Lab 1: Learning Basic Linux Commands

OS used: Linux Mint 22.1

1.1 Command Name : ls

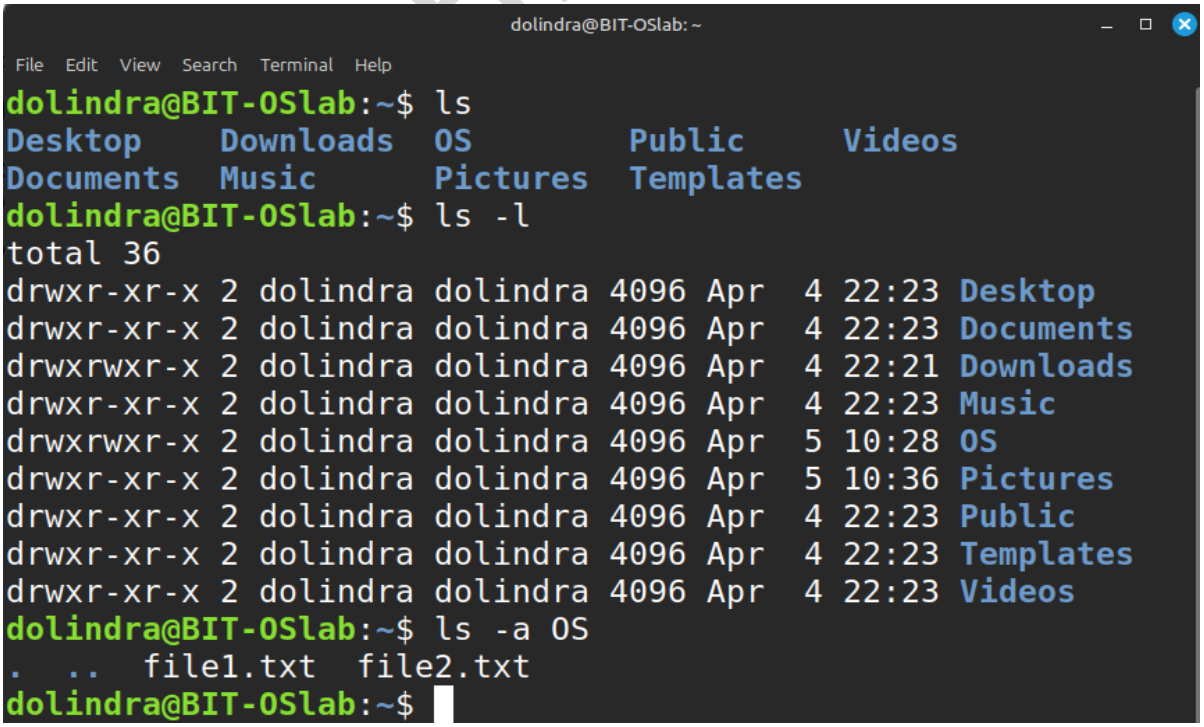
Syntax: ls [option] [directory].

Usage: ls is used to list the contents of a directory. It can be used to list the contents of the current directory or any other directory.

Commands used:

- ls : list the contents of the current directory
- ls -l : list the contents of the current directory in long format which includes:
  - The file type.
  - The file owner.
  - The file permissions.
  - Number of hard links to the file.
  - File group.
  - File name.
  - Date and Time.
  - File size.
- ls -a OS : list the contents of "OS" directory including hidden files

Output:



1.2 Command Name: cd

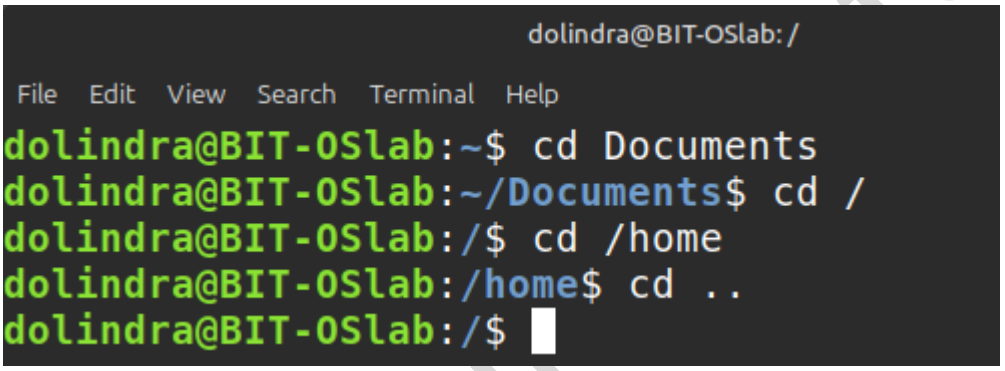
Syntax : cd [directory]

Usage : cd is used to change the current working directory. It can be used to change the current working directory to the home directory or any other directory.

Commands used:

- cd Documents: change the current working directory to the Documents directory of the user.
- cd / : change the current working directory to the root directory.
- cd /home: change the current working directory to the home directory.e
- cd .. : change the current working directory to the parent directory.

Output:



1.3 Command Name: grep

Syntax : grep [options] pattern [file]

Usage : grep is used to search for a pattern in a file.

