%d"
2024-10-07
└─$ |
```

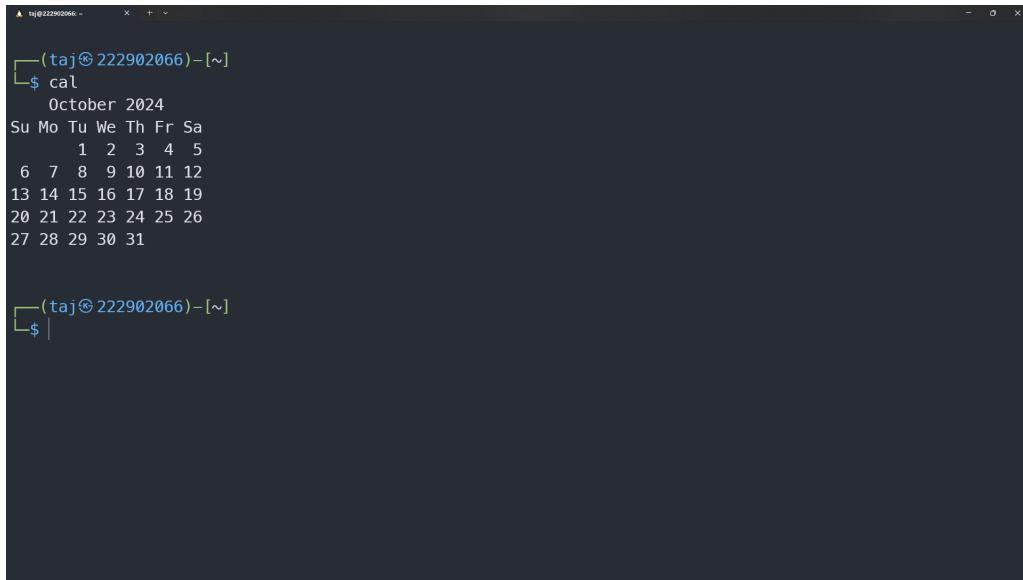
A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "date "+%Y-%m-%d"". The output of the command is displayed below it, showing the current date in the specified format: "2024-10-07". The terminal has a dark background with light-colored text and a standard window title bar.

121. date "+%H:%M:%S" -> Display current time in `HH:MM:SS` format.



```
taj@222902066 ~
└─$ date "+%H:%M:%S"
00:54:20
└─$ |
```

122. cal -> Show the calendar for the current month.



```
taj@222902066 ~
└─$ cal
      October 2024
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 31
└─$ |
```

123. cal -3 -> Show previous, current, and next month.

```
taj@222902066 ~
└─$ cal -3
September 2024          October 2024          November 2024
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           1  2
 8  9 10 11 12 13 14   6  7  8  9 10 11 12    3  4  5  6  7  8  9
15 16 17 18 19 20 21   13 14 15 16 17 18 19   10 11 12 13 14 15 16
22 23 24 25 26 27 28   20 21 22 23 24 25 26   17 18 19 20 21 22 23
29 30                  27 28 29 30 31          24 25 26 27 28 29 30

taj@222902066 ~
└─$ |
```

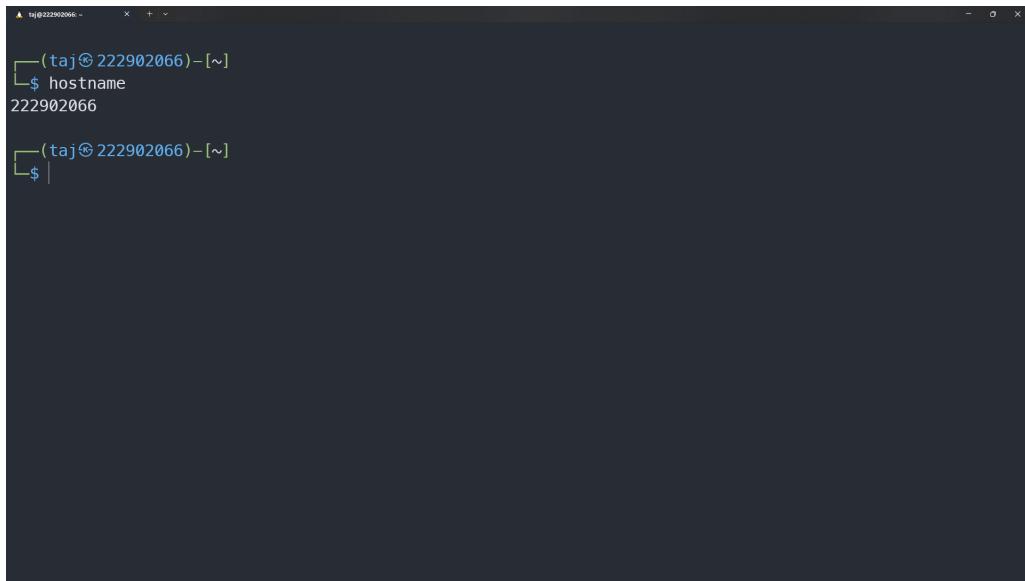
124. cal 2023 -> Show the calendar for the year 2023.

```
taj@222902066 ~
└─$ 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

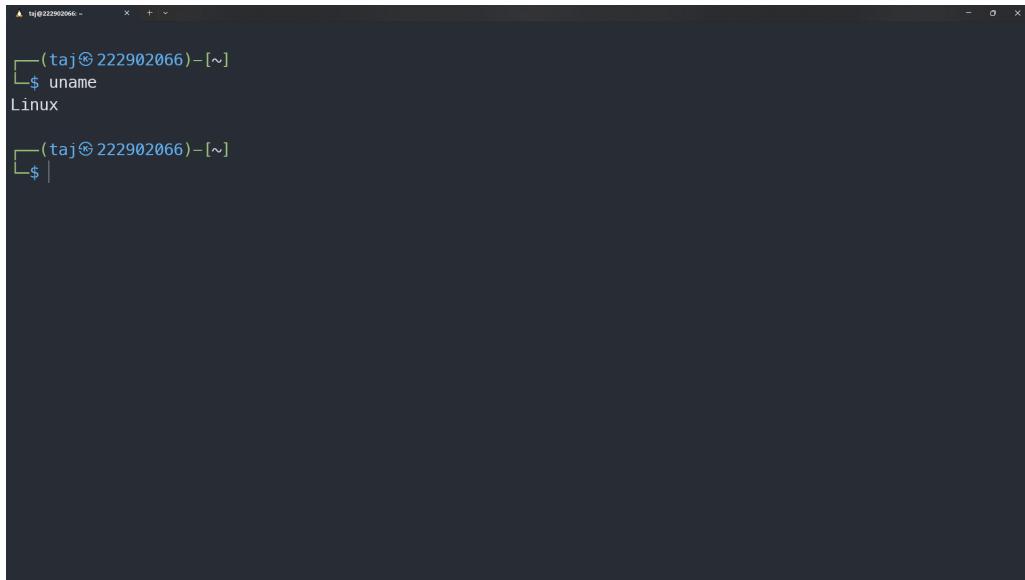
July            August          September
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
```

125. hostname -> Display the system's hostname.



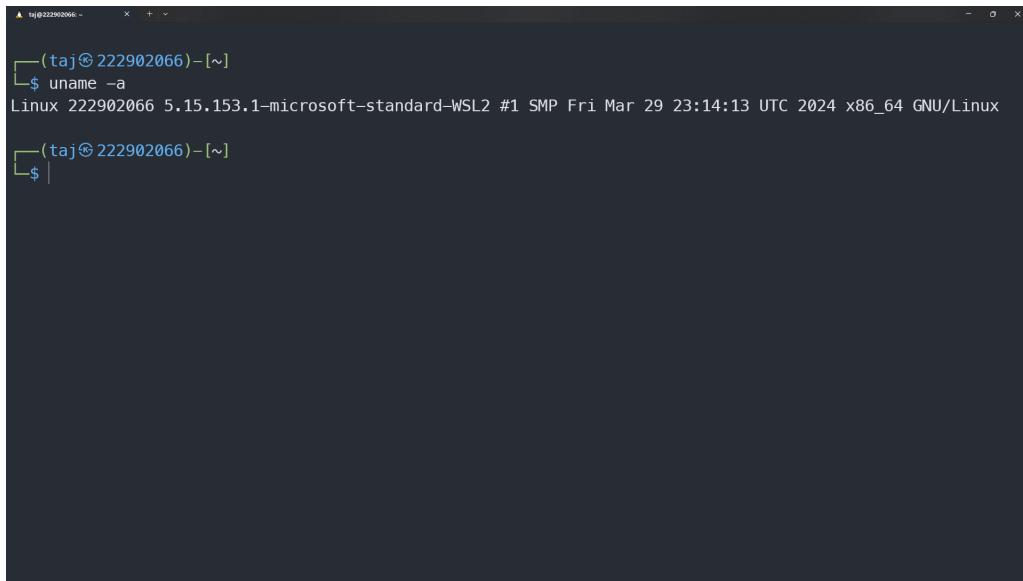
```
taj@222902066: ~
└$ hostname
222902066
└$ |
```

126. uname -> Show system information.



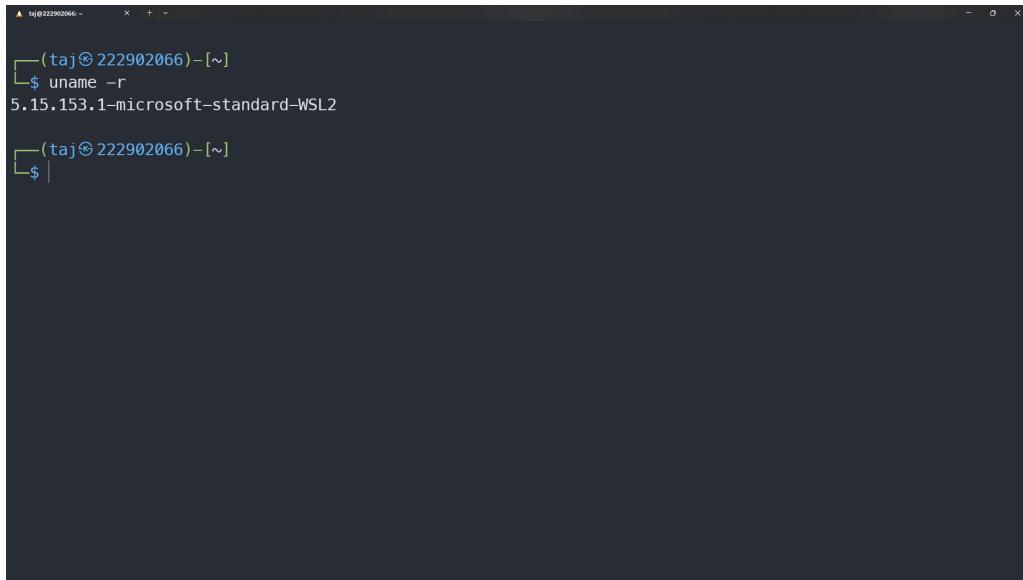
```
taj@222902066: ~
└$ uname
Linux
└$ |
```

127. uname -a -> Show detailed system information.



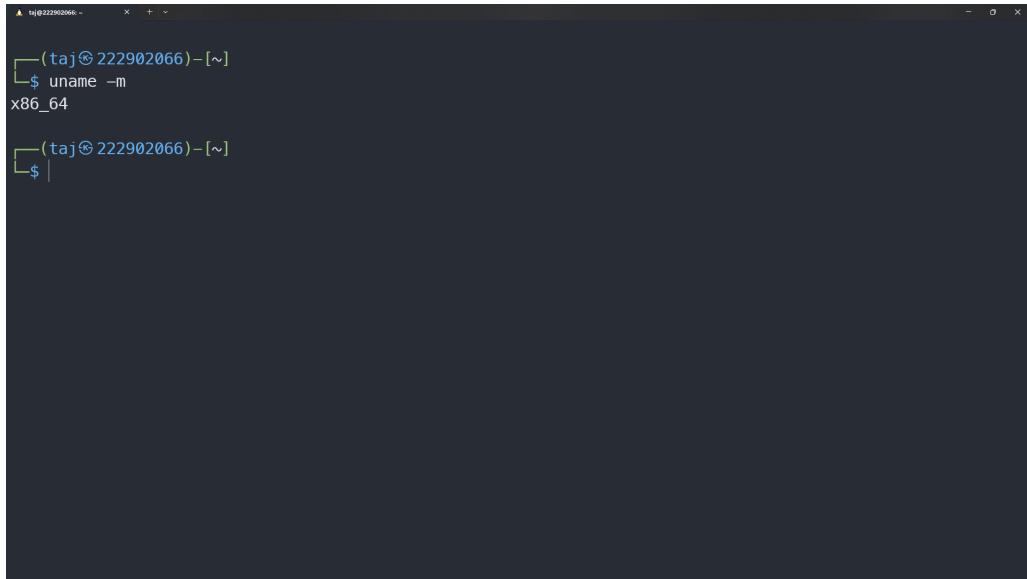
```
taj@222902066 ~
└─$ uname -a
Linux 222902066 5.15.153.1-microsoft-standard-WSL2 #1 SMP Fri Mar 29 23:14:13 UTC 2024 x86_64 GNU/Linux
└─$ |
```

128. uname -r -> Display the kernel release.



```
taj@222902066 ~
└─$ uname -r
5.15.153.1-microsoft-standard-WSL2
└─$ |
```

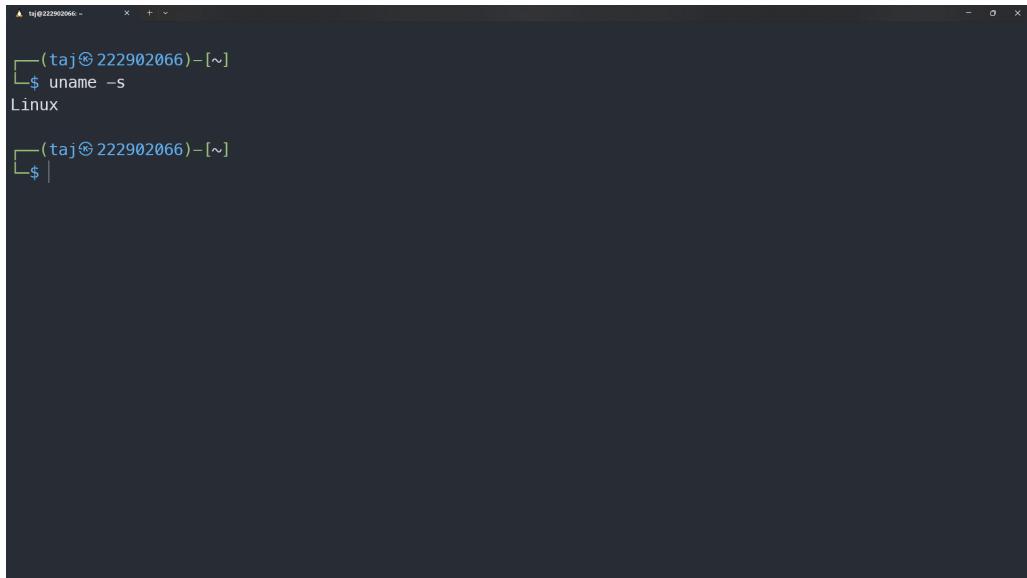
129. uname -m -> Show the machine hardware name.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "uname -m". The output of the command, "x86_64", is displayed below the prompt. The terminal has a dark background with light-colored text and a standard window title bar.

```
taj@222902066 ~
└$ uname -m
x86_64
└$ |
```

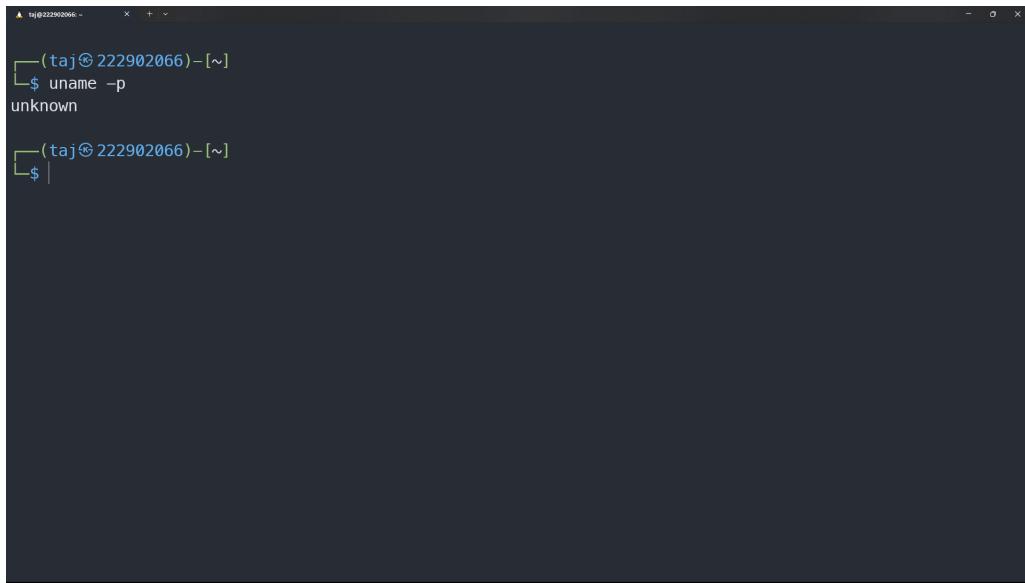
130. uname -s -> Show the kernel name.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows a single command being run: "uname -s". The output of the command, "Linux", is displayed below the prompt. The terminal has a dark background with light-colored text and a standard window title bar.

```
taj@222902066 ~
└$ uname -s
Linux
└$ |
```

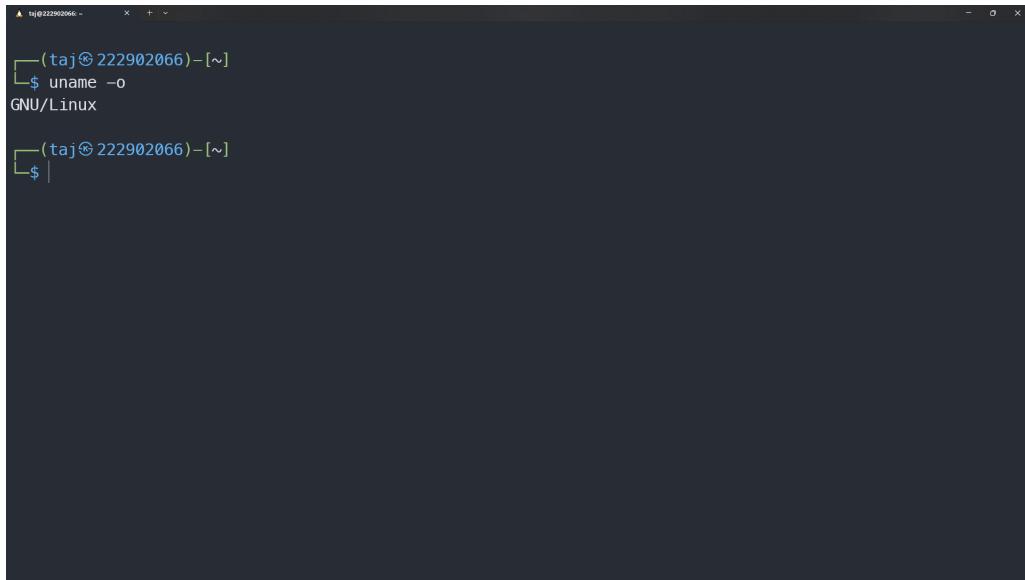
131. `uname -p` -> Display the processor type.



