

EXP-:1

**Practice basic bash, IO redirection, pipe, file and directory operations, searching files, process management and vi/nano editor commands.**

NO1

\$whoami To display the system's username

\$whoami [OPTION]

\$whoami --help It gives the help message and exit.

\$whoami --version It gives the version information and exit.

NO2

\$who [options] [filename]

```
onworks@sonali:~$ whoami
onworks
onworks@sonali:~$ who
onworks  tty7      2019-08-30 19:49 (:0)
onworks@sonali:~$ whoami --help
Usage: whoami [OPTION]...
Print the user name associated with the current effective user ID.
Same as id -un.

    --help      display this help and exit
    --version   output version information and exit

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/whoami>
or available locally via: info '(coreutils) whoami invocation'
onworks@sonali:~$ whoami --version
whoami (GNU coreutils) 8.25
Copyright (C) 2016 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

Written by Richard Mlynarik.
onworks@sonali:~$ man whoami
onworks@sonali:~$ man who
onworks@sonali:~$ who -H
NAME      LINE      TIME      COMMENT
onworks  tty7      2019-08-30 19:49 (:0)
onworks@sonali:~$ who --boot
system boot 2019-08-30 19:49
onworks@sonali:~$ who -b
system boot 2019-08-30 19:49
onworks@sonali:~$ who -k "who"
who: invalid option -- 'k'
Try 'who --help' for more information.
onworks@sonali:~$ man -k "who"
bsd-from (1) - print names of those who have sent mail
from (1) - print names of those who have sent mail
w (1) - Show who is logged on and what they are doing.
w.procps (1) - Show who is logged on and what they are doing.
who (1) - show who is logged on
whoami (1) - print effective userid
onworks@sonali:~$
```

NO3

pwd stands for Print Working Directory. It prints the path of the working directory, starting from the root.

pwd is shell built-in command(pwd) or an actual binary(/bin/pwd).

\$PWD is an [environment variable](#) which stores the path of the current directory

-L,--logical

If the [environment variable](#) PWD contains an [absolute name](#) of the current directory with "." or ".." components, then output those contents, even if they contain [symbolic links](#). Otherwise, fall back to default (-P) behavior.

-P, --physical	Print a fully resolved name for the current directory, where all components of the name are actual directory names, and not symbolic links.
--help	Display a help message, and exit.
--version	Display version information, and exit.

```
onworks@sonali:~$ man pwd
onworks@sonali:~$ type pwd
pwd is a shell builtin
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$ ls
Desktop  Downloads  file  Music  Public  user_in
Documents  examples.desktop  files  Pictures  Templates  Videos
onworks@sonali:~$ cd Documents
onworks@sonali:~/Documents$ pwd
/home/onworks/Documents
onworks@sonali:~/Documents$ pwd -L
/home/onworks/Documents
onworks@sonali:~/Documents$ pwd -P
/home/onworks/Documents
onworks@sonali:~/Documents$ mkdir org_dir
onworks@sonali:~/Documents$ ln -s org_dir sym_link
onworks@sonali:~/Documents$ ls -l
total 4
drwxrwxr-x 2 onworks onworks 4096 Okt  2 18:35 org_dir
lrwxrwxrwx 1 onworks onworks   7 Okt  2 18:36 sym_link -> org_dir
onworks@sonali:~/Documents$ cd org_dir
onworks@sonali:~/Documents/org_dir$ pwd
/home/onworks/Documents/org_dir
onworks@sonali:~/Documents/org_dir$ cd ../sym_link
onworks@sonali:~/Documents/sym_link$ pwd
/home/onworks/Documents/sym_link
onworks@sonali:~/Documents/sym_link$ pwd -P
/home/onworks/Documents/org_dir
onworks@sonali:~/Documents/sym_link$ pwd -L
/home/onworks/Documents/sym_link
onworks@sonali:~/Documents/sym_link$ which pwd
/bin/pwd
onworks@sonali:~/Documents/sym_link$ /bin/pwd
/home/onworks/Documents/org_dir
onworks@sonali:~/Documents/sym_link$ /bin/pwd -P
/home/onworks/Documents/org_dir
onworks@sonali:~/Documents/sym_link$ /bin/pwd -L
/home/onworks/Documents/sym_link
onworks@sonali:~/Documents/sym_link$
```

## NO4

Is is a Linux shell command that lists directory contents of files and directories

\$ ls

'file name.txt' filename.txt

\$ ls /home/linuxconfig

\$ ls -l To show long listing information about the file/directory.

\$ ls -1 Display One File Per Line

\$ ls -ltr Order Files Based on Last Modified Time (In Reverse Order)

\$ ls -li Display File Inode Number

\$ ls -A To show the hidden files, but not the '.' (current directory) and '..' (parent directory).