Commands Used:

- grep "operating system" samplefile.txt: searches for the word "operating system" in samplefile.txt.

Output:

1.4 Command Name : su/sudo

Syntax : su [options] [username]
sudo [options] command

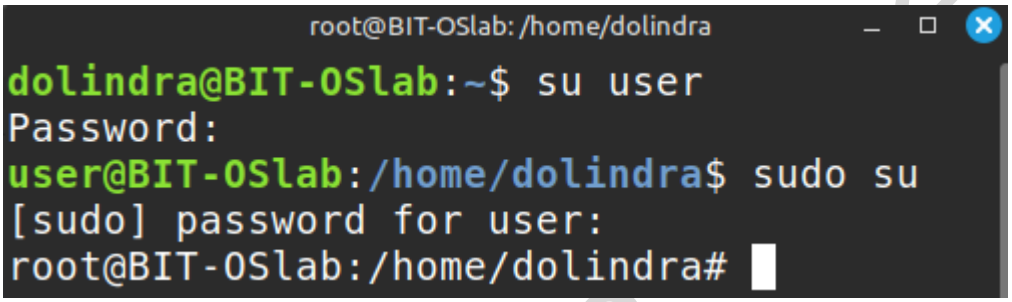
Usage : su is used to switch to another user. It can be used to switch to the root user or any other user.

sudo is used to execute a command as another user. It can be used to execute a command as the root user or any other user.

Commands used:

- su dolindra : switch to the user "user".
- sudo su : switch to the root user.

Output:



1.5 Command Name: pwd

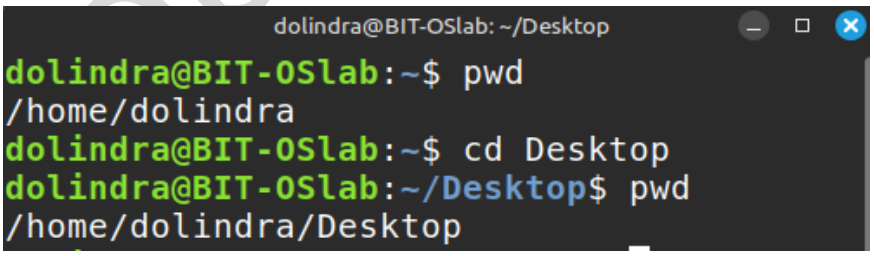
Syntax : pwd

Usage : pwd is used to print the current working directory.

Commands Used:

- pwd : print the current working directory

Output:



1.6 Command Name: mv

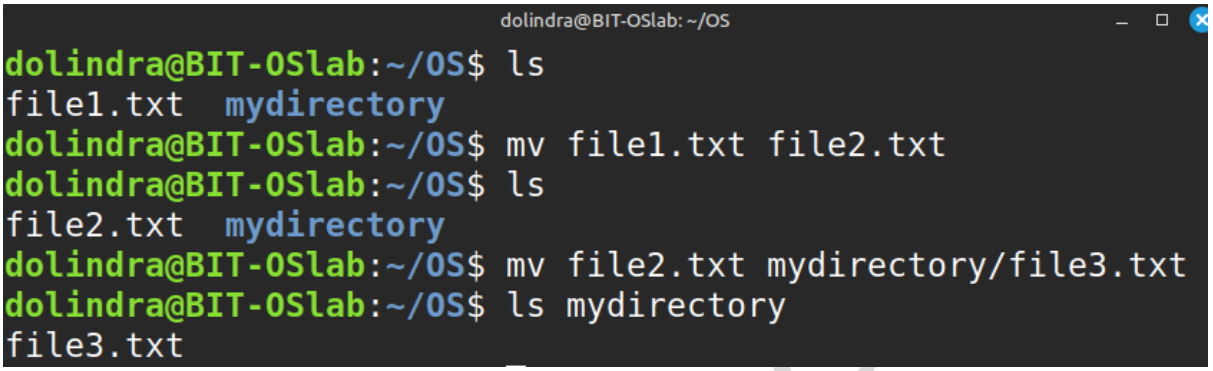
Syntax : mv [options] source destination

Usage : mv is used to move or rename a file or directory. It can be used to move or rename a file or directory in the same directory or in a different directory.

Commands Used:

- mv file1.txt file2.txt : rename the file1.txt to file2.txt
- mv file2.txt mydirectory/ file3.txt : move the file1.txt to "mydirectory" and rename it to file3.txt

Output:



1.7 Command Name: cp

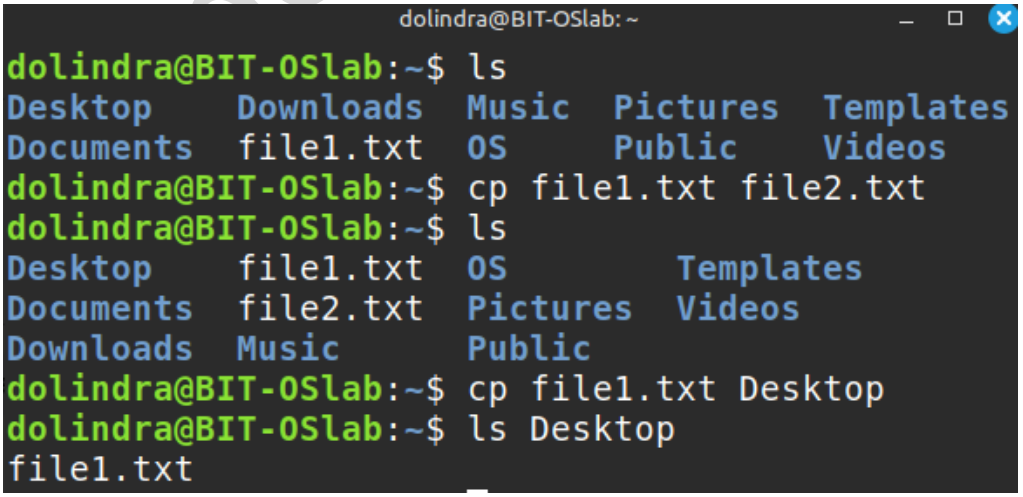
Syntax : cp [options] source destination

Usage : cp is used to copy a file or directory. It can be used to copy a file or directory in the same directory or in a different directory.

Commands Used:

- cp file1.txt file2.txt : copy the file1.txt to file2.txt.
- cp file1 Desktop : copy the file1.txt to "Desktop" directory.

Output:



1.8 Command Name: rm

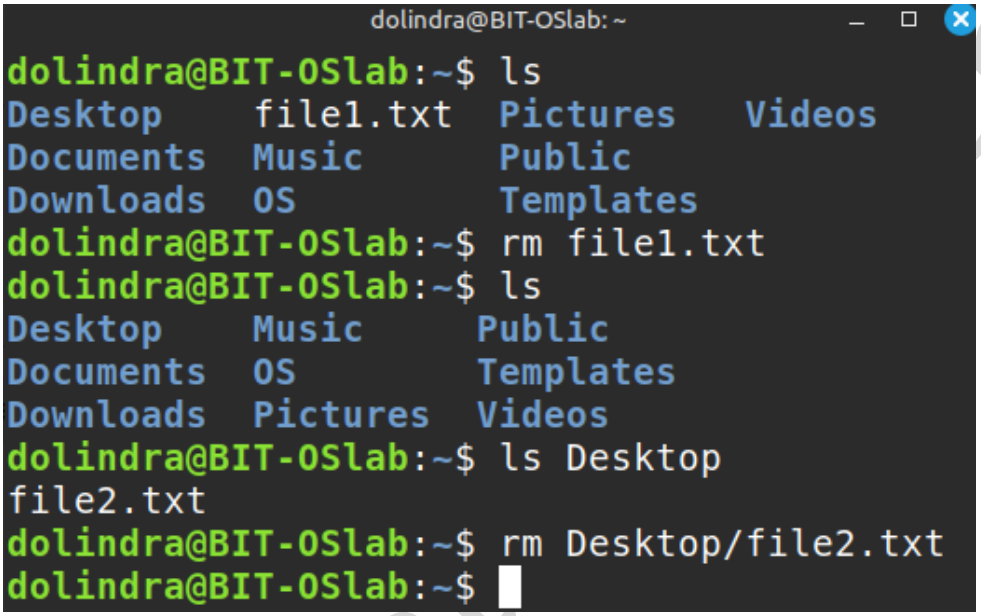
Syntax : rm [options] file

Usage : rm is used to remove a file or directory. It can be used to remove a file or directory in the same directory or in a different directory.

Commands Used:

- rm file1.txt : removes the file1.txt
- rm Desktop/file2.txt : removes the file2.txt located at the "Desktop" directory.

Output:



1.9 Command Name: mkdir

Syntax : mkdir [options] directory

Usage : mkdir is used to create a directory.

Commands Used:

- mkdir mydirectory : creates a new directory named "mydirectory".

Output:

1.10 Command Name: rmdir

Syntax : rmdir [options] directory

Usage : rmdir is used to remove an empty directory.

Commands Used:

- rmdir directory : removes an empty directory named "mydirectory.

Output:

1.11 Command Name: chmod

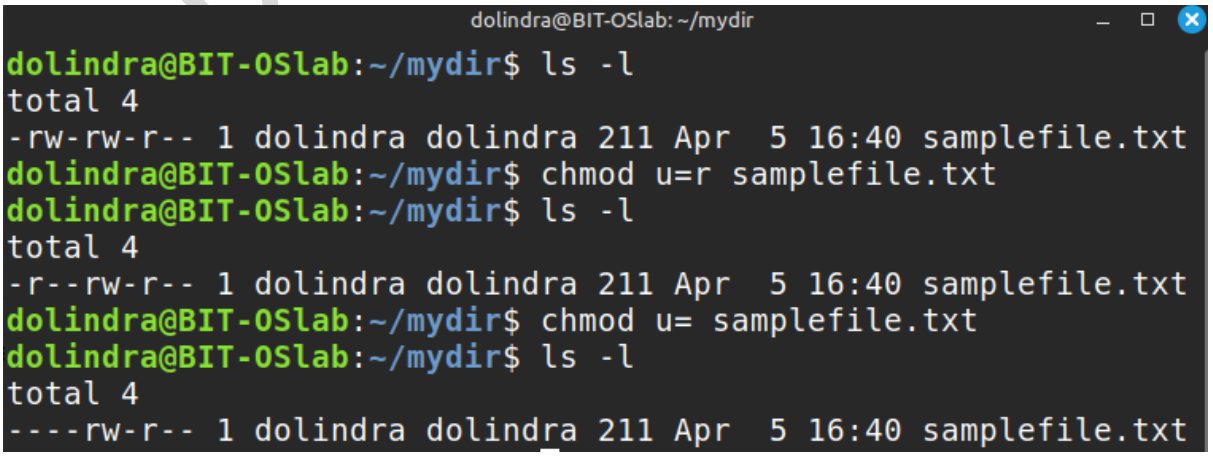
Syntax : chmod [options] permissions file

Usage : chmod is used to change the permissions of a file or directory.