```
taj@222902066 ~
└─$ uname -p
unknown
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls at the top. Inside, the command "uname -p" is entered, followed by the output "unknown". A cursor is visible at the bottom of the terminal window.

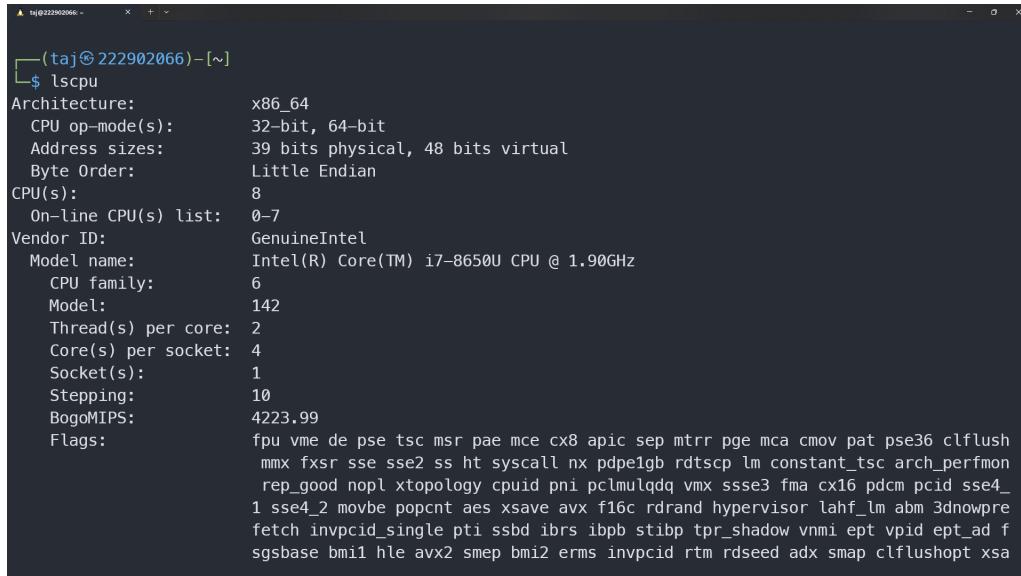
132. `uname -o` -> Show the operating system.



```
taj@222902066 ~
└─$ uname -o
GNU/Linux
└─$ |
```

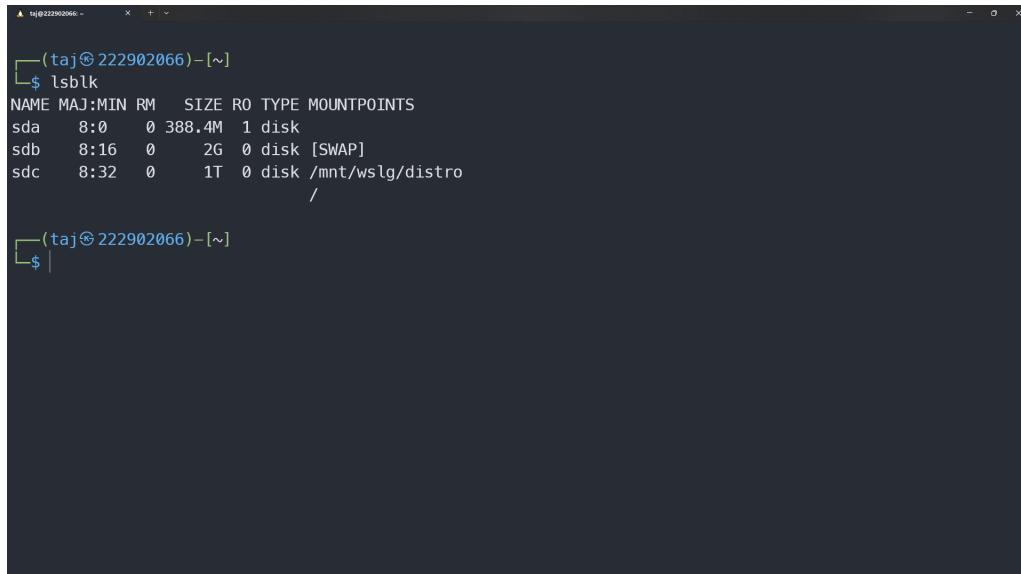
A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls at the top. Inside, the command "uname -o" is entered, followed by the output "GNU/Linux". A cursor is visible at the bottom of the terminal window.

133. lscpu -> Display CPU architecture information.



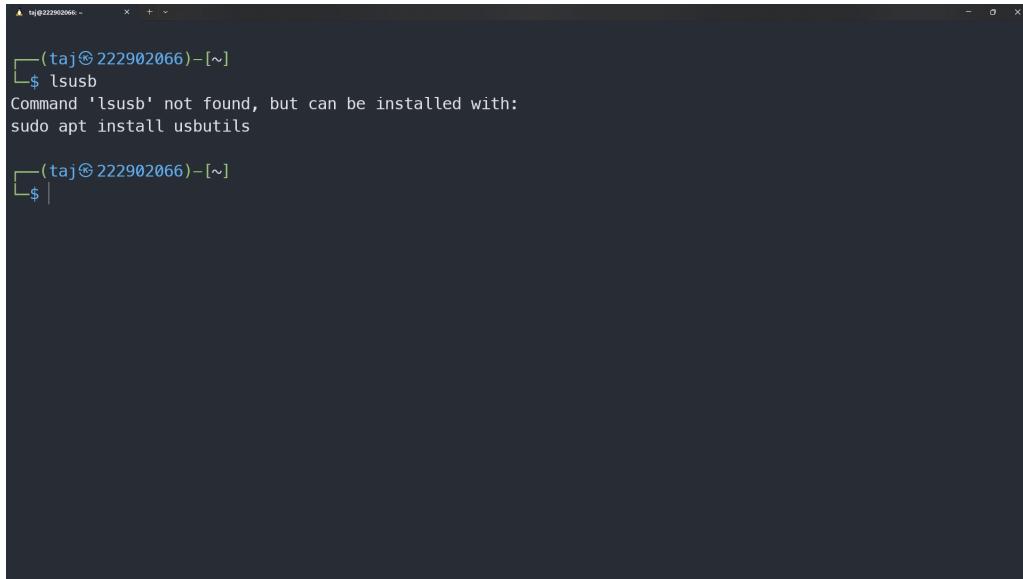
```
taj@222902066:~$ lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         39 bits physical, 48 bits virtual
Byte Order:            Little Endian
CPU(s):                8
On-line CPU(s) list:  0-7
Vendor ID:             GenuineIntel
Model name:            Intel(R) Core(TM) i7-8650U CPU @ 1.90GHz
CPU family:            6
Model:                 142
Thread(s) per core:   2
Core(s) per socket:   4
Socket(s):            1
Stepping:              10
BogoMIPS:              4223.99
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush
                      mmx fxsr sse sse2 ss ht syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon
                      rep_good nopl xtopology cpuid pnpi pclmulqdq vmx ssse3 fma cx16 pdcm pcid sse4_
                      1 sse4_2 movbe popcnt aes xsave avx f16c rdrand hypervisor lahf_lm abm 3dnowpre
                      fetch invpcid_single ptib ssbd ibrs ibpb stibp tpr_shadow vnmi ept vpid ept_ad f
                      sgbase bmi1 hle avx2 smep bmi2 erms invpcid rtm rdseed adx smap clflushopt xsa
```

134. lsblk -> List block devices.



```
taj@222902066:~$ lsblk
NAME MAJ:MIN RM    SIZE RO TYPE MOUNTPOINTS
sda    8:0      0 388.4M  1 disk
sdb    8:16     0    2G  0 disk [SWAP]
sdc    8:32     0    1T  0 disk /mnt/wslg/distro
                           /
taj@222902066:~$ |
```

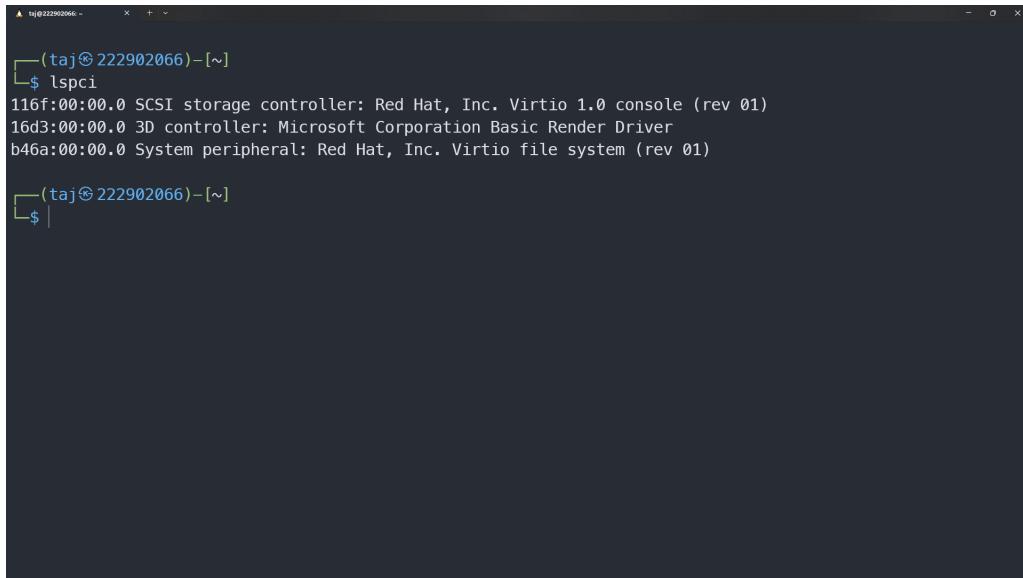
135. lsusb -> List USB devices.



```
taj@222902066: ~
└─$ lsusb
Command 'lsusb' not found, but can be installed with:
sudo apt install usbutils

└─$ |
```

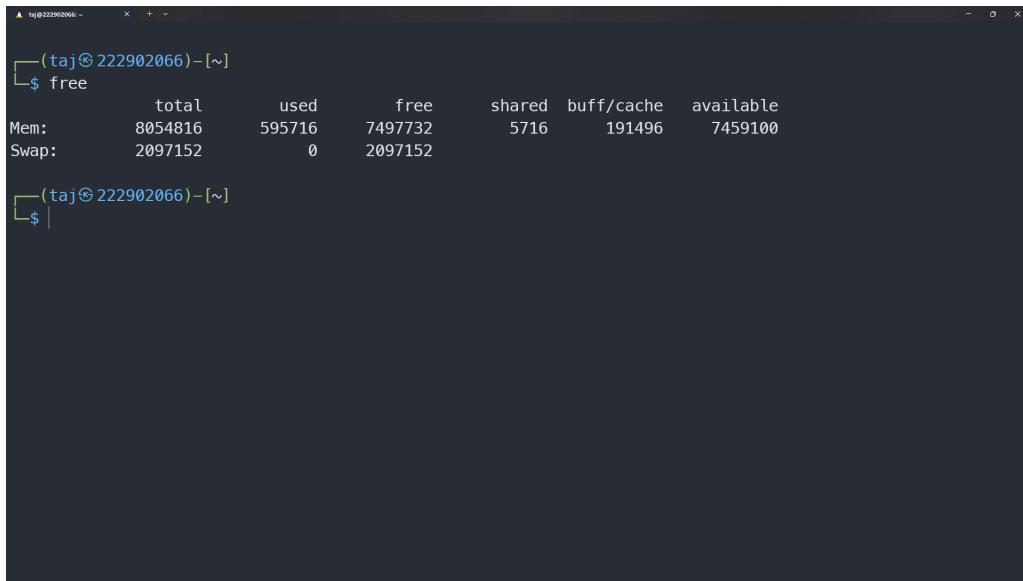
136. lspci -> List PCI devices.



```
taj@222902066: ~
└─$ lspci
116f:00:00.0 SCSI storage controller: Red Hat, Inc. Virtio 1.0 console (rev 01)
16d3:00:00.0 3D controller: Microsoft Corporation Basic Render Driver
b46a:00:00.0 System peripheral: Red Hat, Inc. Virtio file system (rev 01)

└─$ |
```

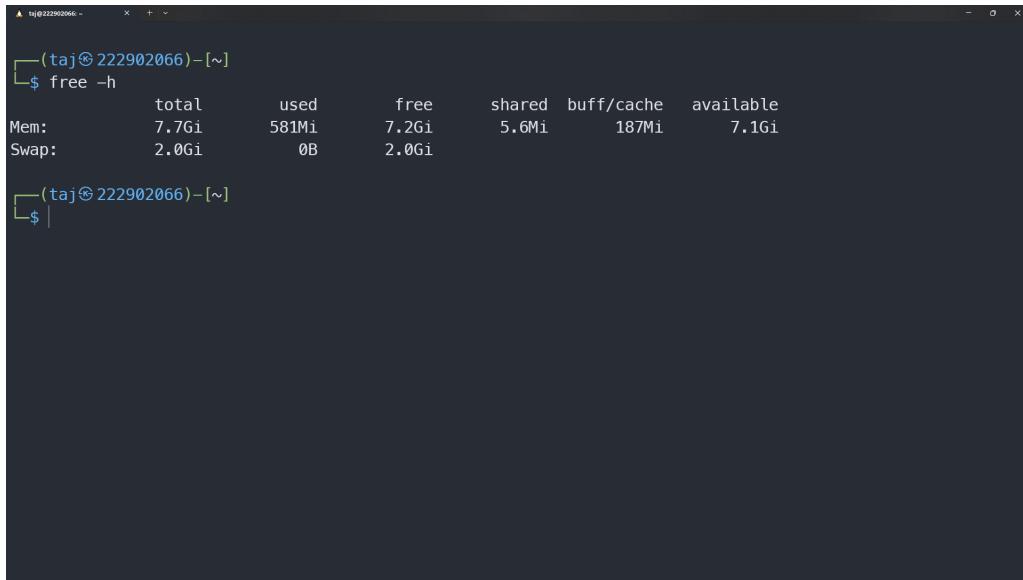
137. free -> Display memory usage.



```
taj@222902066 ~
└─$ free
      total        used         free       shared  buff/cache   available
Mem:    8054816     595716    7497732      5716     191496    7459100
Swap:  2097152          0    2097152

└─$ |
```

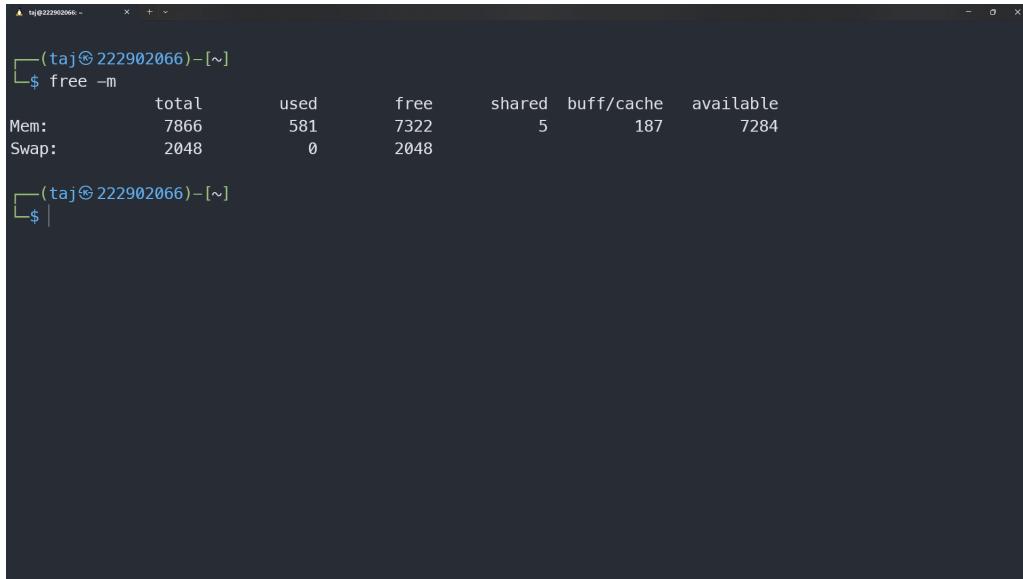
138. free -h -> Display memory usage in human-readable format.



```
taj@222902066 ~
└─$ free -h
      total        used         free       shared  buff/cache   available
Mem:    7.7Gi      581Mi     7.2Gi      5.6Mi     187Mi     7.1Gi
Swap:  2.0Gi          0B     2.0Gi

└─$ |
```