\$ ls -lh (h stands for human readable form) : To display file size in easy to read format. i.e i.e M for MB, K for KB, G for GB

\$ ls -lt    Order Files Based on Last Modified Time

\$ ls -R    Display Files Recursively

\$ ls -a    Display Hidden Files Using ls -a

\$ ls -t    Open Last Edited File

\$ ls -i    Hide Control Characters

```
onworks@sonali:~$ ls
Desktop  Downloads  File      Music     Public    user_ln
Documents examples.desktop  Files     Pictures  Templates Videos
onworks@sonali:~$ ls -a
.        .cache      Downloads  .gnupg    Pictures   user_ln
..       .complz    examples.desktop  .ICEauthority .profile  Videos
.bash_history .config    File      .local    Public
.bash_logout Desktop   Files     Music     .sudo_as_admin_successful .xsession-errors
.bashrc    Documents .gconf    .nano     Templates .xsession-errors.old
onworks@sonali:~$ ls -l
total 44
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Desktop
drwxr-xr-x 3 onworks onworks 4096 Oct 2 18:36 Documents
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Downloads
-rw-r--r-- 1 onworks onworks 8980 Mar 5 2019 examples.desktop
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 File -> /Music/
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 Files -> /Music/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Music
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Pictures
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Public
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Templates
lrwxrwxrwx 1 onworks onworks 6 Oct 2 18:14 user_ln -> /user/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Videos
onworks@sonali:~$ ls -t
Documents  File      Desktop  Music     Public    Videos
Files     user_ln  Downloads Pictures    Templates examples.desktop
onworks@sonali:~$ ls -tl
total 44
drwxr-xr-x 3 onworks onworks 4096 Oct 2 18:36 Documents
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 Files -> /Music/
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 File -> /Music/
lrwxrwxrwx 1 onworks onworks 6 Oct 2 18:14 user_ln -> /user/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Desktop
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Downloads
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Music
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Pictures
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Public
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Templates
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Videos
-rw-r--r-- 1 onworks onworks 8980 Mar 5 2019 examples.desktop
```

```
onworks@sonali:~$ ls -a
.        .cache      Downloads  .gnupg    Pictures   user_ln
..       .complz    examples.desktop  .ICEauthority .profile  Videos
.bash_history .config    File      .local    Public
.bash_logout Desktop   Files     Music     .sudo_as_admin_successful .xsession-errors
.bashrc    Documents .gconf    .nano     Templates .xsession-errors.ol
onworks@sonali:~$ ls -l
total 44
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Desktop
drwxr-xr-x 3 onworks onworks 4096 Oct 2 18:36 Documents
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Downloads
-rw-r--r-- 1 onworks onworks 8980 Mar 5 2019 examples.desktop
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 File -> /Music/
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 Files -> /Music/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Music
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Pictures
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Public
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Templates
lrwxrwxrwx 1 onworks onworks 6 Oct 2 18:14 user_ln -> /user/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Videos
onworks@sonali:~$ ls -t
Documents  File      Desktop  Music     Public    Videos
Files     user_ln  Downloads Pictures    Templates examples.desktop
onworks@sonali:~$ ls -tl
total 44
drwxr-xr-x 3 onworks onworks 4096 Oct 2 18:36 Documents
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 Files -> /Music/
lrwxrwxrwx 1 onworks onworks 7 Oct 2 18:26 File -> /Music/
lrwxrwxrwx 1 onworks onworks 6 Oct 2 18:14 user_ln -> /user/
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Desktop
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Downloads
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Music
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Pictures
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Public
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Templates
drwxr-xr-x 2 onworks onworks 4096 Mar 5 2019 Videos
-rw-r--r-- 1 onworks onworks 8980 Mar 5 2019 examples.desktop