Commands Used:

- chmod u=r samplefile.txt : sets the "samplefile.txt" file to read only .
- chmod u= samplefile.txt : removes all the permissions of the user for "samplefile.txt".

Output:



1.12 Command Name: cat

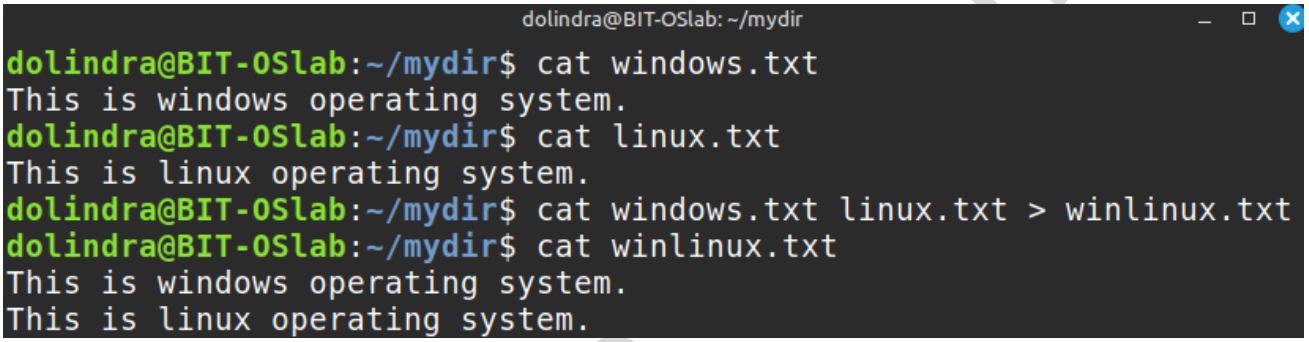
Syntax : cat [options] file(s)

Usage : cat is used to concatenate files and print on the standard output.

Commands Used:

- cat windows.txt : prints the contents of windows.txt file.
- cat linux.txt : prints the contents of linux.txt file.
- cat windows.txt linux.txt > winlinux.txt : combines the contents of windows.txt and linux.txt and saves it to winlinux.txt file.

Output:



1.13 Command Name: chown

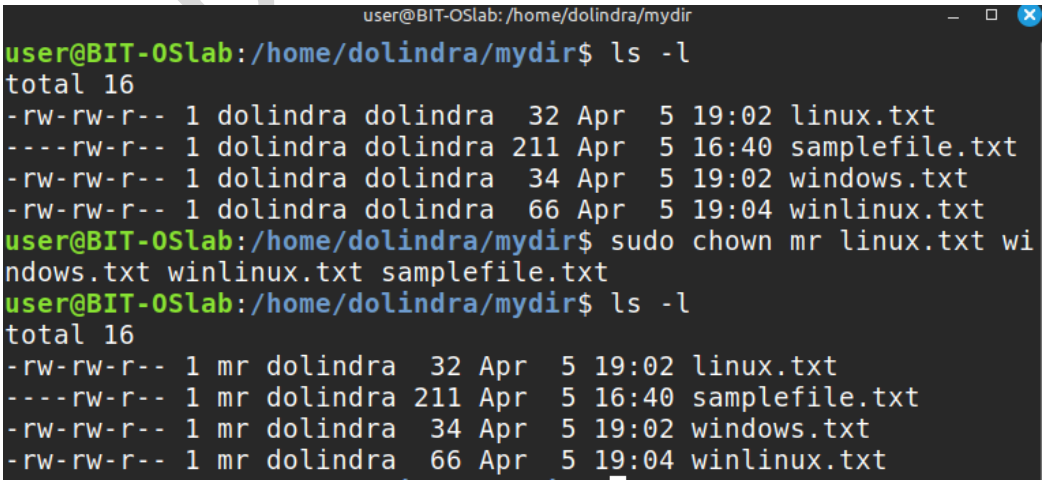
Syntax : chown [options] [owner] file

Usage : chown is used to change the owner of a file or directory.

Commands Used:

- chown user linux.txt : changes the owner of the file to the "user".

Output:



1.14 Command Name: echo

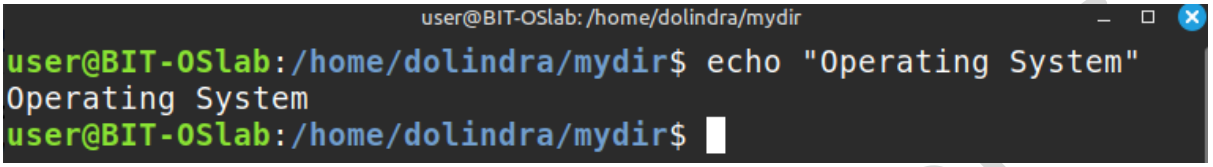
Syntax : echo [options] string

Usage : echo is used to display a line of text/string.