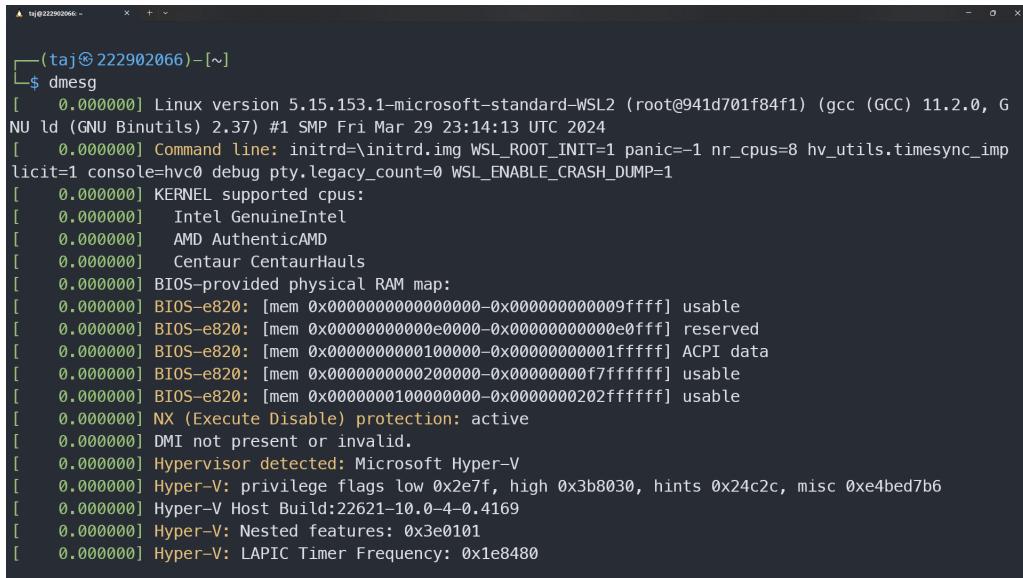
139. free -m -> Display memory usage in megabytes.



```
taj@222902066:~$ free -m
              total        used        free      shared  buff/cache   available
Mem:       7866         581       7322          5        187       7284
Swap:      2048          0       2048

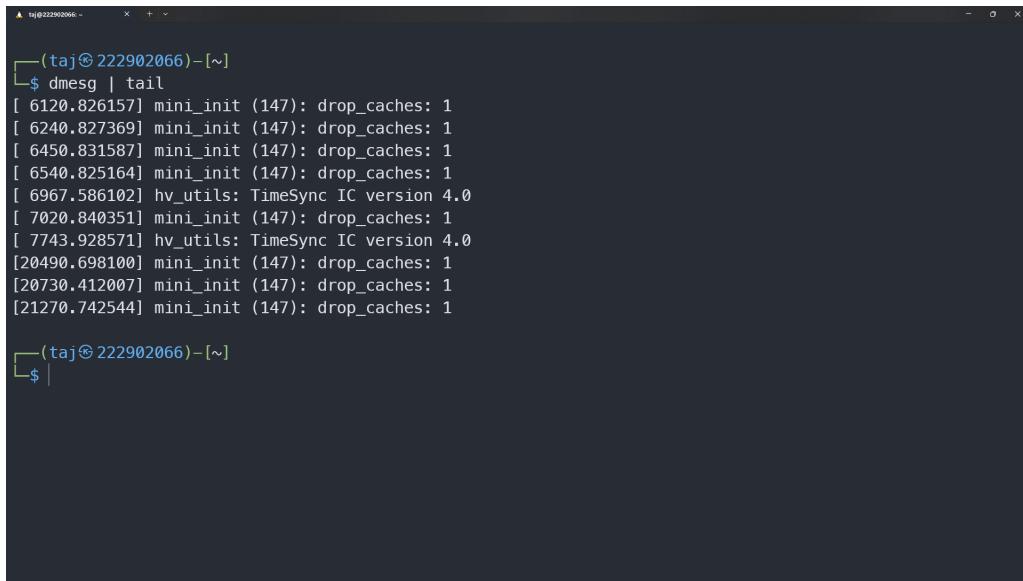
taj@222902066:~$ |
```

140. dmesg -> Show kernel ring buffer messages.



```
taj@222902066:~$ dmesg
[    0.00000] Linux version 5.15.153.1-microsoft-standard-WSL2 (root@941d701f84f1) (gcc (GCC) 11.2.0, G
NU ld (GNU Binutils) 2.37) #1 SMP Fri Mar 29 23:14:13 UTC 2024
[    0.00000] Command line: initrd=/initrd.img WSL_ROOT_INIT=1 panic=-1 nr_cpus=8 hv_utils.timesync_im
plicit=1 console=hvc0 debug pty.legacy_count=0 WSL_ENABLE_CRASH_DUMP=1
[    0.00000] KERNEL supported cpus:
[    0.00000]   Intel GenuineIntel
[    0.00000]   AMD AuthenticAMD
[    0.00000]   Centaur CentaurHauls
[    0.00000] BIOS-provided physical RAM map:
[    0.00000] BIOS-e820: [mem 0x0000000000000000-0x000000000009ffff] usable
[    0.00000] BIOS-e820: [mem 0x0000000000e000-0x0000000000e0fff] reserved
[    0.00000] BIOS-e820: [mem 0x0000000000100000-0x00000000001fffff] ACPI data
[    0.00000] BIOS-e820: [mem 0x0000000000200000-0x000000000f7fffff] usable
[    0.00000] BIOS-e820: [mem 0x0000000010000000-0x00000000202fffff] usable
[    0.00000] NX (Execute Disable) protection: active
[    0.00000] DMI not present or invalid.
[    0.00000] Hypervisor detected: Microsoft Hyper-V
[    0.00000] Hyper-V: privilege flags low 0x2e7f, high 0x3b8030, hints 0x24c2c, misc 0xe4bed7b6
[    0.00000] Hyper-V Host Build:22621-10.0-4-0.4169
[    0.00000] Hyper-V: Nested features: 0x3e0101
[    0.00000] Hyper-V: LAPIC Timer Frequency: 0x1e8480
```

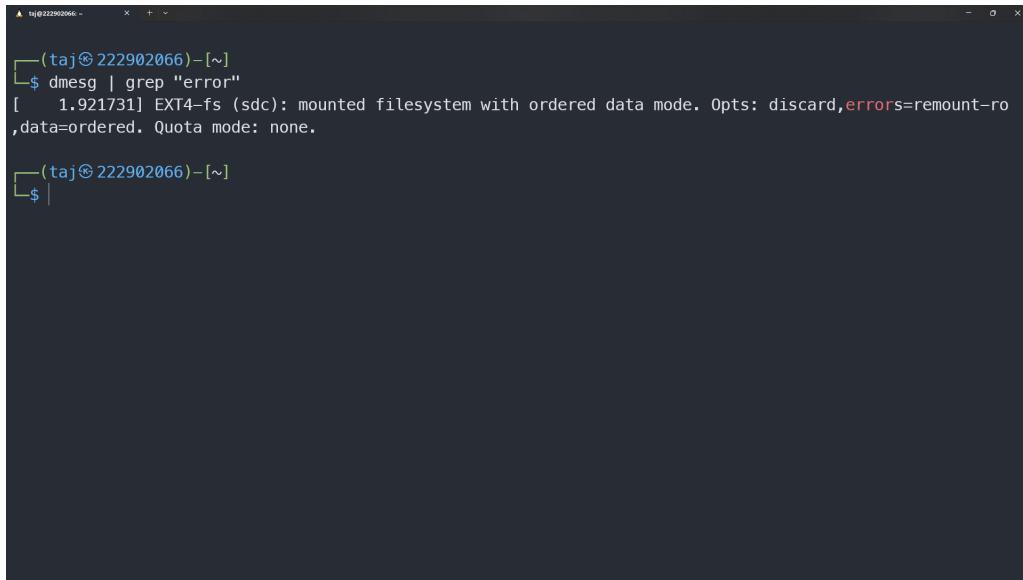
141. dmesg | tail -> Show the last few kernel messages.



A terminal window titled '(taj@222902066) - [~]' showing the output of the command 'dmesg | tail'. The window displays several kernel log entries, primarily from the 'mini_init' function at various timestamps, indicating cache drop operations. The text is white on a dark background.

```
taj@222902066 ~
$ dmesg | tail
[ 6120.826157] mini_init (147): drop_caches: 1
[ 6240.827369] mini_init (147): drop_caches: 1
[ 6450.831587] mini_init (147): drop_caches: 1
[ 6540.825164] mini_init (147): drop_caches: 1
[ 6967.586102] hv_utils: TimeSync IC version 4.0
[ 7020.840351] mini_init (147): drop_caches: 1
[ 7743.928571] hv_utils: TimeSync IC version 4.0
[20490.698100] mini_init (147): drop_caches: 1
[20730.412007] mini_init (147): drop_caches: 1
[21270.742544] mini_init (147): drop_caches: 1
```

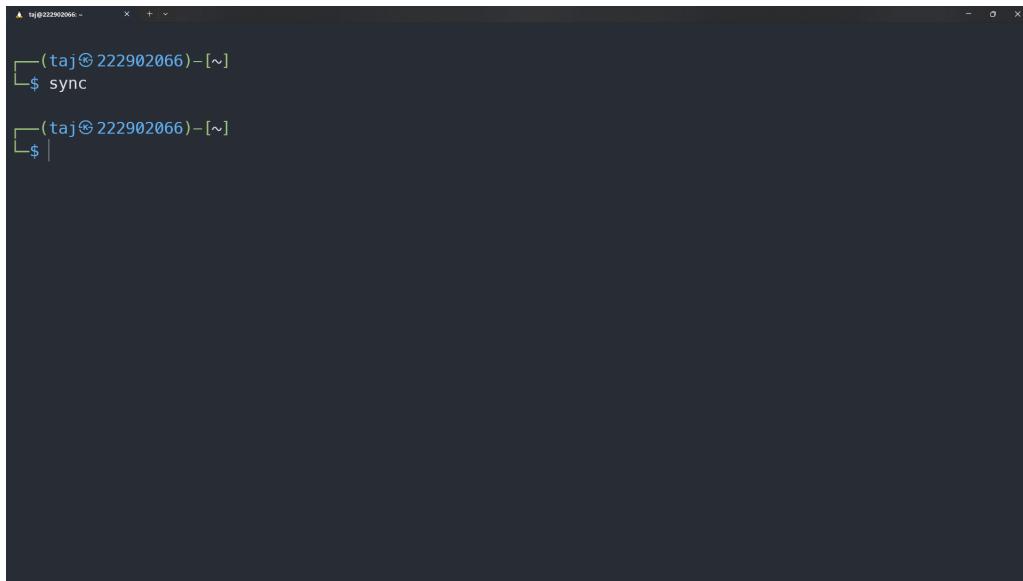
142. dmesg | grep "error" -> Search for error messages in kernel logs.



A terminal window titled '(taj@222902066) - [~]' showing the output of the command 'dmesg | grep "error"'. It displays a single error message related to an EXT4 file system being mounted with specific options. The text is white on a dark background.

```
taj@222902066 ~
$ dmesg | grep "error"
[ 1.921731] EXT4-fs (sdc): mounted filesystem with ordered data mode. Opts: discard,errors=remount-ro
,data=ordered. Quota mode: none.
```

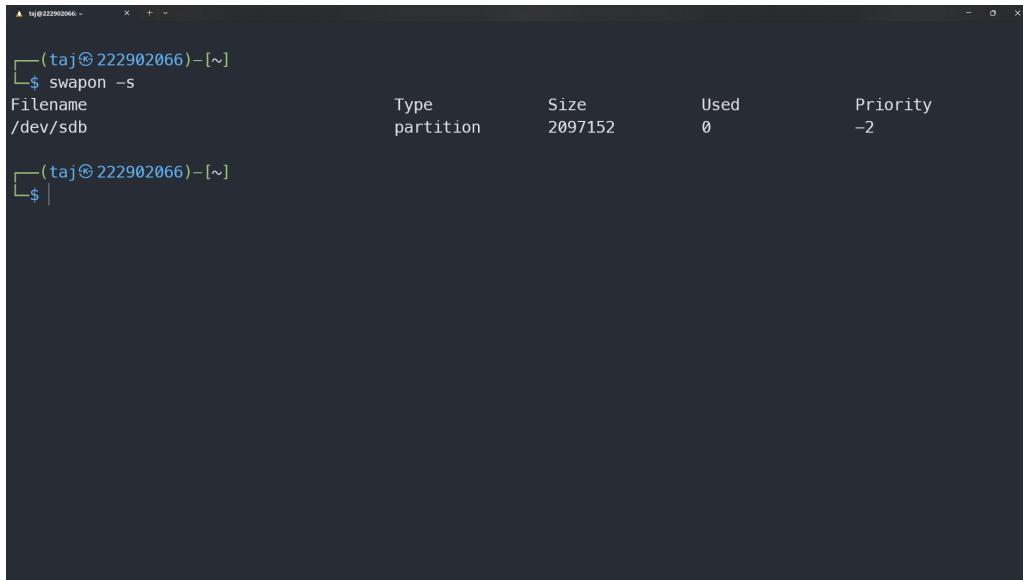
143. sync -> Flush filesystem buffers.



```
taj@222902066 ~
└─$ sync
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls at the top. Inside, there are two lines of text: the first line shows the command "sync" being typed, and the second line shows the command completed with an empty line below it.

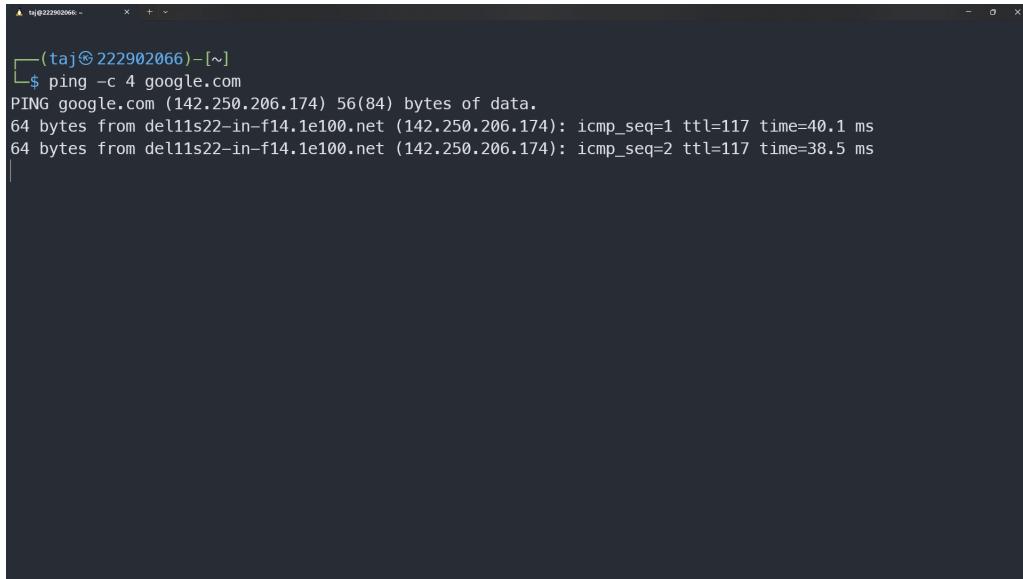
144. swapon -s -> Show swap space usage.



```
taj@222902066 ~
└─$ swapon -s
Filename           Type      Size    Used   Priority
/dev/sdb            partition 2097152     0       -2
└─$ |
```

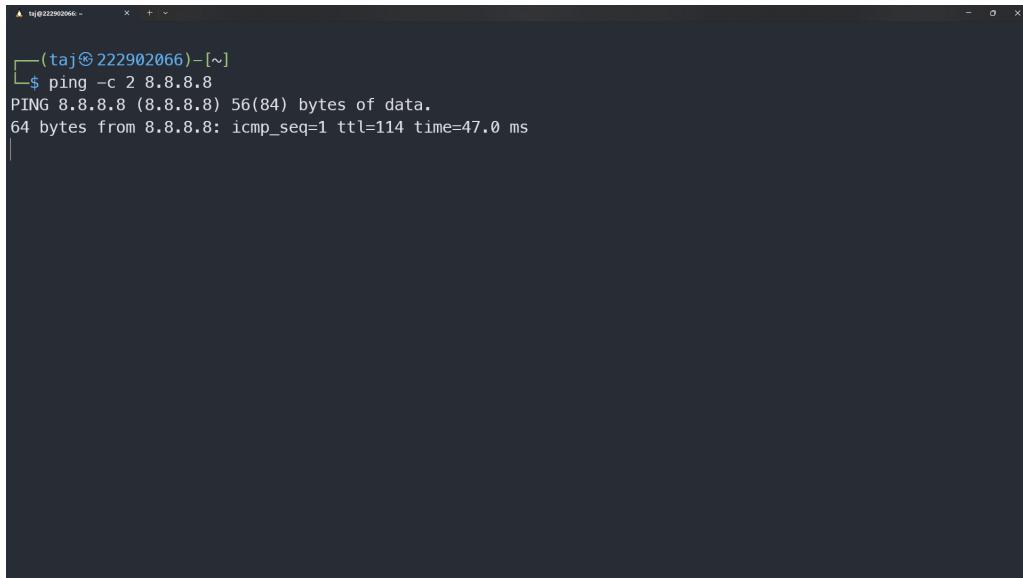
A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls at the top. Inside, the command "swapon -s" is run, followed by a table showing swap space usage. The table has columns for "Filename", "Type", "Size", "Used", and "Priority". It lists one entry for "/dev/sdb" which is a "partition" of size 2097152, used 0, and has a priority of -2. An empty line is present at the end of the command output.

145. ping -c 4 google.com -> Send 4 packets to google.com.



```
taj@222902066: ~
└$ ping -c 4 google.com
PING google.com (142.250.206.174) 56(84) bytes of data.
64 bytes from del1s22-in-f14.1e100.net (142.250.206.174): icmp_seq=1 ttl=117 time=40.1 ms
64 bytes from del1s22-in-f14.1e100.net (142.250.206.174): icmp_seq=2 ttl=117 time=38.5 ms
```

146. ping -c 2 8.8.8.8 -> Send 2 packets to 8.8.8.8.



```
taj@222902066: ~
└$ ping -c 2 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=114 time=47.0 ms
```

147. lastlog -> Show the last login times of all users.

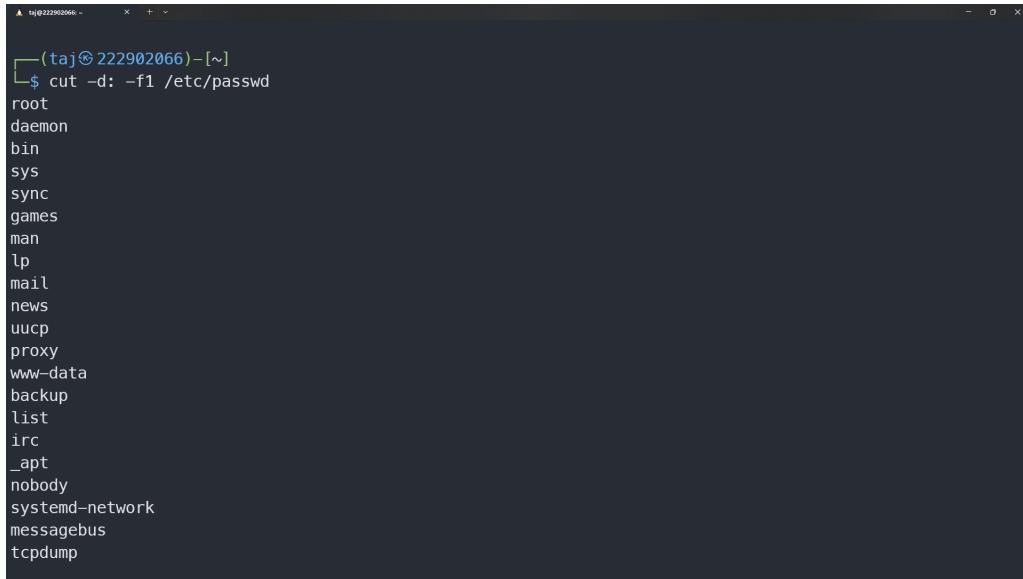
```
taj@222902066:~$ lastlog
Username          Port      From           Latest
root              -         -               **Never logged in**
daemon            -         -               **Never logged in**
bin               -         -               **Never logged in**
sys               -         -               **Never logged in**
sync              -         -               **Never logged in**
games             -         -               **Never logged in**
man               -         -               **Never logged in**
lp                -         -               **Never logged in**
mail              -         -               **Never logged in**
news              -         -               **Never logged in**
uucp              -         -               **Never logged in**
proxy             -         -               **Never logged in**
www-data          -         -               **Never logged in**
backup            -         -               **Never logged in**
list              -         -               **Never logged in**
irc               -         -               **Never logged in**
_apt              -         -               **Never logged in**
nobody            -         -               **Never logged in**
systemd-network   -         -               **Never logged in**
messagebus        -         -               **Never logged in**
```

148. groups -> Show the groups the current user belongs to.