onworks@sonali:~$ ls -r
No command 'ls-r' found, did you mean:
Command 'lsar' from package 'unar' (universe)
ls-r: command not found
onworks@sonali:~$ ls -r
Videos  Templates  Pictures  Files  examples.desktop  Documents
user_ln Public    Music    File   Downloads  Desktop
```

```
onworks@sonali:~$ ls -S
examples.desktop  Downloads  Music      Public      Videos  files
Desktop           Pictures   Templates  Desktop     user_ln

onworks@sonali:~$ ls -Sr
user_ln  files  Templates  Pictures  Downloads  Desktop
files    Videos  Public      Music      Documents  examples.desktop

onworks@sonali:~$ ls -F
Desktop/  Downloads/  files@  Music/  Public/  user_ln@
Documents/  examples.desktop  files@  Pictures/  Templates/  Videos/

onworks@sonali:~$ ls -alF
total 112
drwxr-xr-x 17 onworks onworks 4096 Okt  2 18:27 ./
drwxr-xr-x  3 root    root    4096 Mai  5 2019 ../
-rw-r--r--  1 onworks onworks  94 Mai 31 2019 .bash_history
-rw-r--r--  1 onworks onworks 220 Mai  5 2019 .bash_logout
-rw-r--r--  1 onworks onworks 3771 Mai  5 2019 .bashrc
drwx----- 12 onworks onworks 4096 Okt  2 18:01 .cache/
drwx-----  3 onworks onworks 4096 Mai  5 2019 .complz/
drwx----- 14 onworks onworks 4096 Mai  5 2019 .config/
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Desktop/
drwxr-xr-x  3 onworks onworks 4096 Okt  2 18:36 Documents/
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Downloads/
-rw-r--r--  1 onworks onworks 8980 Mai  5 2019 examples.desktop
lrwxrwxrwx  1 onworks onworks  7 Okt  2 18:26 file -> /Music/
lrwxrwxrwx  1 onworks onworks  7 Okt  2 18:26 files -> /Music/
drwx-----  2 onworks onworks 4096 Mai  5 2019 .gconf/
drwx-----  3 onworks onworks 4096 Aug 30 2019 .gnupg/
-rw-r--r--  1 onworks onworks 3496 Aug 30 2019 .ICEauthority
drwx-----  3 onworks onworks 4096 Mai  5 2019 .local/
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Music/
drwxrwxr-x  2 onworks onworks 4096 Okt  2 18:27 .nano/
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Pictures/
-rw-r--r--  1 onworks onworks  655 Mai  5 2019 .profile
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Public/
-rw-r--r--  1 onworks onworks  0 Mai  5 2019 .sudo_as_admin_successful
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Templates/
lrwxrwxrwx  1 onworks onworks  6 Okt  2 18:14 user_ln -> /user/
drwxr-xr-x  2 onworks onworks 4096 Mai  5 2019 Videos/
-rw-r--r--  1 onworks onworks  81 Aug 30 2019 .Xauthority
-rw-r--r--  1 onworks onworks  82 Aug 30 2019 .xsession-errors
-rw-r--r--  1 onworks onworks  82 Mai 31 2019 .xsession-errors.old
```

```
onworks@sonali:~$ ls -la
.          .cache      Downloads   .gnupg      Pictures     user_ln
..         .complz     examples.desktop .ICEauthority .profile     Videos
.bash_history .config     file        .local       Public       .Xauthority
.bash_logout Desktop      files       Music        .sudo_as_admin_successful .xsession-errors
.bashrc     Documents   .gconf      .nano        Templates    .xsession-errors.old

onworks@sonali:~$ ls -l
Desktop
Documents
Downloads
examples.desktop
file
files
Music
Pictures
Public
Templates
user_ln
Videos
onworks@sonali:~$ ls -lh
total 44K
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Desktop
drwxr-xr-x 3 onworks onworks 4,0K Okt  2 18:36 Documents
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Downloads
-rw-r--r-- 1 onworks onworks 8,8K Mai  5 2019 examples.desktop
lrwxrwxrwx 1 onworks onworks  7 Okt  2 18:26 file -> /Music/
lrwxrwxrwx 1 onworks onworks  7 Okt  2 18:26 files -> /Music/
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Music
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Pictures
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Public
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Templates
lrwxrwxrwx 1 onworks onworks  6 Okt  2 18:14 user_ln -> /user/
drwxr-xr-x 2 onworks onworks 4,0K Mai  5 2019 Videos
onworks@sonali:~$
```

```
onworks@sonali:~$ ls -li
1572173 Desktop      1582073 examples.desktop  1572181 Music      1572178 Templates
1572180 Documents    1588471 file          1572182 Pictures    1588470 user_ln
1572177 Downloads    1588472 files         1572179 Public      1572183 Videos
onworks@sonali:~$ ls -l -t
Documents
files
file
user_ln
Desktop
Downloads
Music
Pictures
Public
Templates
Videos
examples.desktop
onworks@sonali:~$
```



```
onworks@sonali:~$ ls
Desktop Documents Downloads examples.desktop Music Pictures Public Templates Videos
onworks@sonali:~$ cd Videos
onworks@sonali:~/Videos$ pwd
/home/onworks/Videos
onworks@sonali:~/Videos$
```

N05

cd is a shell builtin, and its behavior may slightly differ from shell to shell.