Commands Used:

- echo "Operating System" : Displays “Operating System”.

Output:



1.15 Command Name : wc

Syntax : wc [options] file

Usage : wc is used to count the number of lines, words, and bytes in a file.

Commands Used:

- wc linux.txt : counts the number of lines, words, and bytes in the file “linux.txt”.
- wc -l linux.txt : counts the number of lines in the file “linux.txt”.
- wc -w linux.txt : counts the number of words in the file “linux.txt”.
- wc -c linux.txt : counts the number of bytes in the file “linux.txt”.

Output:

1.16 Command Name: man

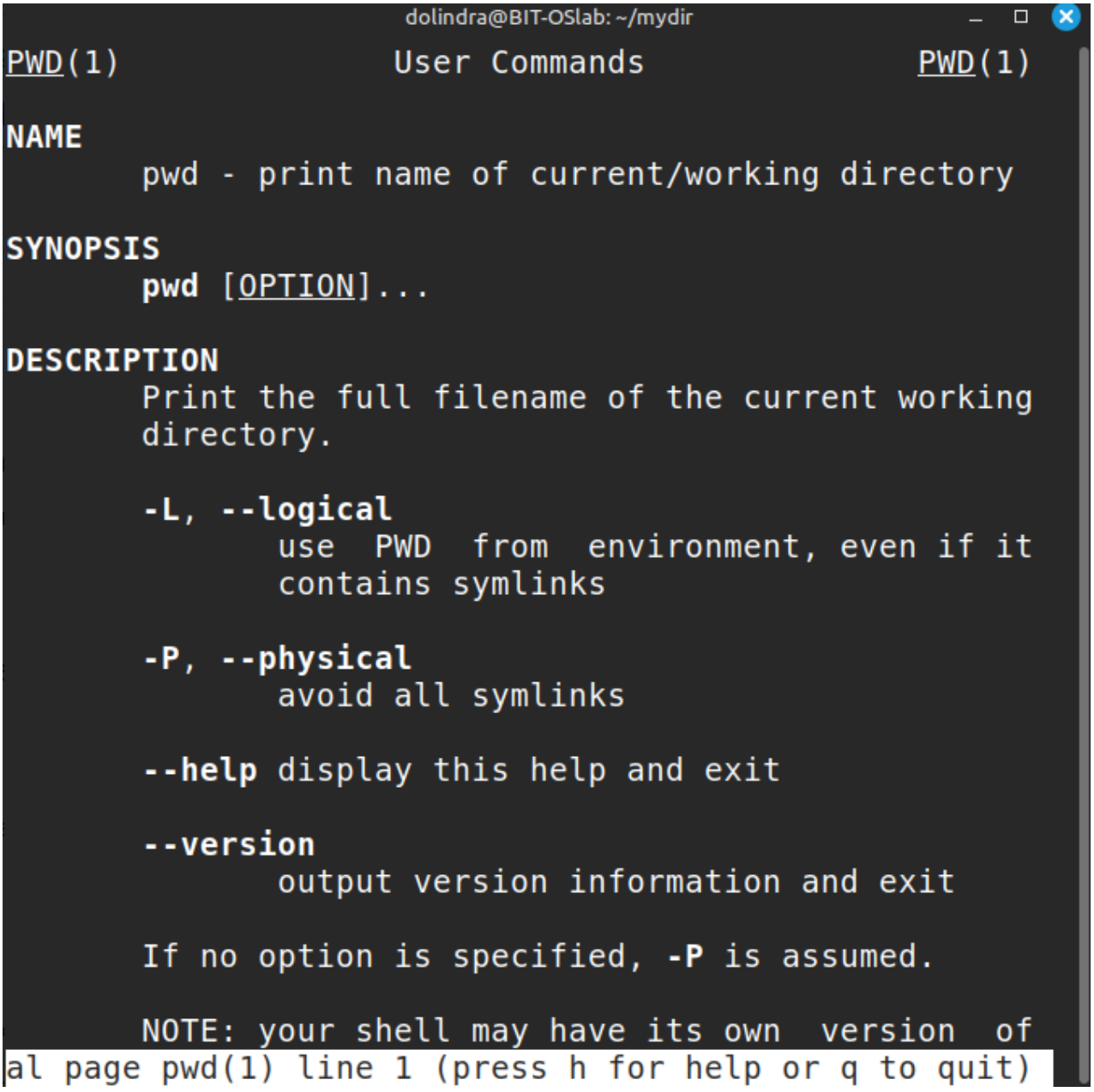
Syntax : man [options] command

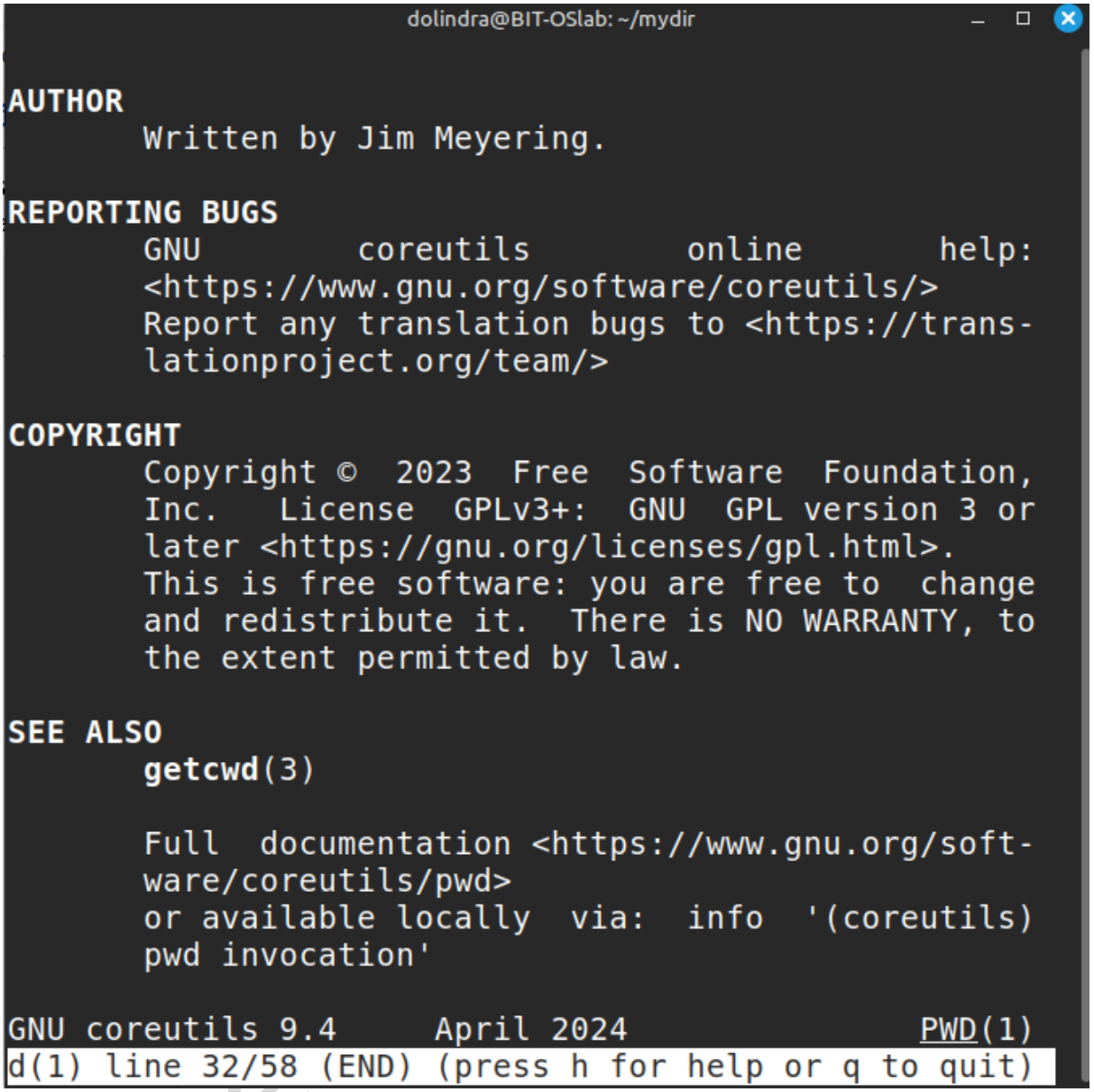
Usage : man is used to display the user manual of any command that we can run on the terminal.

Commands Used:

- man pwd : It provides a detailed view of **pwd** command which includes NAME, SYNOPSIS, DESCRIPTION, OPTIONS, EXIT STATUS, RETURN VALUES, ERRORS, FILES, VERSIONS, EXAMPLES, AUTHORS and SEE ALSO.

Output:





1.17 Command Name: history

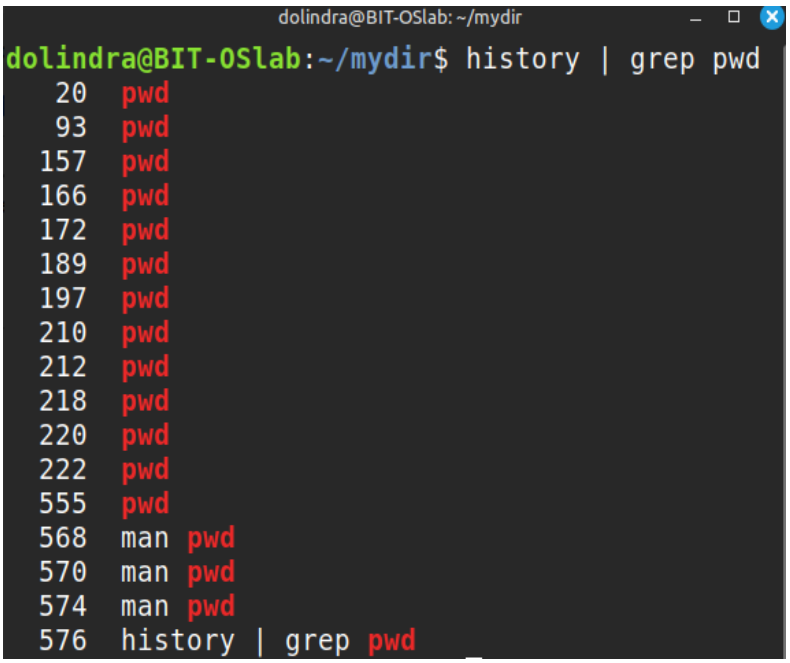
Syntax : history [options]

Usage : history is used to print the history of commands.