```
taj@222902066:~$ groups
taj adm cdrom sudo dip plugdev users

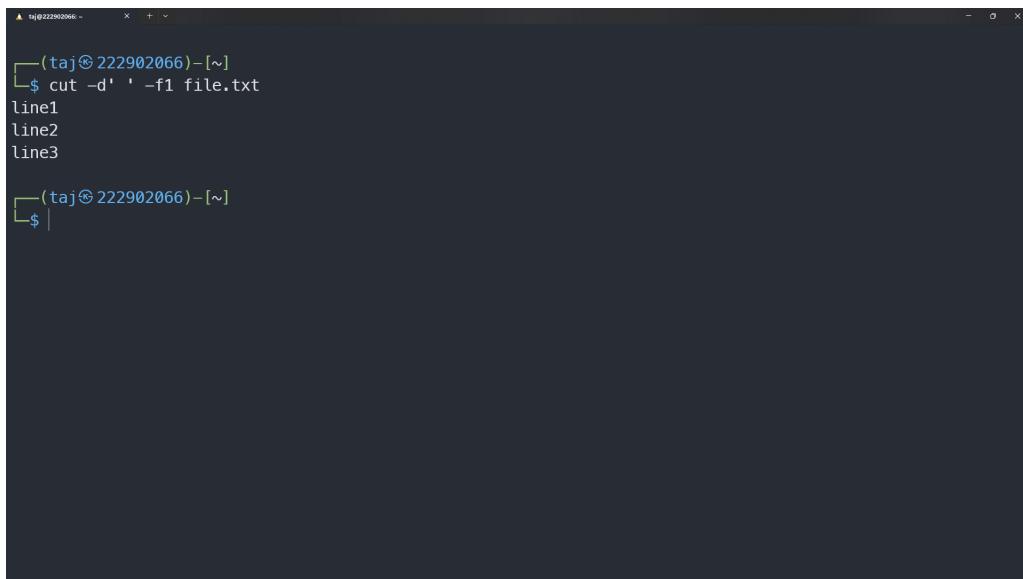
taj@222902066:~$ |
```

149. cut -d: -f1 /etc/passwd -> Display the first field of `/etc/passwd`.



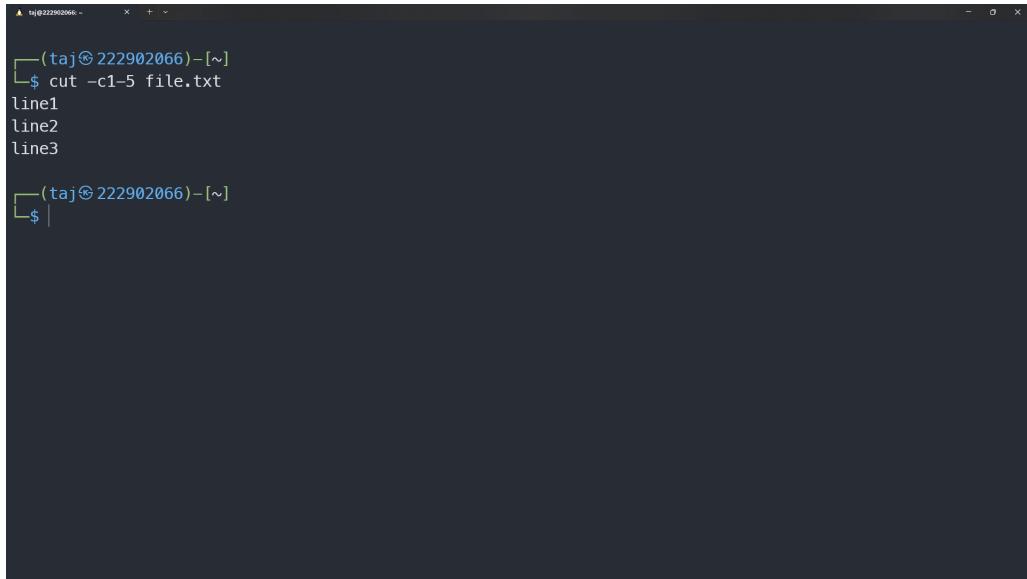
```
taj@222902066:~$ cut -d: -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
_apt
nobody
systemd-network
messagebus
tcpdump
```

150. cut -d' ' -f1 file.txt -> Extract the first field separated by space.



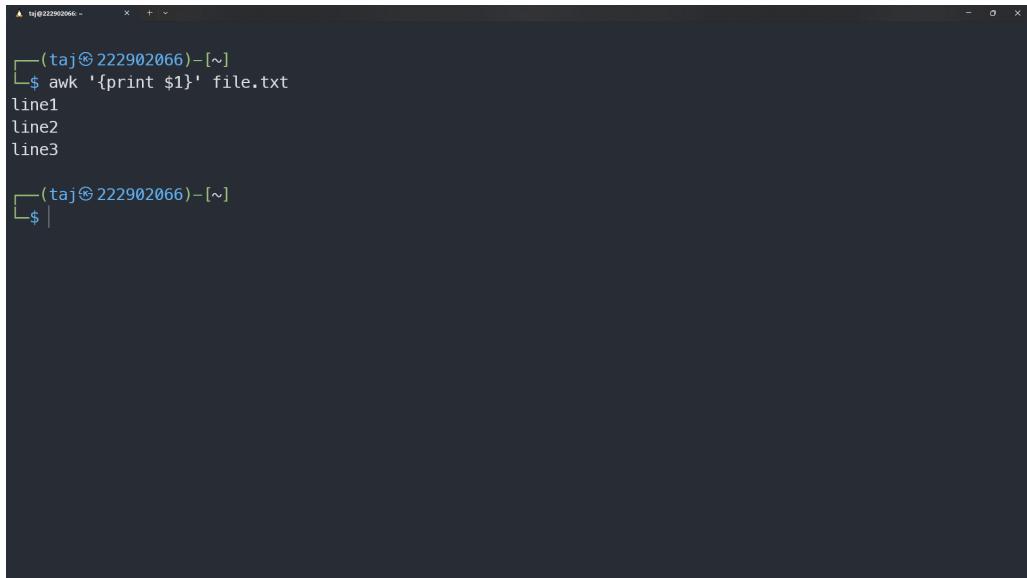
```
taj@222902066:~$ cut -d' ' -f1 file.txt
line1
line2
line3
taj@222902066:~$ |
```

151. cut -c1-5 file.txt -> Extract the first 5 characters from each line.



```
taj@222902066:~$ cut -c1-5 file.txt
line1
line2
line3
taj@222902066:~$ |
```

152. awk '{print \$1}' file.txt -> Print the first field of each line.



```
taj@222902066:~$ awk '{print $1}' file.txt
line1
line2
line3
taj@222902066:~$ |
```

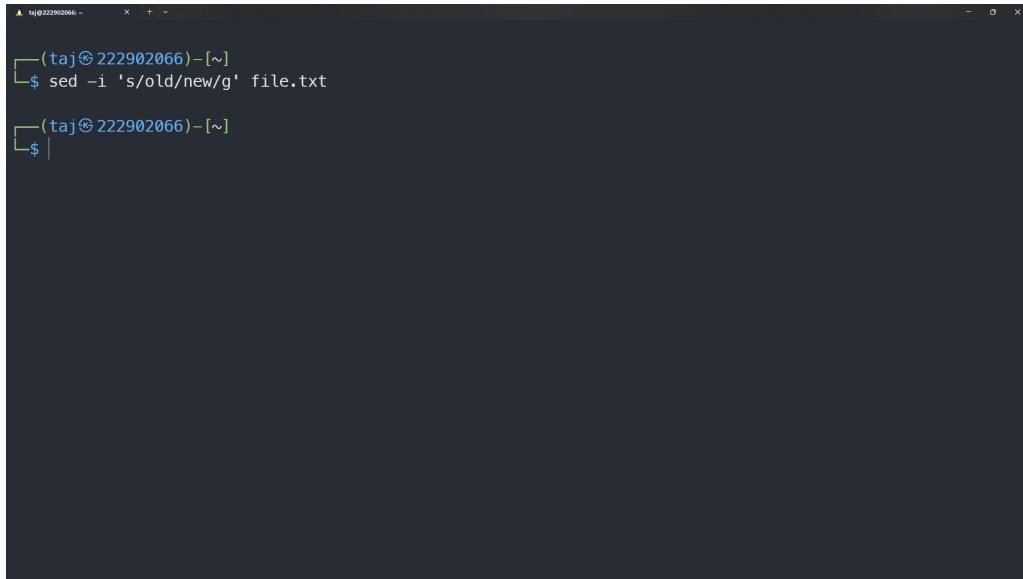
153. awk '/pattern/' file.txt -> Print lines matching a pattern.

```
taj@222902066 ~
└─$ awk '/pattern/' file.txt
└─$ |
```

154. sed 's/old/new/g' file.txt -> Replace all occurrences of 'old' with 'new'.

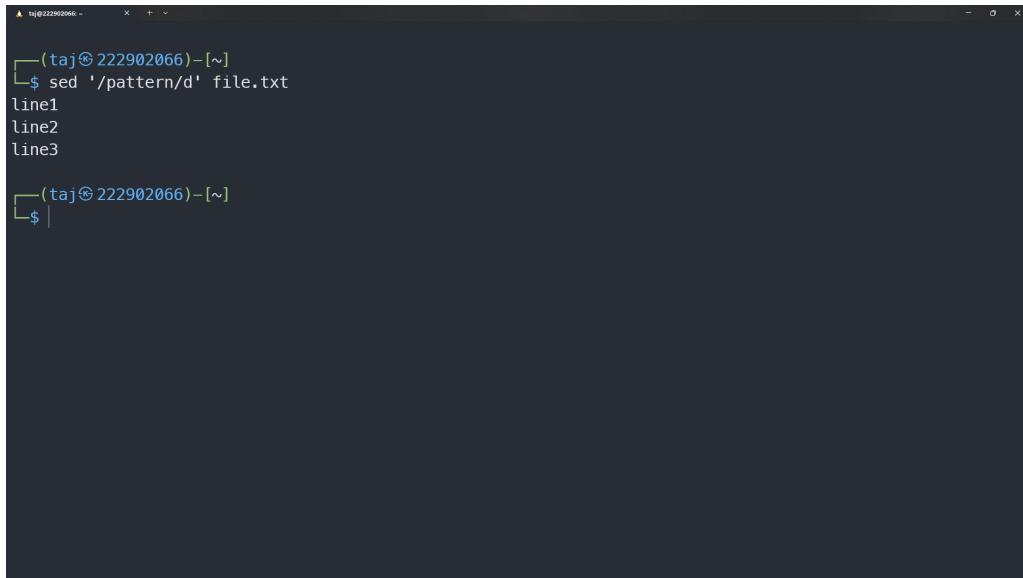
```
taj@222902066 ~
└─$ sed 's/old/new/g' file.txt
line1
line2
line3
└─$ |
```

155. sed -i 's/old/new/g' file.txt -> Replace 'old' with 'new' in the file in-place.



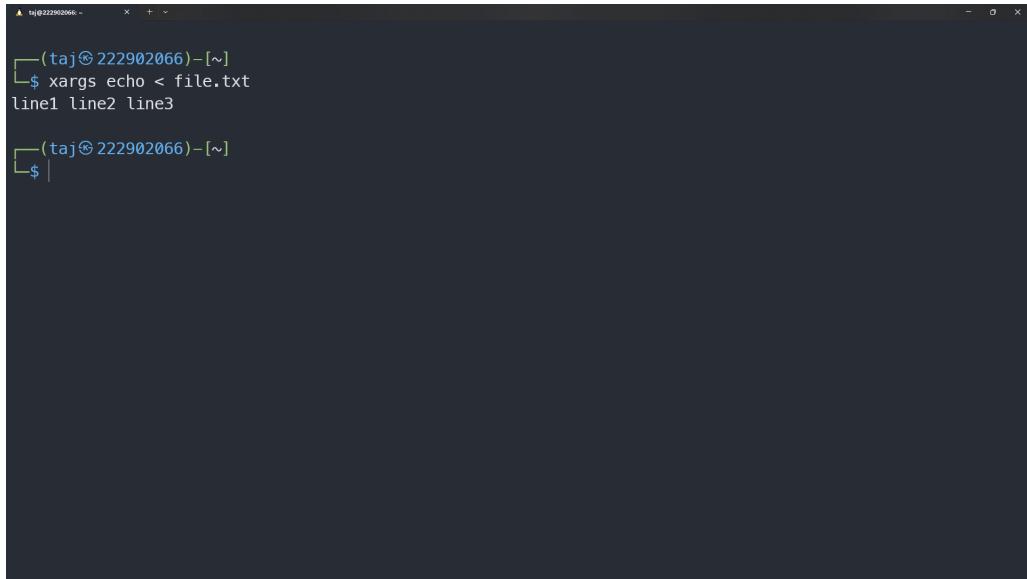
```
taj@222902066 ~
└─$ sed -i 's/old/new/g' file.txt
└─$ |
```

156. sed '/pattern/d' file.txt -> Delete lines matching a pattern.



```
taj@222902066 ~
└─$ sed '/pattern/d' file.txt
line1
line2
line3
└─$ |
```

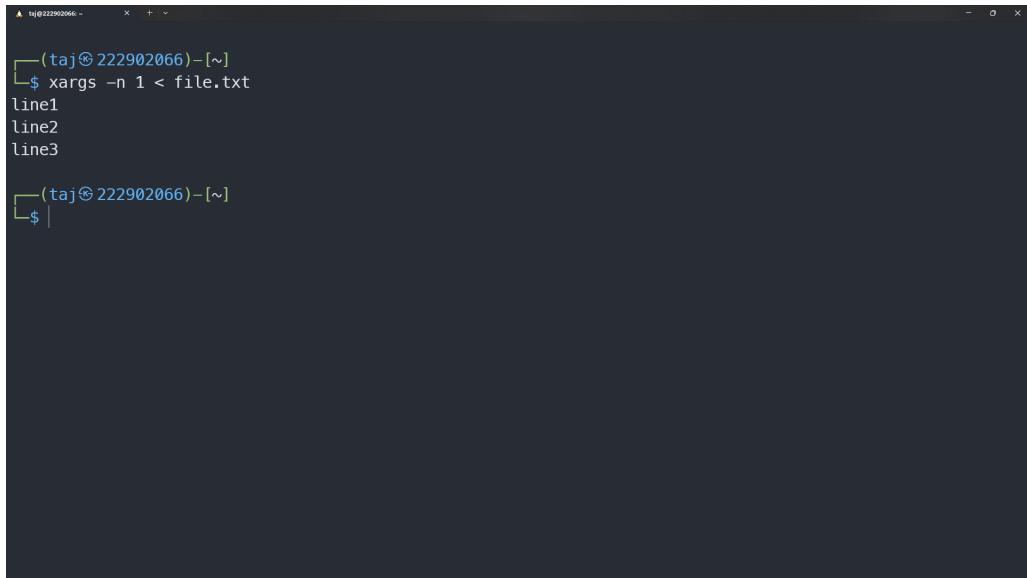
157. xargs echo < file.txt -> Pass file contents as arguments to `echo`.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows the command "xargs echo < file.txt" being run. The output consists of three lines of text: "line1", "line2", and "line3". The terminal has a dark background with light-colored text and a light gray cursor.

```
taj@222902066 ~
└$ xargs echo < file.txt
line1 line2 line3
└$ |
```

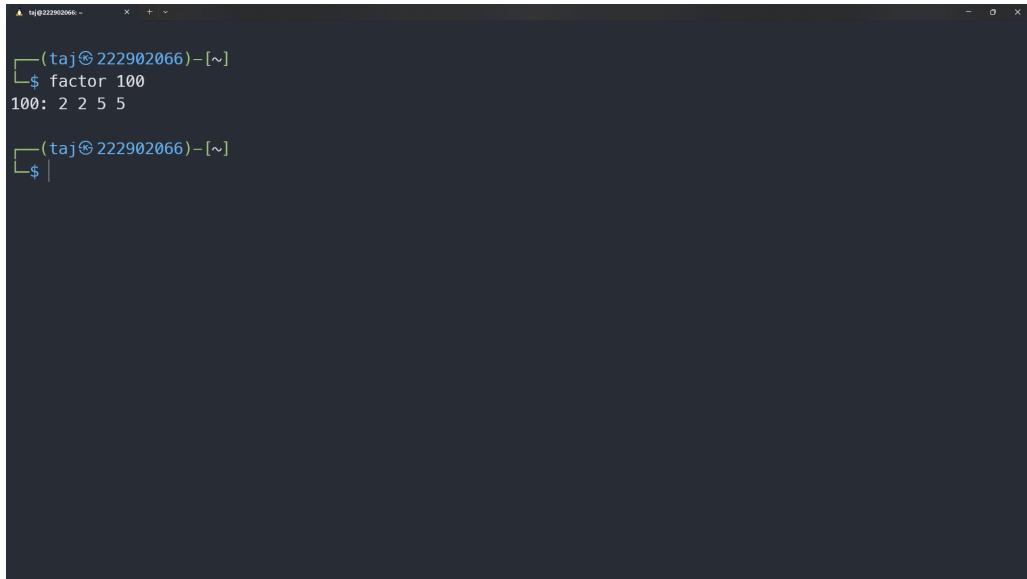
158. xargs -n 1 < file.txt -> Pass one argument per line to `xargs`.



A screenshot of a terminal window titled "taj@222902066 ~". The window shows the command "xargs -n 1 < file.txt" being run. The output consists of three lines of text: "line1", "line2", and "line3", each on a new line. The terminal has a dark background with light-colored text and a light gray cursor.