cd <dirname>

cd < current directory> <specified directory>

cd ~ Navigate to the Home Directory

cd - Navigate to the Previous Directory

cd ../ To switch to the /usr/local directory (one level up from the current directory)

cd ~username navigate to another user's home

\$cd Dir1/Dir2/Dir3.... To move two levels up to the /usr directory (the parent's parent),

```
onworks@sonali:~$ cd Documents
onworks@sonali:~/Documents$ cd ~
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$
```

```
onworks@sonali:~$ cd Documents
onworks@sonali:~/Documents$ cd /
onworks@sonali:/$ pwd
/
onworks@sonali:/$
```

```
onworks@sonali:~/Documents$ cd ..
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$
```

```
onworks@sonali:~/Documents$ cd ../../
onworks@sonali:/home$ pwd
/home
onworks@sonali:/home$
```

```
onworks@sonali:~/Music$ mkdir "new folder"
onworks@sonali:~/Music$ cd new folder
bash: cd: new: No such file or directory
onworks@sonali:~/Music$ cd "new folder"
onworks@sonali:~/Music/new folder$
```

NO6

The most common way to start a vi session is to tell it which file to edit. To edit a file named filename, use the command:

\$vi filename

```
onworks@sonali:~/Documents$ ls
f1.txt f2.txt f3.txt
onworks@sonali:~/Documents$ vi f1.txt
onworks@sonali:~/Documents$ vi f4.txt
onworks@sonali:~/Documents$ ls
f1.txt f2.txt f3.txt f4.txt
onworks@sonali:~/Documents$ cat f4.txt
this is my file 4
onworks@sonali:~/Documents$ vi f4.txt
onworks@sonali:~/Documents$ cat f4.txt
press i for writing

press esc and then del for erase
use j,k for scroll
save :wq
```

NO7

\$nano filename Opening and Creating File

\$nano --version check if it is installed on your system type

```
onworks@sonali:~/Documents$ nano file1.txt
onworks@sonali:~/Documents$ cat file1.txt
file created by nano command
onworks@sonali:~/Documents$
```

NO8

The echo command in Linux is used to display a string provided by the user.

\$echo [option] [string]

\$echo -e 'Hello, \vWorld, \vthis \vis \vPNAP!' Use \v to create vertical tab spaces

\$echo -e 'Hello, \tWorld!' Add horizontal tab spaces by using \t

\$sudo echo -e 'Hello, World! \nThis is PNAP!' >> test.txt  
Use > or >> to include the string in an echo command in a file

\$echo -e 'Hello, World! \c This is PNAP!' option allows you to use escape characters

\$/bin/echo --help ;Use the --help argument to list all available echo command options:

```
onworks@sonali:~$ echo sonali
sonali
onworks@sonali:~$ echo -e "sonali \ntandon"
sonali
tandon
onworks@sonali:~$ echo -e "sonali \ttandon"
sonali  tandon
onworks@sonali:~$ a="53"
onworks@sonali:~$ b="rollno"
onworks@sonali:~$ echo $a $b
53 rollno
onworks@sonali:~$ echo -n "commnd on same line"
commnd on same lineonworks@sonali:~$ echo "os" echo "lab"
os echo lab
onworks@sonali:~$ echo -n "commnd on same line"
commnd on same lineonworks@sonali:~$ echo "os" && echo "lab"
os
lab
onworks@sonali:~$ echo "os\b lab work"
os\b lab work
onworks@sonali:~$ echo -e "os\b lab work"
o lab work
onworks@sonali:~$ echo -e "os\n lab work"
os
lab work
onworks@sonali:~$
```

NO9

\$ sudo hostnamectl set-hostname newNameHere To change the currently set hostname, type the following hostnamectl command

\$ hostnamectl Once the name is updated, you can verify the updates using

```
onworks@sonali:~$ man hostname
onworks@sonali:~$ hostname
sonali
onworks@sonali:~$
```

NO10

\$touch FILE Creating a single file

\$touch FILE1 FILE2 FILE3 The syntax to create multiple files

\$touch -a FILE change the Access time

```
onworks@sonali:~/Desktop$ ls -l
total 4
drwxrwxr-x 2 onworks onworks 4096 Okt  3 02:20 dir
onworks@sonali:~/Desktop$ touch Fa
onworks@sonali:~/Desktop$ ls -l
total 4
drwxrwxr-x 2 onworks onworks 4096 Okt  3 02:20 dir
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:21 Fa
onworks@sonali:~/Desktop$
```

```
onworks@sonali:~/Desktop$ ls -l
total 4
drwxrwxr-x 2 onworks onworks 4096 Okt  3 02:20 dir
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:23 fa
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:21 Fa
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:23 file1.txt
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:23 file2.txt
onworks@sonali:~/Desktop$ touch flle1.txt
onworks@sonali:~/Desktop$ ls -l
total 4
drwxrwxr-x 2 onworks onworks 4096 Okt  3 02:20 dir
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:23 fa
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:21 Fa
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:24 file1.txt
-rw-rw-r-- 1 onworks onworks  0 Okt  3 02:23 file2.txt
onworks@sonali:~/Desktop$
```