Commands Used:

- history | grep pwd : prints the history of the **"pwd"** command.

Output:



1.18 Command Name: clear

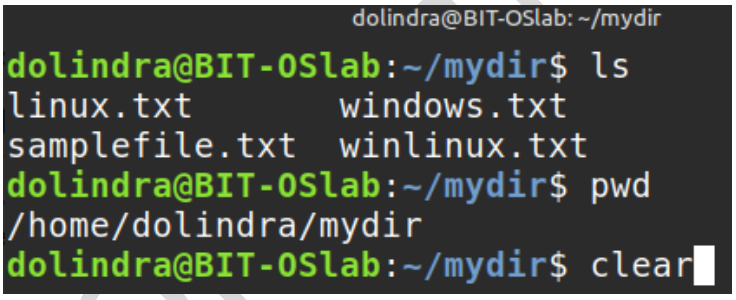
Syntax : clear [options]

Usage : clear is used to clear the terminal screen.

Commands Used:

- clear : clears the terminal screen.

Output Before executing **clear** command:



Output After executing **clear** command:

1.19 Command Name: touch

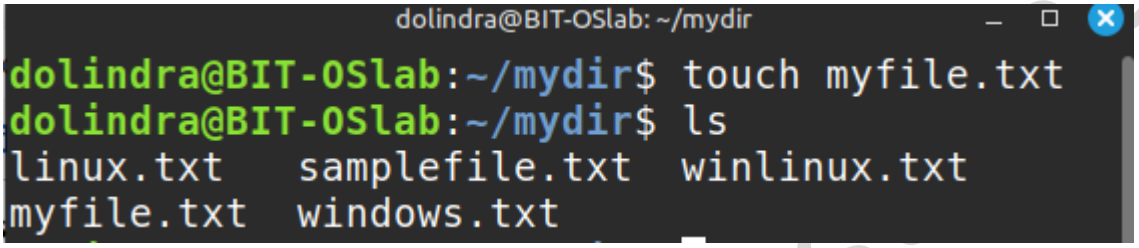
Syntax : touch [options] file

Usage : touch is used to create an empty file.

Commands Used:

- touch myfile.txt : creates a new empty file named "myfile.txt".

Output:



1.20 Command Name: locate

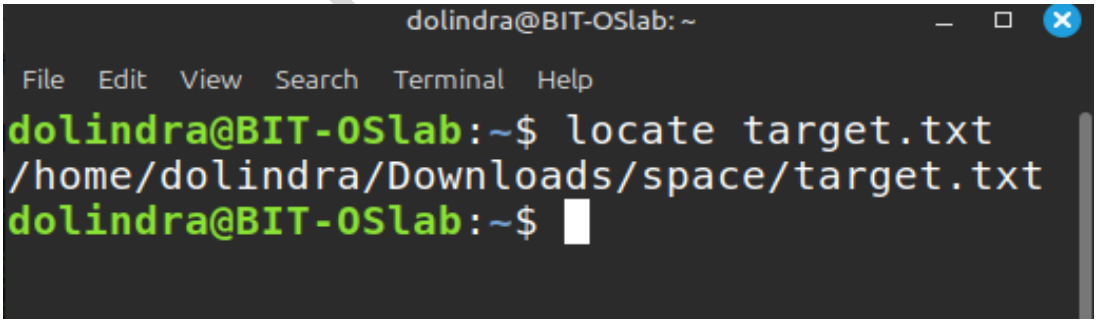
Syntax : locate [options] file

Usage : locate is used to find the location of a file or directory.

Commands Used:

- locate myfile.txt : find the location of the file.

Output:



1.21 Command Name: netstat

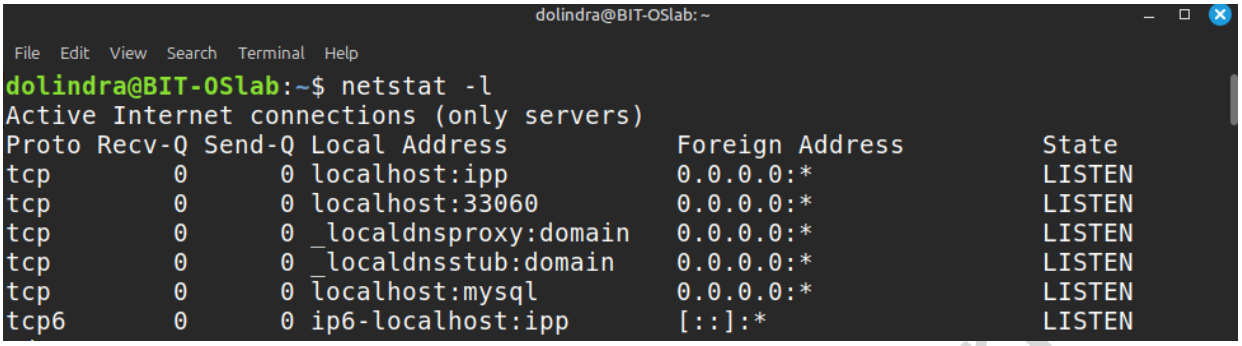
Syntax : netstat [options]

Usage : netstat is used to display network connections, routing tables, interface statistics, masquerade connections, and multicast memberships.