```
taj@222902066 ~
└$ xargs -n 1 < file.txt
line1
line2
line3
└$ |
```

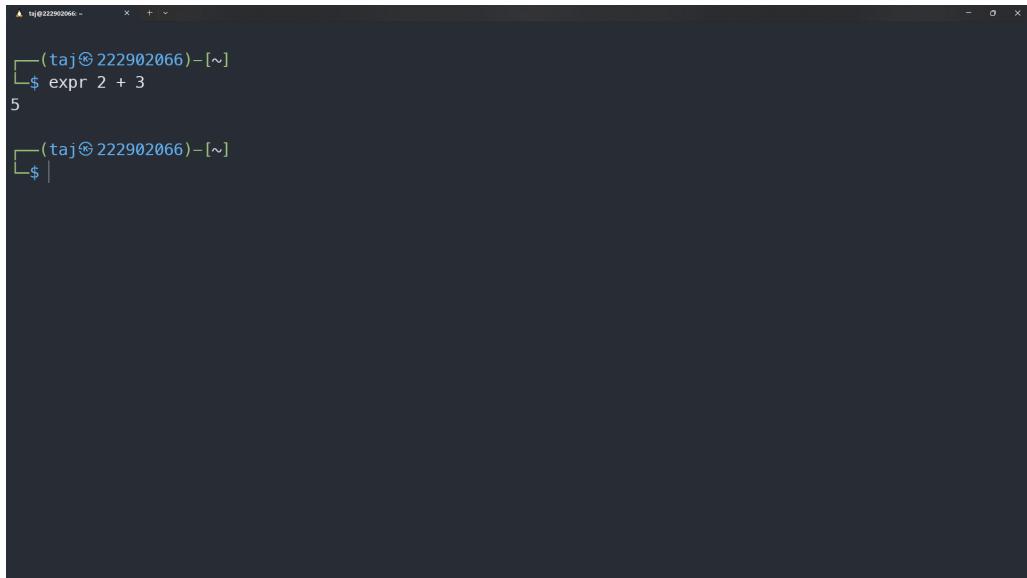
159. factor 100 -> Factorize the number 100.



```
taj@222902066 ~
└─$ factor 100
100: 2 2 5 5
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls (minimize, maximize, close) at the top right. The terminal prompt is "└─\$ ". The user enters the command "factor 100" and the output shows that 100 is factored into 2, 2, 5, and 5. The cursor is positioned at the end of the output line.

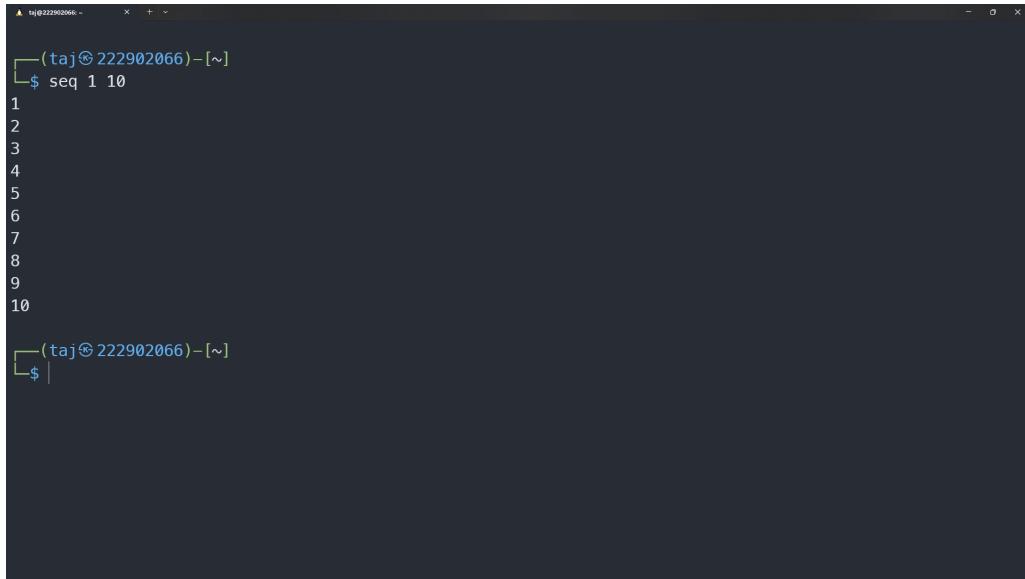
160. expr 2 + 3 -> Evaluate the expression `2 + 3`.



```
taj@222902066 ~
└─$ expr 2 + 3
5
└─$ |
```

A screenshot of a terminal window titled "taj@222902066 ~". The window has standard window controls (minimize, maximize, close) at the top right. The terminal prompt is "└─\$ ". The user enters the command "expr 2 + 3" and the output shows the result is 5. The cursor is positioned at the end of the output line.

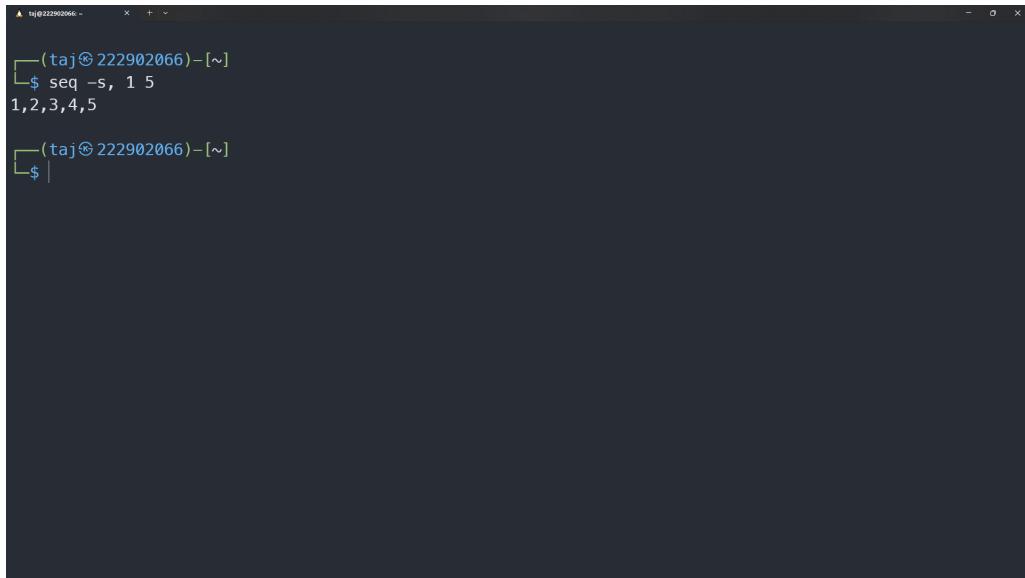
161. seq 1 10 -> Print numbers from 1 to 10.



```
taj@222902066: ~
└─$ seq 1 10
1
2
3
4
5
6
7
8
9
10
└─$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window shows the command "seq 1 10" being run. The output consists of the integers 1 through 10, each on a new line. The terminal has a dark background with light-colored text and a standard window title bar.

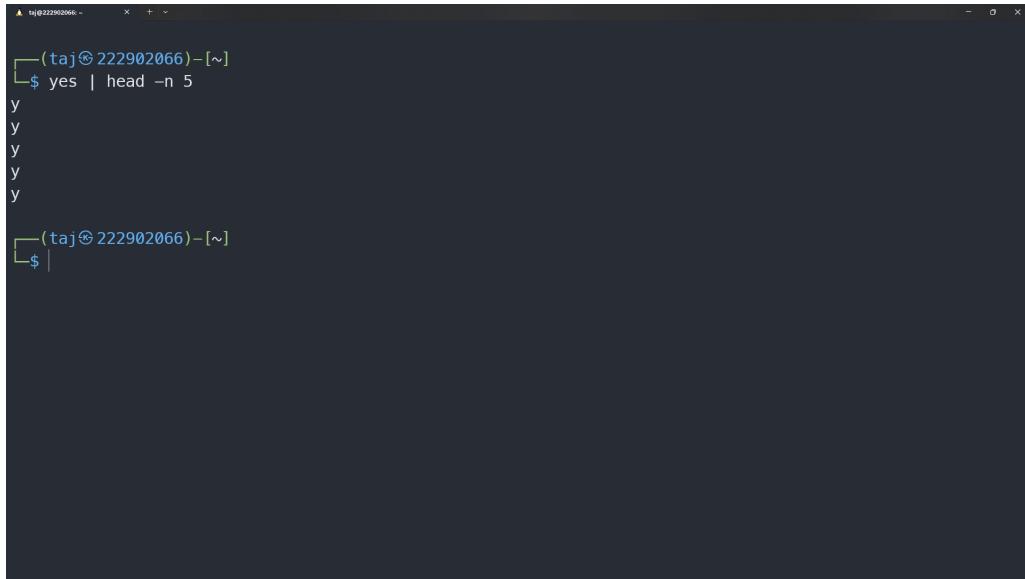
162. seq -s, 1 5 -> Print numbers from 1 to 5, separated by commas.



```
taj@222902066: ~
└─$ seq -s, 1 5
1,2,3,4,5
└─$ |
```

A screenshot of a terminal window titled "taj@222902066: ~". The window shows the command "seq -s, 1 5" being run. The output is a single line containing the numbers 1, 2, 3, 4, and 5, separated by commas. The terminal has a dark background with light-colored text and a standard window title bar.

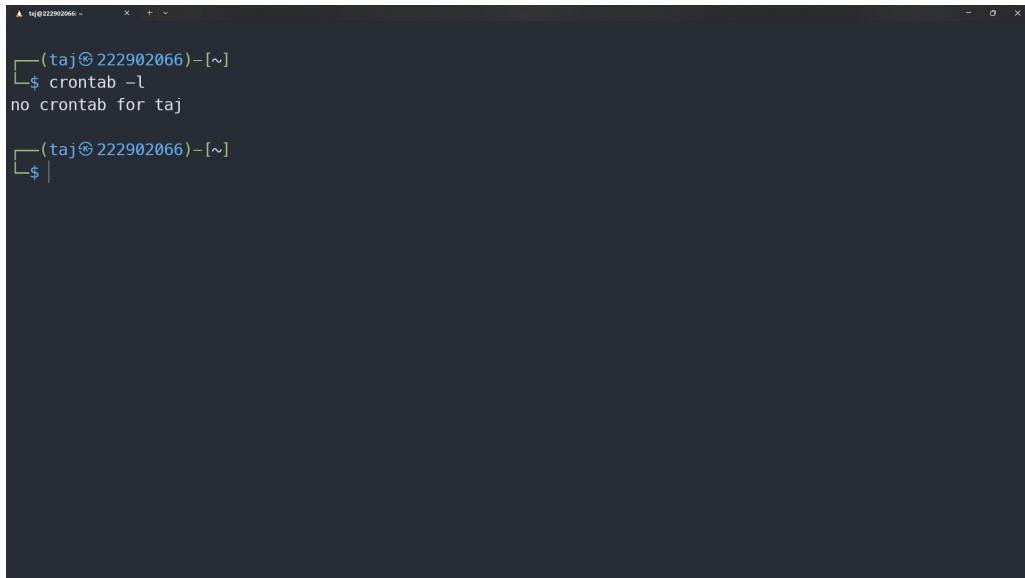
163. yes | head -n 5 -> Output 'yes' 5 times.



```
taj@222902066: ~
└─$ yes | head -n 5
y
y
y
y
y

taj@222902066: ~
└─$ |
```

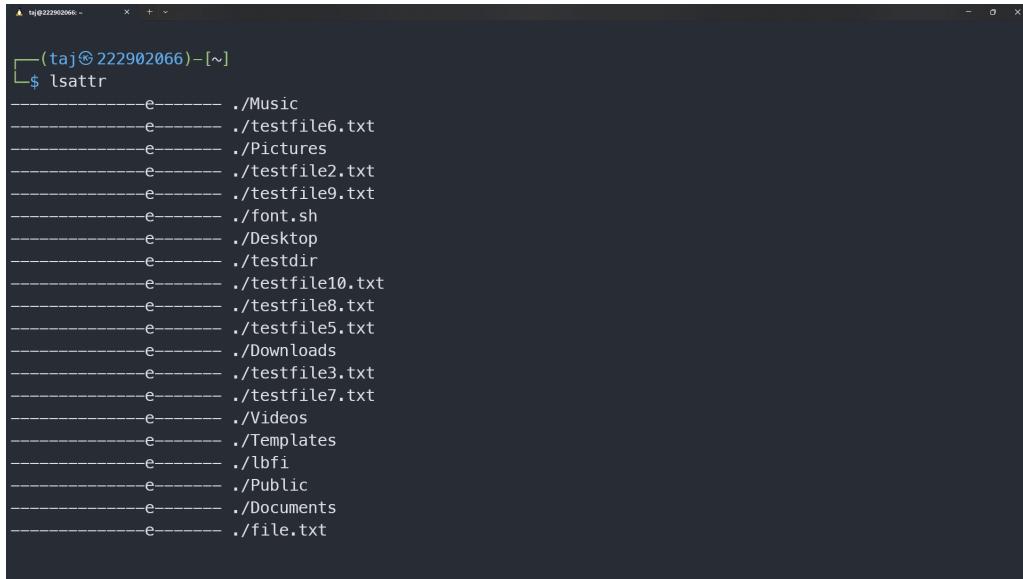
164. crontab -l -> List cron jobs for the current user.



```
taj@222902066: ~
└─$ crontab -l
no crontab for taj

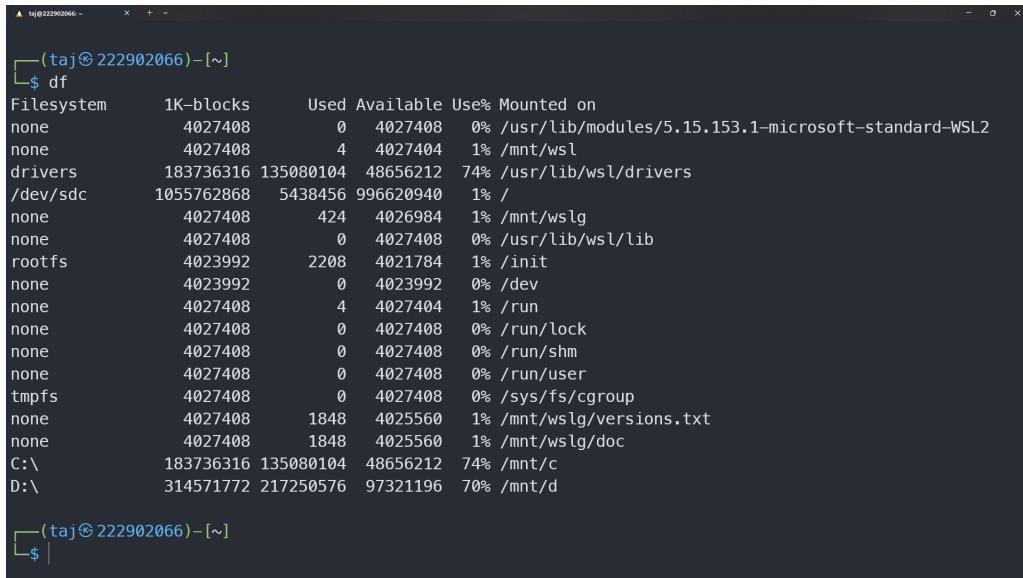
taj@222902066: ~
└─$ |
```

165. lsattr -> List file attributes.



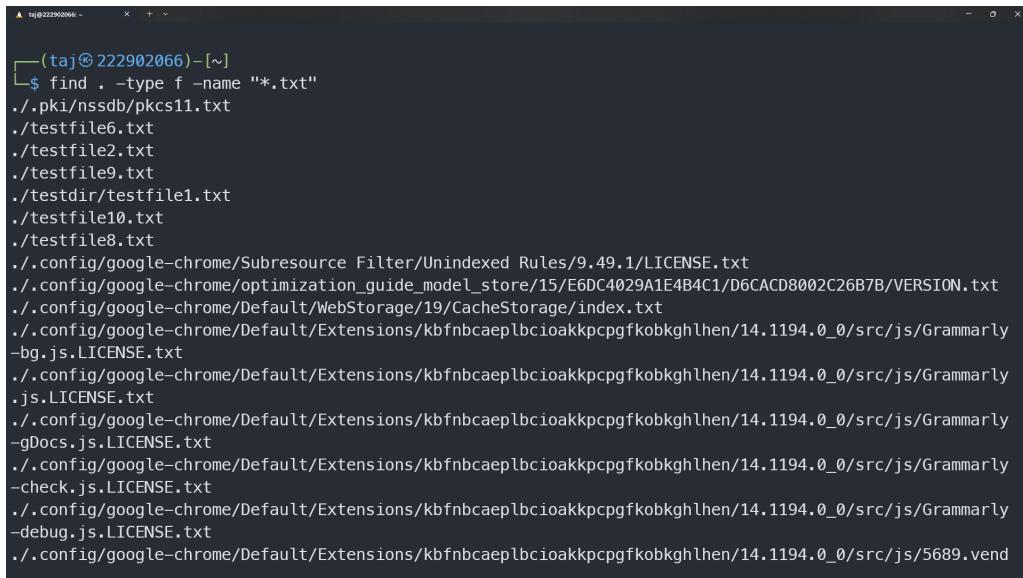
```
taj@222902066:~$ lsattr
e----- ./Music
e----- ./testfile6.txt
e----- ./Pictures
e----- ./testfile2.txt
e----- ./testfile9.txt
e----- ./font.sh
e----- ./Desktop
e----- ./testdir
e----- ./testfile10.txt
e----- ./testfile8.txt
e----- ./testfile5.txt
e----- ./Downloads
e----- ./testfile3.txt
e----- ./testfile7.txt
e----- ./Videos
e----- ./Templates
e----- ./lbf1
e----- ./Public
e----- ./Documents
e----- ./file.txt
```

166. df -> Display disk space usage.



```
taj@222902066:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
none            4027408      0  4027408  0% /usr/lib/modules/5.15.153.1-microsoft-standard-WSL2
none            4027408      4  4027404  1% /mnt/wsl
drivers        183736316 135080104 48656212 74% /usr/lib/wsl/drivers
/dev/sdc       1055762868 5438456 996620940  1% /
none            4027408     424  4026984  1% /mnt/wslg
none            4027408      0  4027408  0% /usr/lib/wsl/lib
rootfs         4023992    2208  4021784  1% /init
none            4023992      0  4023992  0% /dev
none            4027408      4  4027404  1% /run
none            4027408      0  4027408  0% /run/lock
none            4027408      0  4027408  0% /run/shm
none            4027408      0  4027408  0% /run/user
tmpfs           4027408      0  4027408  0% /sys/fs/cgroup
none            4027408    1848  4025560  1% /mnt/wslg/versions.txt
none            4027408    1848  4025560  1% /mnt/wslg/doc
C:\             183736316 135080104 48656212 74% /mnt/c
D:\             314571772 217250576 97321196 70% /mnt/d
```

167. find . -type f -name "*.txt" -> Find text files in the current directory.