NO11

\$man [opt] The command-line program man is used for displaying Unix and Linux manual pages (usually called manpages).

```
onworks@sonali:~$ ls
bingo Desktop Documents Downloads examples.desktop Music Pictures Public Templates Videos
onworks@sonali:~$ man ls
onworks@sonali:~$
```

NO12

\$mkdir [option] dir\_name

\$mkdir linux

\$mkdir -R show recursive directory tree

\$ mkdir book\_titles Create a simple directory at current folder/directory

\$ mkdir -p [directories] This option enables the user to create parent directories as per the requirement.

\$ mkdir -v [directories] This option displays a verbose information of each directory that is created

\$ mkdir --version This option will print the information of the version and exit



```
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$ mkdir directory1
onworks@sonali:~$ ls
bingo  directory1  Downloads      Music  Public  Videos
Desktop Documents  examples.desktop Pictures  Templates
onworks@sonali:~$
```

```
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$ mkdir directory1
onworks@sonali:~$ ls
bingo  directory1  Downloads      Music  Public  Videos
Desktop Documents  examples.desktop Pictures  Templates
onworks@sonali:~$ mkdir ~/another_folder
onworks@sonali:~$ ls
another_folder Desktop  Documents  examples.desktop Pictures  Templates
bingo  directory1 Downloads Music Public Videos
onworks@sonali:~$
```

```
onworks@sonali:~$ mkdir -p a1/d1/g1
onworks@sonali:~$ ls
a1  bingo  directory1  Downloads      Music  Public  Videos
another_folder Desktop Documents  examples.desktop Pictures  Templates
onworks@sonali:~$ cd a1/
onworks@sonali:~/a1$ ls
d1
onworks@sonali:~/a1$ cd d1/
onworks@sonali:~/a1/d1$ ls
g1
onworks@sonali:~/a1/d1$
```

NO13

\$cat [option] [file] general syntax of cat

\$cat filename view a single file

\$cat file1 file2 To view multiple files

\$cat -n filename view contents of a file preceding with line numbers

```
onworks@sonali:~$ ls
a1  bingo  directory1  Downloads      Music  Public  Videos
another_folder Desktop Documents  examples.desktop Pictures  Templates
onworks@sonali:~$ cat bingo
use of
mv
command
onworks@sonali:~$ mv bingo ./Public/
onworks@sonali:~$ ls
a1  Desktop Documents  examples.desktop Pictures  Templates
another_folder directory1 Downloads Music Public Videos
onworks@sonali:~$ cd Public/
onworks@sonali:~/Public$ ls
bingo
onworks@sonali:~/Public$ cat bingo
use of
mv
command
onworks@sonali:~/Public$
```

NO14

\$mv [option] source destinction

\$mv [options] source\_file target\_file\_location

\$mv filename other\_directory Move files from one location to another

\$mv file1 file2 file3 destination\_directory Move multiple files simultaneously

\$mv dir another\_directory Move a directory from one place to another

```
onworks@sonali:~/Desktop$ ls
1.txt 2.txt dir fa Fa file2.txt
onworks@sonali:~/Desktop$ mv 1.txt 2.txt
onworks@sonali:~/Desktop$ cat 2.txt
file 1 context
onworks@sonali:~/Desktop$
```

```
onworks@sonali:~/Desktop$ ls
2.txt dir fa Fa file2.txt
onworks@sonali:~/Desktop$ mv 2.txt 3.txt
onworks@sonali:~/Desktop$ cat 3.txt
file 1 context
onworks@sonali:~/Desktop$
```

```
onworks@sonali:~/Desktop$ ls
dir fa Fa file2.txt
onworks@sonali:~/Desktop$ mv file2.txt dir/
onworks@sonali:~/Desktop$ ls dir/
file1.txt file2.txt
onworks@sonali:~/Desktop$
```

NO 15

Cp [..file/dir-src][dest]

\$cp -R Src\_directory Dest\_directory Two directory names

\$cp {options} source\_file target\_file copy a file to another file

\$cp {options} source\_file target\_directory Copy File(s) to another directory or folder