```
taj@222902066:~$ find . -type f -name "*.txt"
./pki/nssdb/pkcs11.txt
./testfile6.txt
./testfile2.txt
./testfile9.txt
./testdir/testfile1.txt
./testfile10.txt
./testfile8.txt
./config/google-chrome/Subresource Filter/Unindexed Rules/9.49.1/LICENSE.txt
./config/google-chrome/optimization_guide_model_store/15/E6DC4029A1E4B4C1/D6CACD8002C26B7B/VERSION.txt
./config/google-chrome/Default/WebStorage/19/CacheStorage/index.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/Grammarly
-bg.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/Grammarly
.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/Grammarly
-gDocs.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/Grammarly
-check.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/Grammarly
-debug.js.LICENSE.txt
./config/google-chrome/Default/Extensions/kbfnbcaeplbcioakkpcpgfkobkghlhen/14.1194.0_0/src/js/5689.vend
```

168. find . -perm 777 -> Find files with permission `777`.



```
taj@222902066:~$ find . -perm 777
./face.icon
./config/xfce4/desktop/icons.screen.latest.rc
./Downloads/cse310/lab1/add.sh
./Downloads/cse310/labmanual3/1.sh
./mozilla/firefox/dmx2srwt.default-esr/lock
./vscode-server/data/User/History/ab2da1f/K8eL.sh
./vscode-server/data/User/History/ab2da1f/smDs.sh
./vscode-server/data/User/History/ab2da1f/H9H2.sh
./vscode-server/data/User/History/ab2da1f/SnST.sh
./vscode-server/data/User/History/ab2da1f/q7Nr.sh
./vscode-server/data/User/History/ab2da1f/haRM.sh
./vscode-server/data/User/History/ab2da1f/MVMU.sh
./vscode-server/data/User/History/ab2da1f/UchS.sh
./vscode-server/data/User/History/ab2da1f/0T6i.sh
./vscode-server/data/User/History/ab2da1f/YpML.sh
./vscode-server/data/User/History/ab2da1f/m77f.sh
./vscode-server/data/User/History/ab2da1f/XU6L.sh
```

169. ip a -> Show network interfaces and IP addresses.

```
taj@222902066:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
        inet 127.0.0.1/8 scope host lo
            valid_lft forever preferred_lft forever
        inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
            valid_lft forever preferred_lft forever
        inet6 ::1/128 scope host
            valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:21:15:b6 brd ff:ff:ff:ff:ff:ff
        inet 172.30.169.42/20 brd 172.30.175.255 scope global eth0
            valid_lft forever preferred_lft forever
        inet6 fe80::215:5dff:fe21:15b6/64 scope link
            valid_lft forever preferred_lft forever

taj@222902066:~$
```

170. ip link show -> Display network interface details.

```
taj@222902066:~$ ip link show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP mode DEFAULT group default qlen 10
    link/ether 00:15:5d:21:15:b6 brd ff:ff:ff:ff:ff:ff

taj@222902066:~$
```

171. ip route -> Show the routing table.



```
taj@222902066: ~
└─$ ip route
default via 172.30.160.1 dev eth0 proto kernel
172.30.160.0/20 dev eth0 proto kernel scope link src 172.30.169.42

└─$ |
```

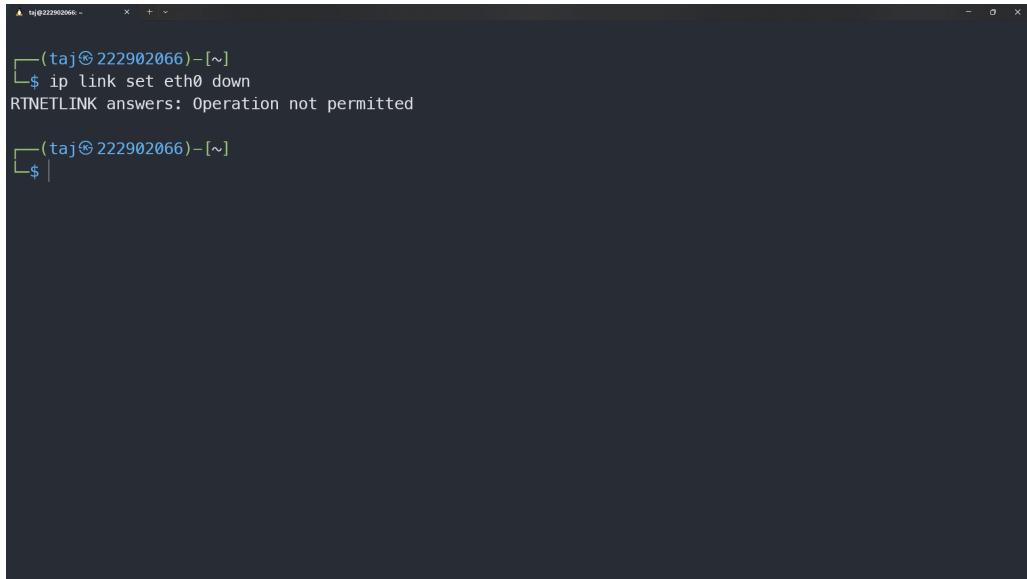
172. ip link set eth0 up -> Bring the `eth0` interface up.



```
taj@222902066: ~
└─$ ip link set eth0 up
RTNETLINK answers: Operation not permitted

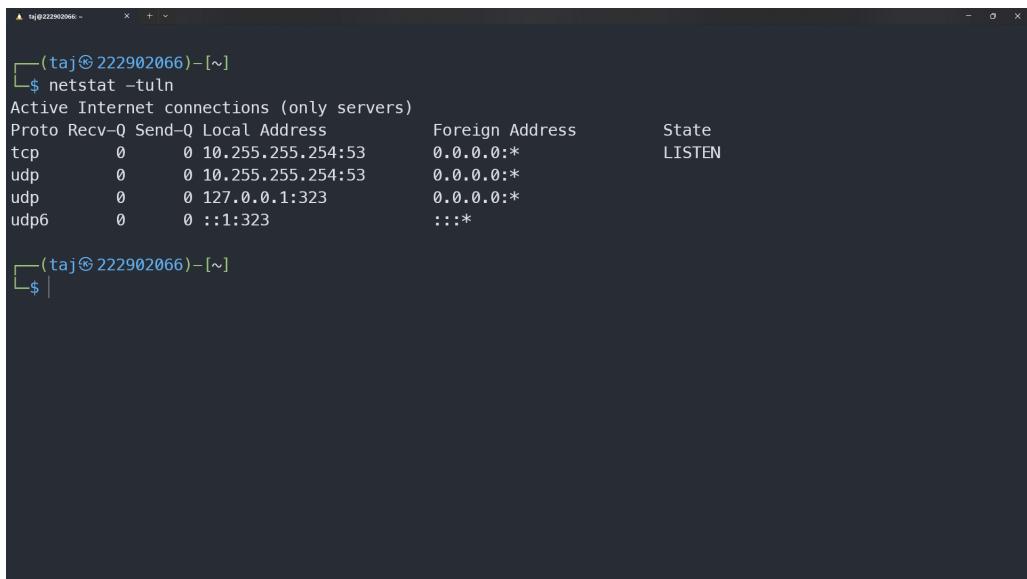
└─$ |
```

173. ip link set eth0 down -> Bring the `eth0` interface down.



```
taj@222902066:~$ ip link set eth0 down
RTNETLINK answers: Operation not permitted
```

174. netstat -tuln -> Show active listening ports.



```
taj@222902066:~$ netstat -tuln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address          Foreign Address        State
tcp      0      0 10.255.255.254:53       0.0.0.0:*
                                         LISTEN
udp      0      0 10.255.255.254:53       0.0.0.0:*
                                         LISTEN
udp      0      0 127.0.0.1:323          0.0.0.0:*
                                         LISTEN
udp6     0      0 ::1:323                ::*:*
```

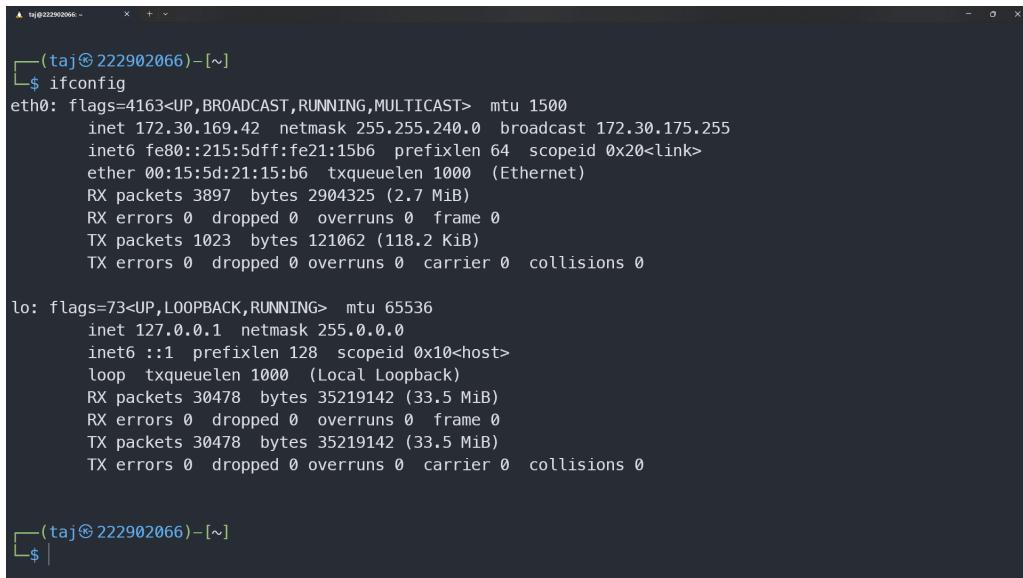
175. ss -tuln -> Show open TCP and UDP ports.

```
taj@222902066 ~
└─$ ss -tuln
Netid      State      Recv-Q      Send-Q      Local Address:Port      Peer Address:Port
udp        UNCONN      0          0          10.255.255.254:53      0.0.0.0:*
udp        UNCONN      0          0          127.0.0.1:323      0.0.0.0:*
udp        UNCONN      0          0          [::]:323      [::]:*
tcp       LISTEN      0          1000      10.255.255.254:53      0.0.0.0:*
```

176. ss -tulnp -> Show active ports with process ID.

```
taj@222902066 ~
└─$ ss -tulnp
Netid      State      Recv-Q      Send-Q      Local Address:Port      Peer Address:Port      Process
udp        UNCONN      0          0          10.255.255.254:53      0.0.0.0:*
udp        UNCONN      0          0          127.0.0.1:323      0.0.0.0:*
udp        UNCONN      0          0          [::]:323      [::]:*
tcp       LISTEN      0          1000      10.255.255.254:53      0.0.0.0:*
```

177. ifconfig -> Display network interface details.

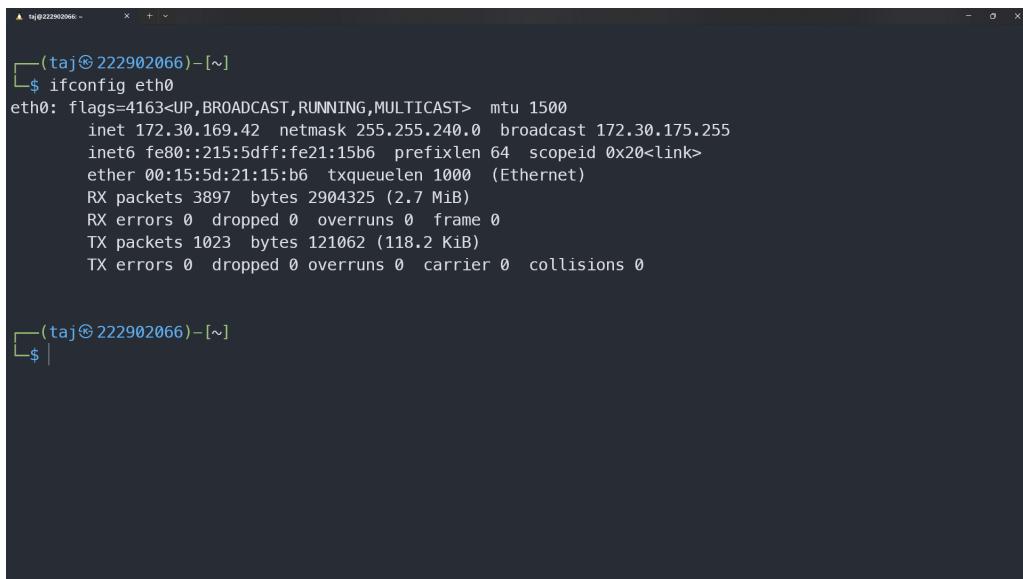


```
taj@222902066:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 172.30.169.42 netmask 255.255.240.0 broadcast 172.30.175.255
        inet6 fe80::215:5dff:fe21:15b6 prefixlen 64 scopeid 0x20<link>
          ether 00:15:5d:21:15:b6 txqueuelen 1000 (Ethernet)
            RX packets 3897 bytes 2904325 (2.7 MiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 1023 bytes 121062 (118.2 KiB)
            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 30478 bytes 35219142 (33.5 MiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 30478 bytes 35219142 (33.5 MiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

taj@222902066:~$ |
```

178. ifconfig eth0 -> Show configuration of `eth0`.



```
taj@222902066:~$ ifconfig eth0
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 172.30.169.42 netmask 255.255.240.0 broadcast 172.30.175.255
        inet6 fe80::215:5dff:fe21:15b6 prefixlen 64 scopeid 0x20<link>
          ether 00:15:5d:21:15:b6 txqueuelen 1000 (Ethernet)
            RX packets 3897 bytes 2904325 (2.7 MiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 1023 bytes 121062 (118.2 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