\$cp {options} source\_directory target\_directory copy directory to directory

```
onworks@sonali:~$ pwd
/home/onworks
onworks@sonali:~$ mkdir src dest
onworks@sonali:~$ touch src/1 src/2
onworks@sonali:~$ ls src/
1 2
onworks@sonali:~$ ls
al Desktop directory1 Downloads file1.txt Music Public Templates
another_folder dest Documents examples.desktop file2.txt Pictures src Videos
onworks@sonali:~$ cp src/1 dest/
onworks@sonali:~$ ls dest/
1
onworks@sonali:~$ touch src/3
onworks@sonali:~$ ls src/
1 2 3
onworks@sonali:~$ ls dist/
ls: cannot access 'dist/': No such file or directory
onworks@sonali:~$ ls dest/
1
onworks@sonali:~$ cp src/2 src/3 dest/
onworks@sonali:~$ ls dest/
1 2 3
onworks@sonali:~$
```

```

onworks@sonali:~$ touch src/dir1
onworks@sonali:~$ cp -r src/dir1/ .
onworks@sonali:~$ ls
a1      Desktop  dir1     Documents  examples.desktop  file1.txt  Music  Pictures  src  Templates  Videos
another_folder  dest    directory1  Downloads  file1.txt  Music  Public  Templates  Videos
onworks@sonali:~$ rm -r dir1/
onworks@sonali:~$ touch src/dir1/fileee
onworks@sonali:~$ ls
a1      Desktop  directory1  Downloads  file1.txt  Music  Public  Templates  Videos
another_folder  dest    directory1  Downloads  file1.txt  Music  Public  Templates  Videos
onworks@sonali:~$ cp -r src/dir1/ . -v
'src/dir1/' -> './dir1'
'src/dir1/fileee' -> './dir1/fileee'
onworks@sonali:~$ ls
a1      Desktop  dir1     Documents  examples.desktop  file1.txt  Pictures  src  Templates  Videos
another_folder  dest    directory1  Downloads  file1.txt  Music  Public  Templates  Videos
onworks@sonali:~$ ls dir1/
fileee
onworks@sonali:~$ touch dir1/jlo
onworks@sonali:~$ nano dir1/jlo
onworks@sonali:~$ cat jlo
cat: jlo: No such file or directory
onworks@sonali:~$ cd dir1
onworks@sonali:~/dir1$ cat jlo
origibal
onworks@sonali:~/dir1$ ls
fileee  jlo
onworks@sonali:~/dir1$ cd
onworks@sonali:~$ nano jlo
onworks@sonali:~$ cp dir1/jlo .
onworks@sonali:~$ cat jlo
origibal
onworks@sonali:~$ cat -n dir1/jlo
1 origibal
onworks@sonali:~$ cp -n dir1/jlo
cp: missing destination file operand after 'dir1/jlo'
Try 'cp --help' for more information.
onworks@sonali:~$ cd dir1
onworks@sonali:~/dir1$ cp -n dir1/jlo
cp: missing destination file operand after 'dir1/jlo'
Try 'cp --help' for more information.
onworks@sonali:~/dir1$

```

NO 16

\$cat [opt] [file].. display contents of file

\$cat test test1 view multiple files

\$cat >test2 create a file with cat

\$cat song.txt | more

\$cat song.txt | less

```

onworks@sonali:~$ cd Music
onworks@sonali:~/Music$ cat a1.txt
cat: a1.txt: No such file or directory
onworks@sonali:~/Music$ cat >a1.txt
file1.AC
onworks@sonali:~/Music$ cat >a1.txt
file2.AC
onworks@sonali:~/Music$ cat a1
cat: a1: No such file or directory
onworks@sonali:~/Music$ cat a1.txt
file2.onworks@sonali:~/Music$

```

```

onworks@sonali:~/Music$ cat >file.txt
this is the
use of
-n
command

okay^C
onworks@sonali:~/Music$ cat -n file.txt
 1 this is the
 2 use of
 3 -n
 4 command
 5
onworks@sonali:~/Music$

```

```
onworks@sonali:~/Music$ cat file.txt
this is the
use of
-n
command

onworks@sonali:~/Music$ cat -b file.txt
 1 this is the
 2 use of
 3 -n
 4 command

onworks@sonali:~/Music$
```

```
onworks@sonali:~/Music$ cat file.txt
this is the

use of
-n
command

onworks@sonali:~/Music$ cat -s file.txt
this is the

use of
-n
command

onworks@sonali:~/Music$
```

```
onworks@sonali:~/Desktop$ cat con.txt
content file 1
onworks@sonali:~/Desktop$ cat noc.txt
content file2
onworks@sonali:~/Desktop$ cat con.txt>>noc.txt
onworks@sonali:~/Desktop$ cat noc.txt
content file2
content file 1
onworks@sonali:~/Desktop$ cat con.txt noc.txt>>ccc.txt
onworks@sonali:~/Desktop$ cat ccc.txt
content file 1
content file2
content file 1
onworks@sonali:~/Desktop$
```