taj@222902066:~$ |
```

179. ifconfig wlan0 down -> Bring down the `wlan0` interface.



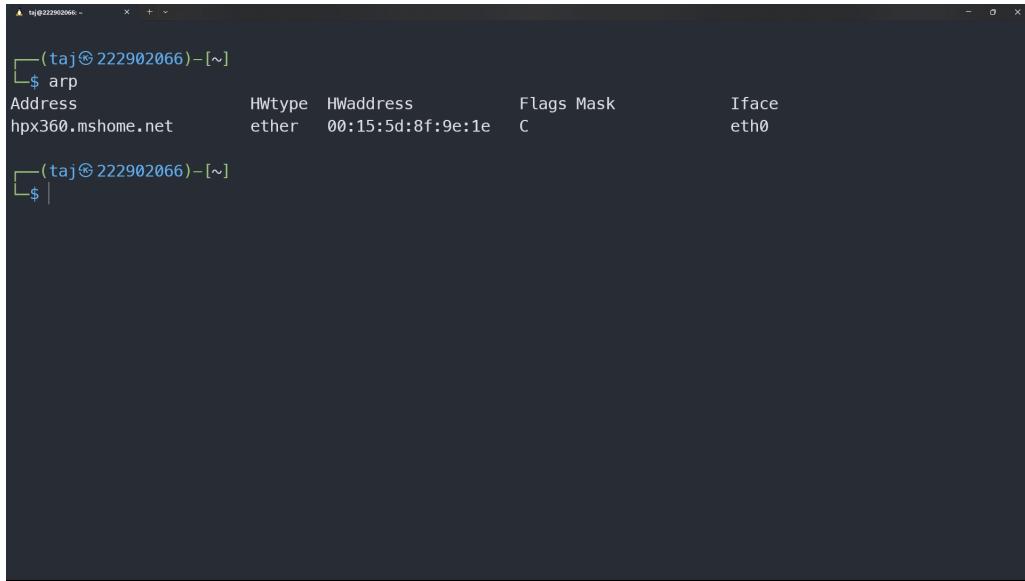
```
taj@222902066:~$ ifconfig wlan0 down
wlan0: ERROR while getting interface flags: No such device
taj@222902066:~$
```

180. ifconfig wlan0 up -> Bring up the `wlan0` interface.



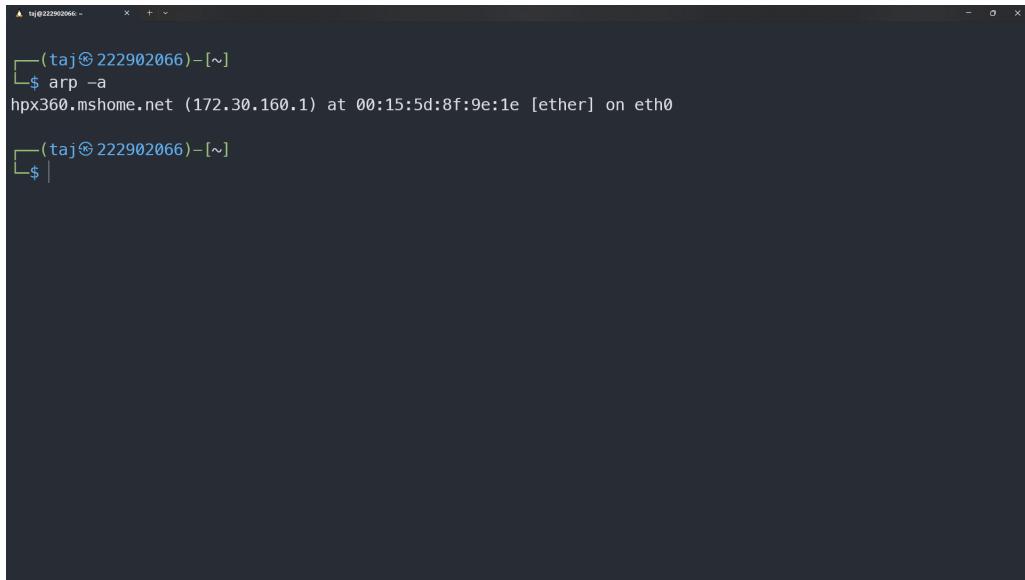
```
taj@222902066:~$ ifconfig wlan0 up
wlan0: ERROR while getting interface flags: No such device
taj@222902066:~$
```

181. arp -> Show the ARP table.



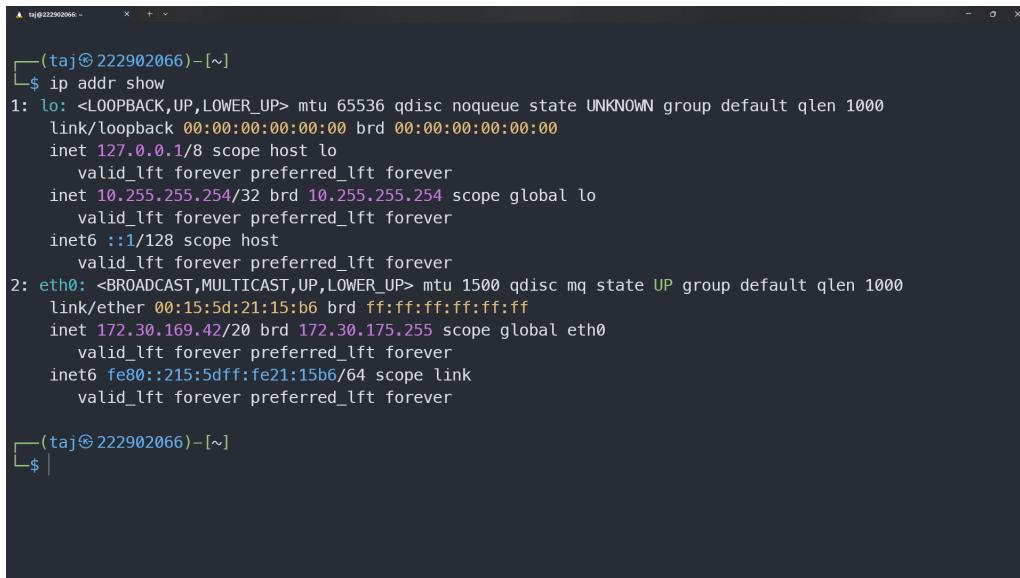
```
taj@222902066:~$ arp
Address      HWtype  HWaddress      Flags Mask      Iface
hpx360.mshome.net  ether   00:15:5d:8f:9e:1e  C          eth0
taj@222902066:~$ |
```

182. arp -a -> Display all entries in the ARP cache.



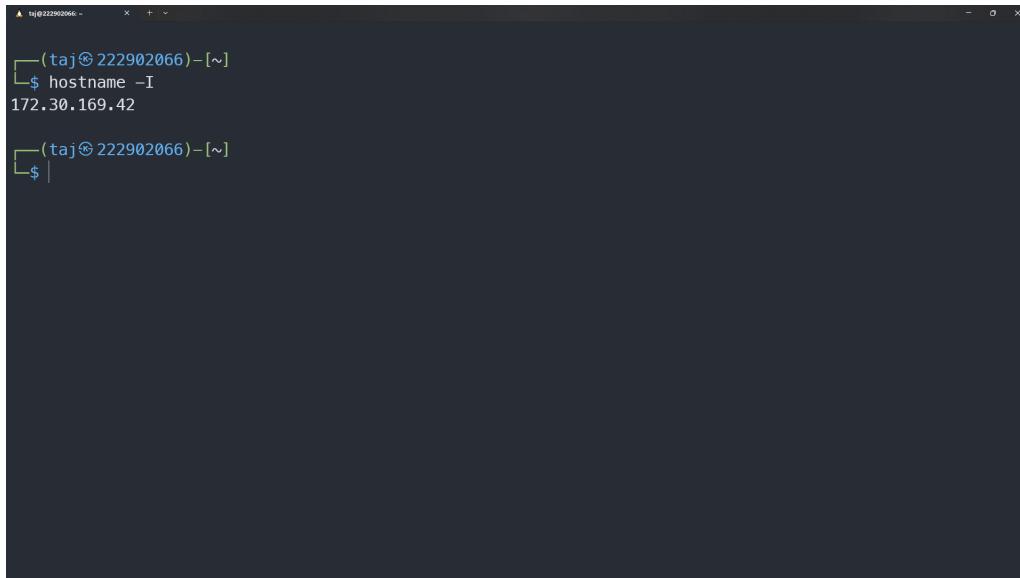
```
taj@222902066:~$ arp -a
hpx360.mshome.net (172.30.160.1) at 00:15:5d:8f:9e:1e [ether] on eth0
taj@222902066:~$ |
```

183. ip addr show -> Display IP addresses and related information.



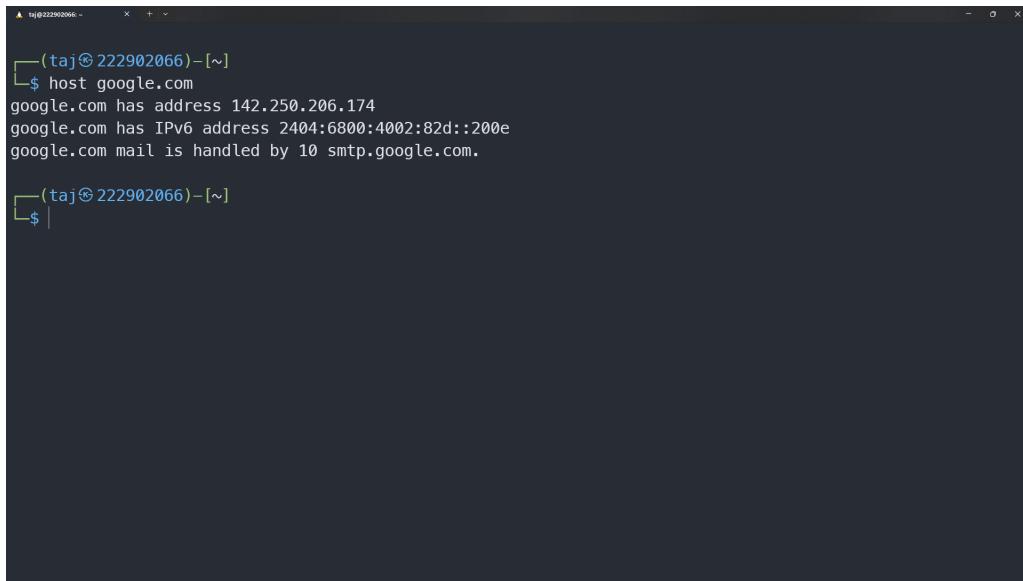
```
taj@222902066:~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:21:15:b6 brd ff:ff:ff:ff:ff:ff
    inet 172.30.169.42/20 brd 172.30.175.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe21:15b6/64 scope link
        valid_lft forever preferred_lft forever
```

184. hostname -I -> Show all IP addresses of the host.



```
taj@222902066:~$ hostname -I
172.30.169.42
```

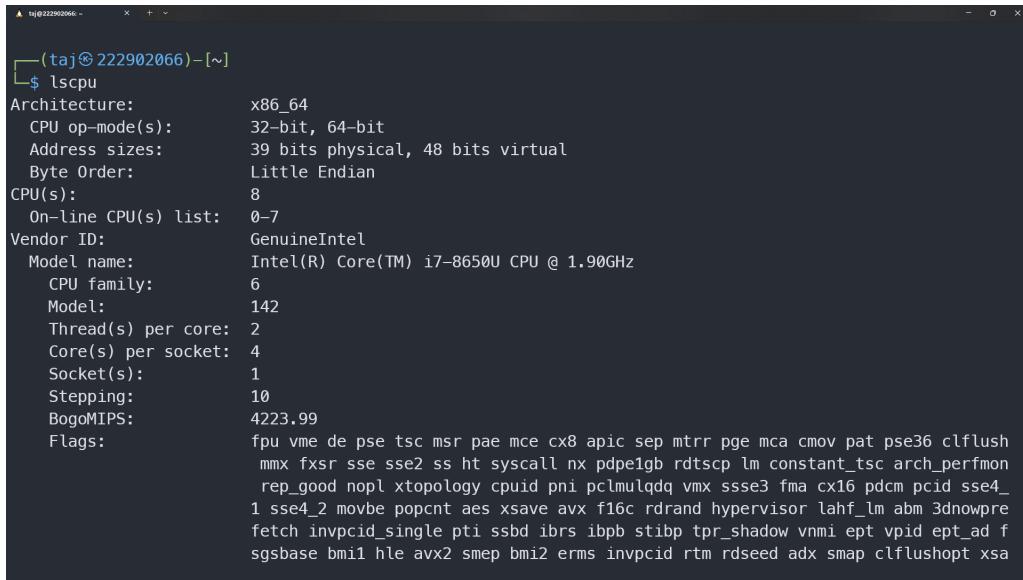
185. host google.com -> Perform DNS lookup for `google.com`.



```
taj@222902066:~$ host google.com
google.com has address 142.250.206.174
google.com has IPv6 address 2404:6800:4002:82d::200e
google.com mail is handled by 10 smtp.google.com.

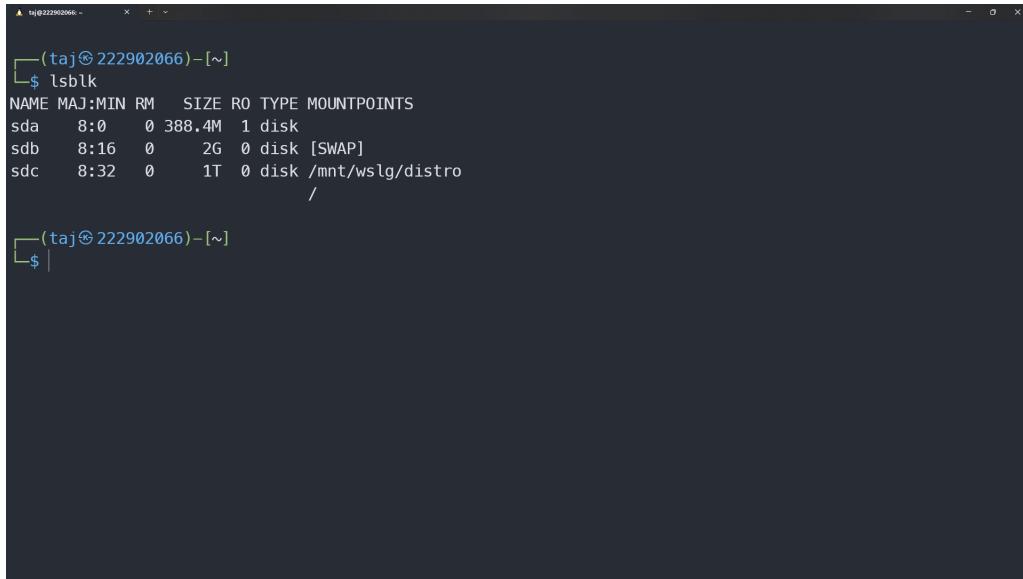
taj@222902066:~$ |
```

186. lscpu -> Show CPU architecture information.



```
taj@222902066:~$ lscpu
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         39 bits physical, 48 bits virtual
Byte Order:            Little Endian
CPU(s):                8
On-line CPU(s) list:  0-7
Vendor ID:             GenuineIntel
Model name:            Intel(R) Core(TM) i7-8650U CPU @ 1.90GHz
CPU family:            6
Model:                 142
Thread(s) per core:   2
Core(s) per socket:   4
Socket(s):            1
Stepping:              10
BogoMIPS:              4223.99
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush
                      mmx fxsr sse sse2 ss ht syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon
                      rep_good nopl xtopology cpuid pn1 pclmulqdq vmx ssse3 fma cx16 pdcm pcid sse4_
                      1 sse4_2 movbe popcnt aes xsave avx f16c rdrand hypervisorlahf_lm abm 3dnowpre
                      fetch invpcid_single pt1 ssbd ibrs ibpb stibp tpr_shadow vnmi ept vpid ept_ad f
                      sgbsbase bmi1 hle avx2 smep bmi2 erms invpcid rtm rdseed adx smap clflushopt xsa
```

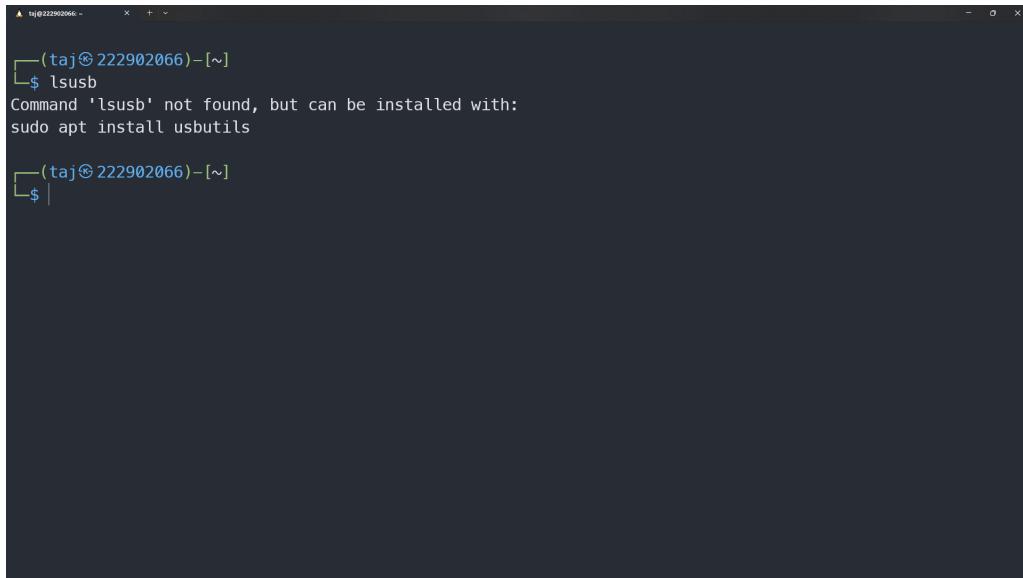
187. lsblk -> List block devices.



```
taj@222902066: ~
$ lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINTS
sda    8:0    0 388.4M  1 disk
sdb    8:16   0     2G  0 disk [SWAP]
sdc    8:32   0      1T  0 disk /mnt/wslg/distro
                  /

```

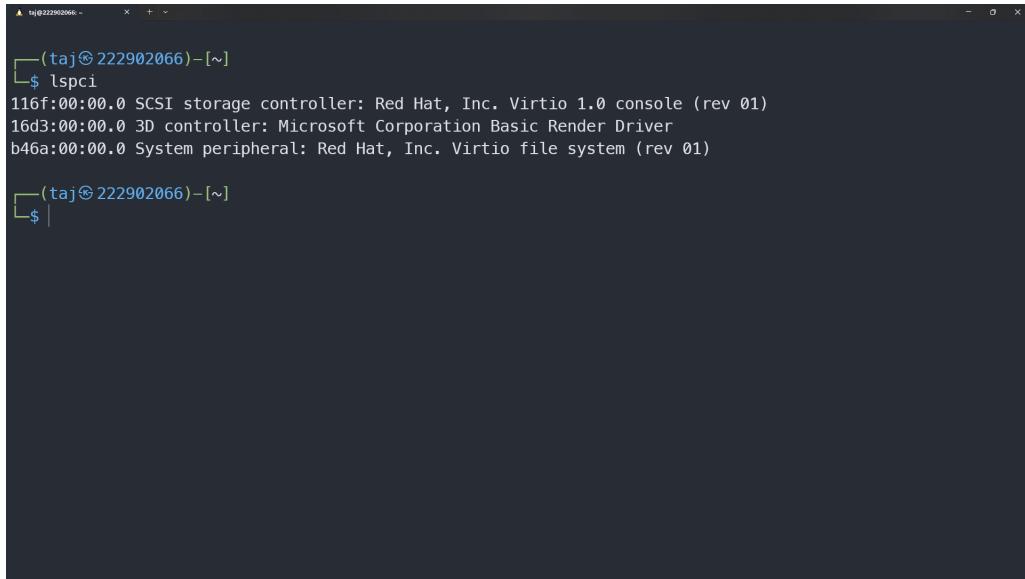
188. lsusb -> List USB devices.



```
taj@222902066: ~
$ lsusb
Command 'lsusb' not found, but can be installed with:
sudo apt install usbutils


```

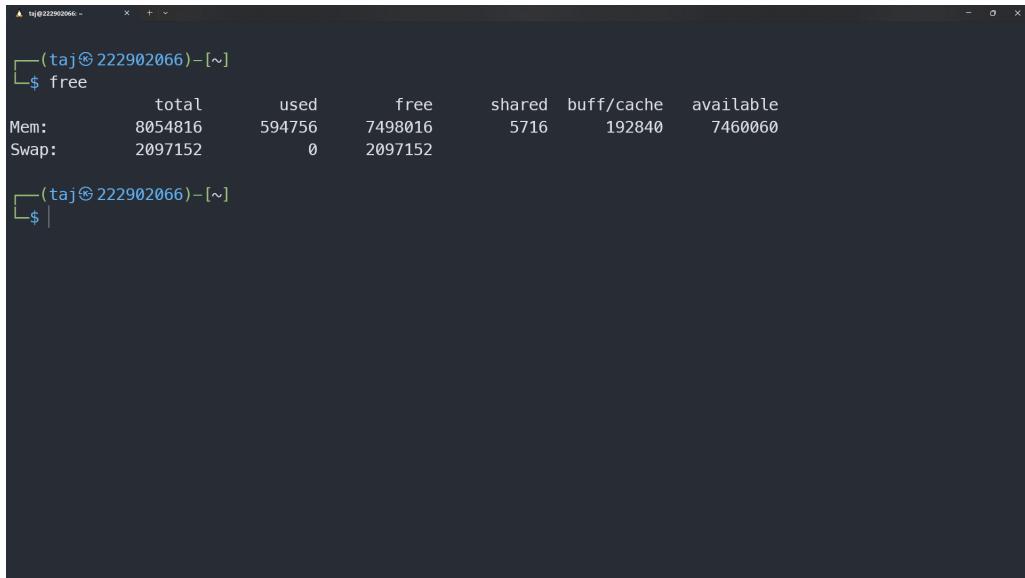
189. lspci -> List PCI devices.



```
taj@222902066 ~
└─$ lspci
116f:00:00.0 SCSI storage controller: Red Hat, Inc. Virtio 1.0 console (rev 01)
16d3:00:00.0 3D controller: Microsoft Corporation Basic Render Driver
b46a:00:00.0 System peripheral: Red Hat, Inc. Virtio file system (rev 01)

└─$ |
```

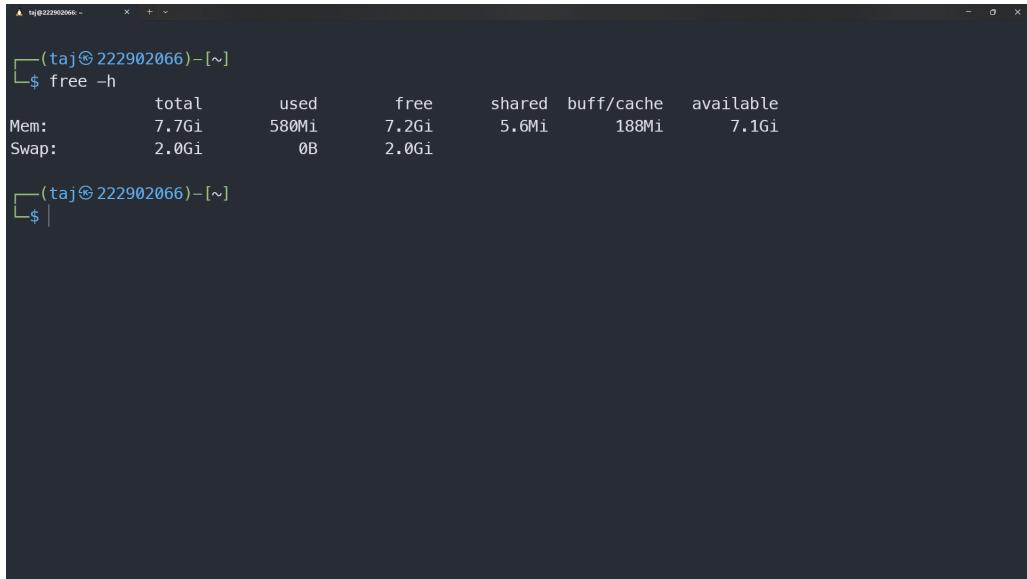
190. free -> Show memory usage.