NO17

\$rm [OPTION]... FILE...

rm command is used to remove objects such as files, directories, symbolic links and so on from the file system like UNIX

\$ rm b.txt c.txt Removing more than one file at a time

\$ rm a.txt Removing one file at a time

\$ rm -i d.txt remove regular empty file

\$ rm e.txt remove write-protected regular empty file

```
onworks@sonali:~$ cat >rat.txt
rm command^C
onworks@sonali:~$ rm rat.txt
onworks@sonali:~$ ls
al          Desktop  dir1      Documents  examples.desktop  file2.txt  Music  Public  Templates
another_folder  dest    directory1  Downloads  file1.txt         jio        Pictures  src      Videos
onworks@sonali:~$
```

```
onworks@sonali:~$ cat >rattt.txt
jlo^C
onworks@sonali:~$ cat >rajjj.txt
kot^C
onworks@sonali:~$ rm rattt.txt rajjj.txt
onworks@sonali:~$ ls
a1      Desktop  dir1      Documents  examples.desktop  file2.txt  Music     Public  Templates
another_folder  dest     directory1 Downloads  file1.txt         jlo        Pictures  src     Videos
onworks@sonali:~$
```

```
onworks@sonali:~$ mkdir d1
onworks@sonali:~$ rm -r d1
onworks@sonali:~$ ls
a1      Desktop  dir1      Documents  examples.desktop  file2.txt  Music     Public  Templates
another_folder  dest     directory1 Downloads  file1.txt         jlo        Pictures  src     Videos
onworks@sonali:~$
```

```
onworks@sonali:~$ cd Documents
onworks@sonali:~/Documents$ mkdir D1
onworks@sonali:~/Documents$ cd D1
onworks@sonali:~/Documents/D1$ cat >file1.txt
new dir deletion ^C
onworks@sonali:~/Documents/D1$ cd ..
onworks@sonali:~/Documents$ rm -r D1
onworks@sonali:~/Documents$ ls
The program 'LS' is currently not installed. You can install it by typing:
sudo apt install sl
onworks@sonali:~/Documents$ ls
onworks@sonali:~/Documents$
```

```
onworks@sonali:~/Documents$ cat >doc.txt
use of -i^C
onworks@sonali:~/Documents$ rm -i doc.txt
rm: remove regular empty file 'doc.txt'? y
onworks@sonali:~/Documents$
```

NO 18

\$grep [options] pattern [files]

\$grep -l "unix" file.txt search for a string case

\$grep -w "unix" file.txt checking for whole words in a file

```
onworks@sonali:~/Desktop$ grep "mlet" con.txt
mlet
onworks@sonali:~/Desktop$ grep -i "mlet" con.txt
mlet
onworks@sonali:~/Desktop$ clear
```

```
onworks@sonali:~/Desktop$ grep -i "mlet" con.txt
mlet
MIET
onworks@sonali:~/Desktop$
```

```
onworks@sonali:~/Desktop$ grep -n "mlet" con.txt
1:mlet
onworks@sonali:~/Desktop$
```



```
onworks@sonali:~/Desktop$ grep -ic "miet" con.txt
2
onworks@sonali:~/Desktop$ grep -in "miet" con.txt
1:miet
4:MIET
onworks@sonali:~/Desktop$ grep -iv "miet" con.txt
content file 1
onworks@sonali:~/Desktop$ grep -iE "miet" con.txt
miet
MIET
onworks@sonali:~/Desktop$
```

```
onworks@sonali:~/Desktop$ grep -ic "miet" con.txt
2
onworks@sonali:~/Desktop$ grep -in "miet" con.txt
1:miet
4:MIET
onworks@sonali:~/Desktop$ grep -iv "miet" con.txt
content file 1
onworks@sonali:~/Desktop$ grep -iE "miet" con.txt
miet
MIET
onworks@sonali:~/Desktop$
```

NO19

\$date current time and date

\$date[option]..[+format]

```
onworks@sonali:~$ date
Mo 3. Okt 03:36:54 CEST 2022
onworks@sonali:~$ date "+d/%m/%y"
03/10/22
onworks@sonali:~$ date "+H/%M/%S"
03/38/10
onworks@sonali:~$ date "+%B"
Oktober
onworks@sonali:~$ date "+%A"
Montag
onworks@sonali:~$
```

NO 20

\$bc to perform any arithmetic operations

```
onworks@sonali:~$ bc
bc 1.06.95
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type 'warranty'.
2+9
11
onworks@sonali:~$ bc
bc 1.06.95
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type 'warranty'.
4+0;7*9
4
63
ibase =9
ibase = 9
01
1
obase = 2
5
101
89
1010000
```