```
taj@222902066 ~
└─$ free
      total        used        free      shared  buff/cache   available
Mem:    8054816     594756    7498016       5716     192840    7460060
Swap:  2097152          0    2097152

└─$ |
```

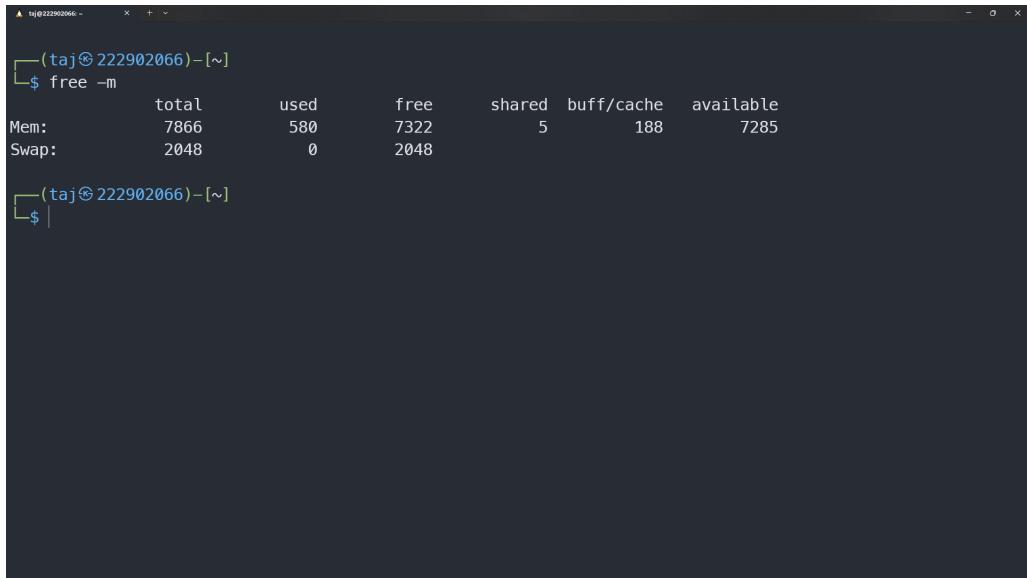
191. free -h -> Display memory usage in human-readable format.



```
taj@222902066:~$ free -h
              total        used        free      shared  buff/cache   available
Mem:       7.7Gi       580Mi     7.2Gi      5.6Mi     188Mi     7.1Gi
Swap:      2.0Gi          0B     2.0Gi

taj@222902066:~$ |
```

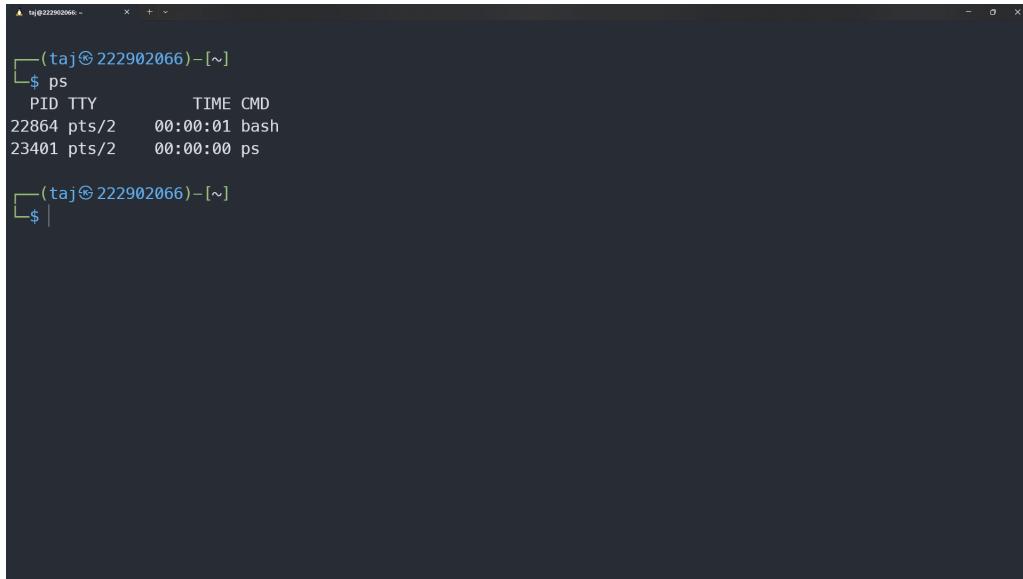
192. free -m -> Display memory usage in megabytes.



```
taj@222902066:~$ free -m
              total        used        free      shared  buff/cache   available
Mem:       7866        580       7322         5        188       7285
Swap:      2048          0       2048

taj@222902066:~$ |
```

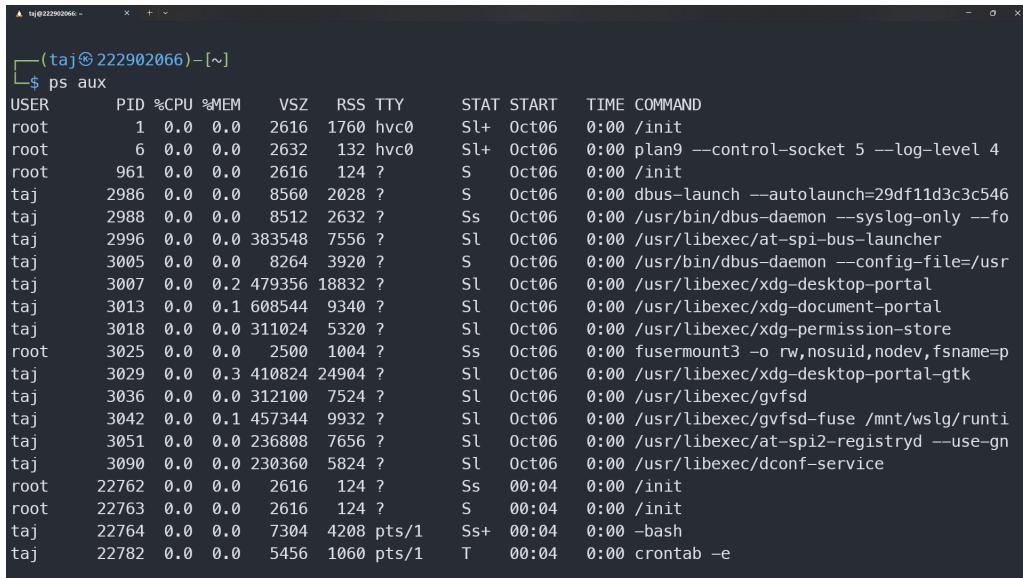
193. ps -> Display active processes.



```
taj@222902066:~$ ps
 PID TTY      TIME CMD
22864 pts/2    00:00:01 bash
23401 pts/2    00:00:00 ps

taj@222902066:~$ |
```

194. ps aux -> Show all processes with detailed information.



```
taj@222902066:~$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START  TIME COMMAND
root      1  0.0  0.0  2616  1760 hvc0      S+  Oct06  0:00 /init
root      6  0.0  0.0  2632  132 hvc0      S+  Oct06  0:00 plan9 --control-socket 5 --log-level 4
root     961  0.0  0.0  2616   124 ?        S   Oct06  0:00 /init
taj     2986  0.0  0.0  8560  2028 ?        S   Oct06  0:00 dbus-launch --autolaunch=29df11d3c3c546
taj     2988  0.0  0.0  8512  2632 ?        Ss  Oct06  0:00 /usr/bin/dbus-daemon --syslog-only --fo
taj     2996  0.0  0.0 383548  7556 ?        Sl  Oct06  0:00 /usr/libexec/at-spi-bus-launcher
taj     3005  0.0  0.0  8264  3920 ?        S   Oct06  0:00 /usr/bin/dbus-daemon --config-file=/usr
taj     3007  0.0  0.2 479356 18832 ?        Sl  Oct06  0:00 /usr/libexec/xdg-desktop-portal
taj     3013  0.0  0.1 608544  9340 ?        Sl  Oct06  0:00 /usr/libexec/xdg-document-portal
taj     3018  0.0  0.0 311024  5320 ?        Sl  Oct06  0:00 /usr/libexec/xdg-permission-store
root    3025  0.0  0.0  2500  1004 ?        Ss  Oct06  0:00 fusermount3 -o rw,nosuid,nodev,fsname=p
taj     3029  0.0  0.3 410824 24904 ?        Sl  Oct06  0:00 /usr/libexec/xdg-desktop-portal-gtk
taj     3036  0.0  0.0 312100  7524 ?        Sl  Oct06  0:00 /usr/libexec/gvfsd
taj     3042  0.0  0.1 457344  9932 ?        Sl  Oct06  0:00 /usr/libexec/gvfsd-fuse /mnt/wslg/runti
taj     3051  0.0  0.0 236808  7656 ?        Sl  Oct06  0:00 /usr/libexec/at-spi2-registryd --use-gn
taj     3090  0.0  0.0 230360  5824 ?        Sl  Oct06  0:00 /usr/libexec/dconf-service
root    22762 0.0  0.0  2616   124 ?        Ss  00:04  0:00 /init
root    22763 0.0  0.0  2616   124 ?        S   00:04  0:00 /init
taj     22764 0.0  0.0  7304  4208 pts/1    Ss+ 00:04  0:00 -bash
taj     22782 0.0  0.0  5456  1060 pts/1    T   00:04  0:00 crontab -e
```

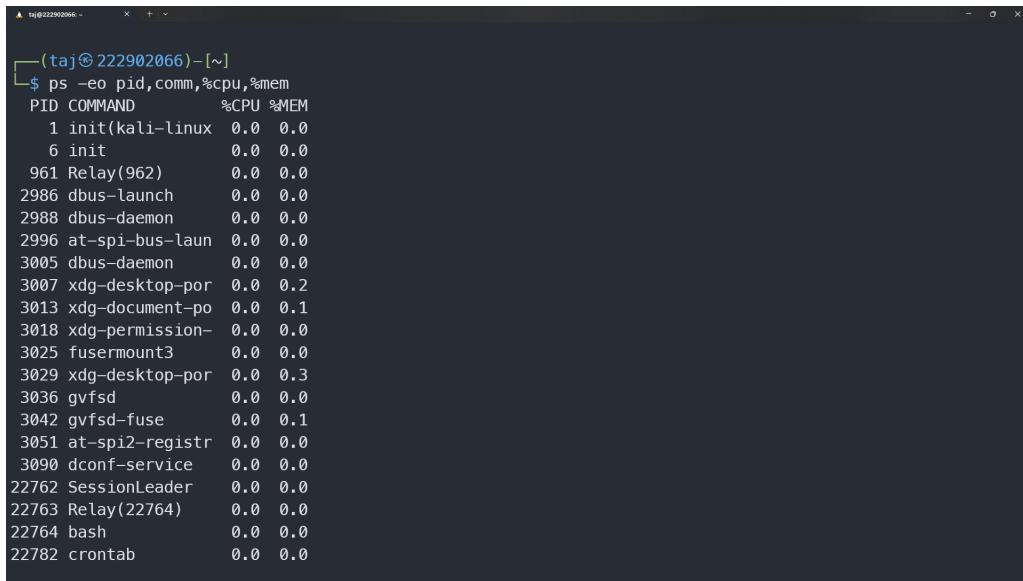
195. ps -ef -> Show full listing of processes.

```
taj@222902066:~$ ps -ef
UID      PID  PPID  C STIME TTY      TIME CMD
root      1    0  0 Oct06 hvc0    00:00:00 /init
root      6    1  0 Oct06 hvc0    00:00:00 plan9 --control-socket 5 --log-level 4 --server-fd 6 --p
root     961    1  0 Oct06 ?
taj    2986  961  0 Oct06 ?
taj    2988  961  0 Oct06 ?
taj    2996  961  0 Oct06 ?
taj   3005  2996  0 Oct06 ?
taj   3007  961  0 Oct06 ?
taj   3013  961  0 Oct06 ?
taj   3018  961  0 Oct06 ?
root   3025  3013  0 Oct06 ?
taj   3029  961  0 Oct06 ?
taj   3036  961  0 Oct06 ?
taj   3042  961  0 Oct06 ?
taj   3051  961  0 Oct06 ?
taj   3090  961  0 Oct06 ?
root  22762    1  0 00:04 ?
root  22763  22762  0 00:04 ?
taj  22764  22763  0 00:04 pts/1  00:00:00 -bash
taj  22782  22764  0 00:04 pts/1  00:00:00 crontab -e
```

196. ps -u taj -> Show processes for user `taj`.

```
taj@222902066:~$ ps -u taj
PID TTY      TIME CMD
2986 ?
2988 ?
2996 ?
3005 ?
3007 ?
3013 ?
3018 ?
3029 ?
3036 ?
3042 ?
3051 ?
3090 ?
22764 pts/1  00:00:00 bash
22782 pts/1  00:00:00 crontab
22783 pts/1  00:00:00 sh
22784 pts/1  00:00:00 sensible-editor
22787 pts/1  00:00:00 select-editor
22864 pts/2  00:00:01 bash
23407 pts/2  00:00:00 ps
```

197. ps -eo pid,comm,%cpu,%mem -> Show process ID, command, CPU, and memory usage.



```
taj@222902066:~$ ps -eo pid,comm,%cpu,%mem
 PID COMMAND %CPU %MEM
 1 init(kali-linux) 0.0 0.0
 6 init 0.0 0.0
 961 Relay(962) 0.0 0.0
 2986 dbus-launch 0.0 0.0
 2988 dbus-daemon 0.0 0.0
 2996 at-spi-bus-laun 0.0 0.0
 3005 dbus-daemon 0.0 0.0
 3007 xdg-desktop-por 0.0 0.2
 3013 xdg-document-po 0.0 0.1
 3018 xdg-permission- 0.0 0.0
 3025 fusermount3 0.0 0.0
 3029 xdg-desktop-por 0.0 0.3
 3036 gvfsd 0.0 0.0
 3042 gvfsd-fuse 0.0 0.1
 3051 at-spi2-registr 0.0 0.0
 3090 dconf-service 0.0 0.0
 22762 SessionLeader 0.0 0.0
 22763 Relay(22764) 0.0 0.0
 22764 bash 0.0 0.0
 22782 crontab 0.0 0.0
```

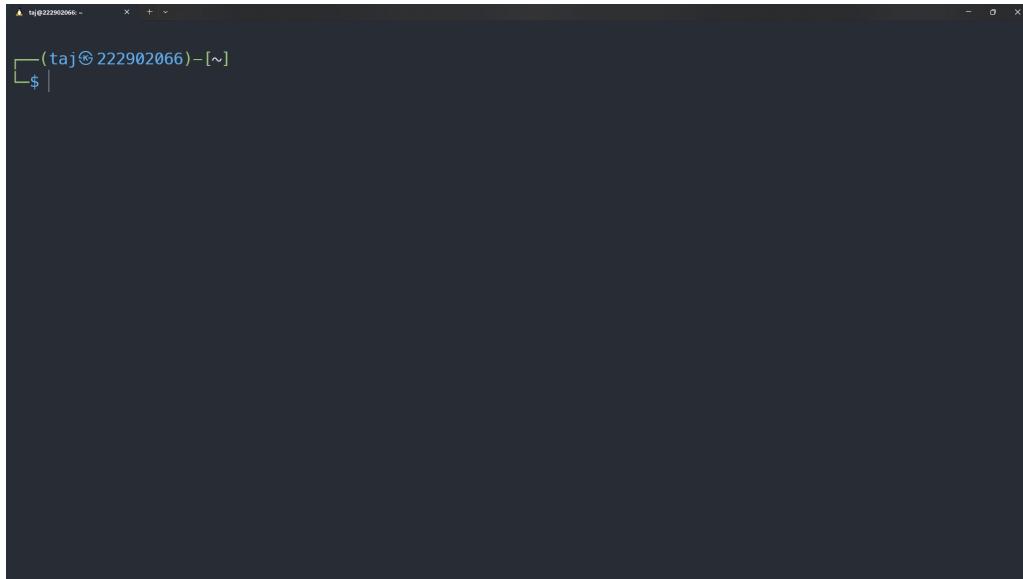
198. ps -p 1234 -> Show details for process with ID `1234`.



```
taj@222902066:~$ ps -p 1234
 PID TTY      TIME CMD

```

199. clear -> Clear the terminal screen.



200. top -> Show real-time system processes and resource usage.

```
taj@222902066 ~
└$ top
top - 00:58:01 up 6:48, 0 user, load average: 0.00, 0.00, 0.00
Tasks: 27 total, 1 running, 22 sleeping, 4 stopped, 0 zombie
%Cpu(s): 1.1 us, 1.1 sy, 0.0 ni, 97.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 7866.0 total, 7321.5 free, 581.6 used, 188.3 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 7284.5 avail Mem

      PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
23415 taj      20   0 12060  5304  3136 R 16.7  0.1  0:00.02 top
      1 root      20   0  2616  1760  1636 S  0.0  0.0  0:00.23 init(kali-linux)
      6 root      20   0  2632  132   132 S  0.0  0.0  0:00.03 init
961 root      20   0  2616  124    0 S  0.0  0.0  0:00.00 Relay(962)
2986 taj      20   0  8560  2028  1544 S  0.0  0.0  0:00.00 dbus-launch
2988 taj      20   0  8512  2632  2032 S  0.0  0.0  0:00.11 dbus-daemon
2996 taj      20   0 383548  7556  6904 S  0.0  0.1  0:00.02 at-spi-bus-laun
3005 taj      20   0  8264  3920  3516 S  0.0  0.0  0:00.01 dbus-daemon
3007 taj      20   0 479356 18832 14036 S  0.0  0.2  0:00.19 xdg-desktop-por
3013 taj      20   0 608544  9340  6668 S  0.0  0.1  0:00.07 xdg-document-po
3018 taj      20   0 311024  5320  4776 S  0.0  0.1  0:00.01 xdg-permission-
3025 root     20   0  2500  1004   912 S  0.0  0.0  0:00.00 fusermount3
3029 taj      20   0 410824 24904 18292 S  0.0  0.3  0:00.50 xdg-desktop-por
3036 taj      20   0 312100  7524  6800 S  0.0  0.1  0:00.01 gvfsd
```