NO 21

\$top Display process id

K FOR kill any process.

d For change the delay time interval.

h For help.

```
onworks@sonali:~$ top
top - 13:51:54 up 5 min, 1 user, load average: 0,40, 0,56, 0,28
Tasks: 160 total, 2 running, 123 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1,7 us, 0,2 sy, 0,0 ni, 98,2 id, 0,0 wa, 0,0 hi, 0,0 si, 0,0 st
KiB Mem : 3024932 total, 499756 free, 470208 used, 2054968 buff/cache
KiB Swap: 998396 total, 998396 free, 0 used. 2190452 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 1601 onworks   20   0 383920 187648 75772 S   2,3   6,2   0:14.88 compiz
   812 root      20   0 230552 66056 29424 S   1,0   2,2   0:05.66 Xorg
    92 root      20   0     0     0     0 I   0,3   0,0   0:00.10 kworker/u4:3
     1 root      20   0 25144 5052 3756 S   0,0   0,2   0:02.57 systemd
```

NO 22

\$kill -l to display all the available signals

\$ps to display a list of running processes.

\$kill pid to show how to use pid with Kill Command.

\$kill {-signal | -s signal} pid to show how to send signal to processes.

```
onworks@sonali:~$ ps -ux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
onworks   826  0.0  0.1   6400  4196 ?        Ss   13:46   0:00 /lib/systemd/systemd --user
onworks   827  0.0  0.0   7588  1308 ?        S    13:46   0:00 (sd-pam)
onworks   830  0.0  0.1  10060  4388 ?        Ss   13:46   0:00 /sbin/upstart --user
onworks   993  0.0  0.0   8960   224 ?        S    13:46   0:00 upstart-udev-bridge --daemon --user
onworks   994  0.0  0.1   6648  3976 ?        Ss   13:46   0:00 dbus-daemon --fork --session --address=
onworks  1006  0.0  0.2  47356  8264 ?        Ss   13:46   0:00 /usr/lib/i386-linux-gnu/hud/window-st
onworks  1030  0.0  0.0   9204   300 ?        S    13:46   0:00 upstart-file-bridge --daemon --user
onworks  1034  0.0  0.0   8884   236 ?        S    13:46   0:00 upstart-dbus-bridge --daemon --system
onworks  1035  0.0  0.0   8884   236 ?        S    13:46   0:00 upstart-dbus-bridge --daemon --sessio
onworks  1036  0.0  0.2  49964  7372 ?        Ssl  13:46   0:00 /usr/bin/ibus-daemon --daemonize --xl
onworks  1039  0.0  0.2  40192  6184 ?        Sll  13:46   0:00 gnome-keyring-daemon --start --compon
onworks  1054  0.0  1.6 174180 48444 ?        Ssl  13:46   0:00 /usr/lib/i386-linux-gnu/bamf/bamfdaem

onworks@sonali:~$ kill 1743
onworks@sonali:~$ ps -aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.2  0.1  25144  5052 ?        Ss   13:45   0:02 /sbin/init splash
root         2  0.0  0.0      0     0 ?        S    13:45   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        I    13:45   0:00 [kworker/0:0]
root         4  0.0  0.0      0     0 ?        I<   13:45   0:00 [kworker/0:0H]
root         6  0.0  0.0      0     0 ?        I<   13:45   0:00 [mm_percpu_wq]
root         7  0.0  0.0      0     0 ?        S    13:45   0:00 [ksoftirqd/0]
root         8  0.0  0.0      0     0 ?        I    13:45   0:00 [rcu_sched]
root         9  0.0  0.0      0     0 ?        I    13:45   0:00 [rcu_bh]
root        10  0.0  0.0      0     0 ?        S    13:45   0:00 [migration/0]
root        11  0.0  0.0      0     0 ?        S    13:45   0:00 [watchdog/0]
```

NO 23 and NO 24

\$head is used to show the first part of the file.

\$head f1.txt f2.txt to show multiple files.

\$head -n3 file.txt to show the 3 lines.

\$tail is used to show the last part of the file to file

\$tail -n3 file.txt to show the 3 lines.

```
onworks@sonali:~$ nano large.txt
onworks@sonali:~$ head large.txt
1
2
3
q
w
e
r
t
y
u
onworks@sonali:~$ tail large.txt
v
'
I
fb
f
d
cscsc
scscdd
f
b
```

```
onworks@sonali:~$ head -n3 large.txt
1
2
3
```

```
onworks@sonali:~$ tail -n3 large.txt
scscdd
f
b
```