Commands Used:

- netstat -l : displays listening sockets.

Output:



1.22 Command Name: df

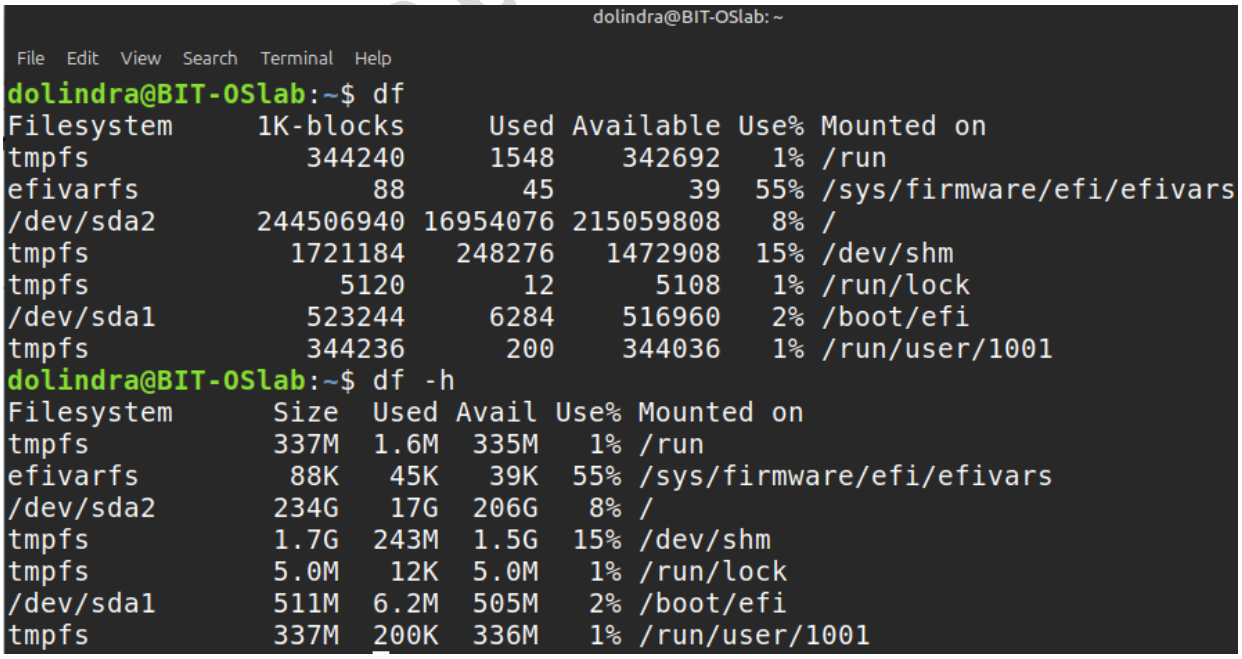
Syntax : df [options] file

Usage : df is used to display the amount of disk space available on the file system.

Commands Used:

- df : displays the amount of disk space available on the file system.
- df -h : display the amount of disk space available on the file system in human readable format.

Output:



1.23 Command Name: du

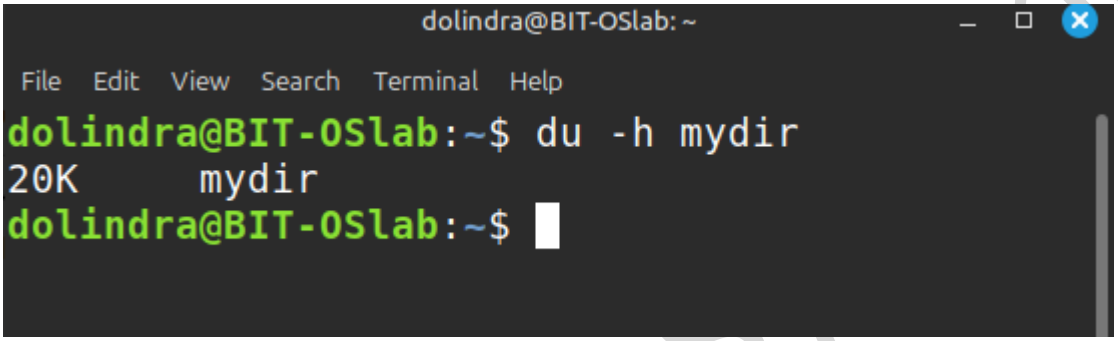
Syntax : du [OPTIONS]....[FILE]....

Usage : du is used to estimate files or directories space usage.

Commands Used:

- du -h mydir : estimate file space usage of "**mydir"** directory in human readable format.

Output:



1.24 Command Name: uname

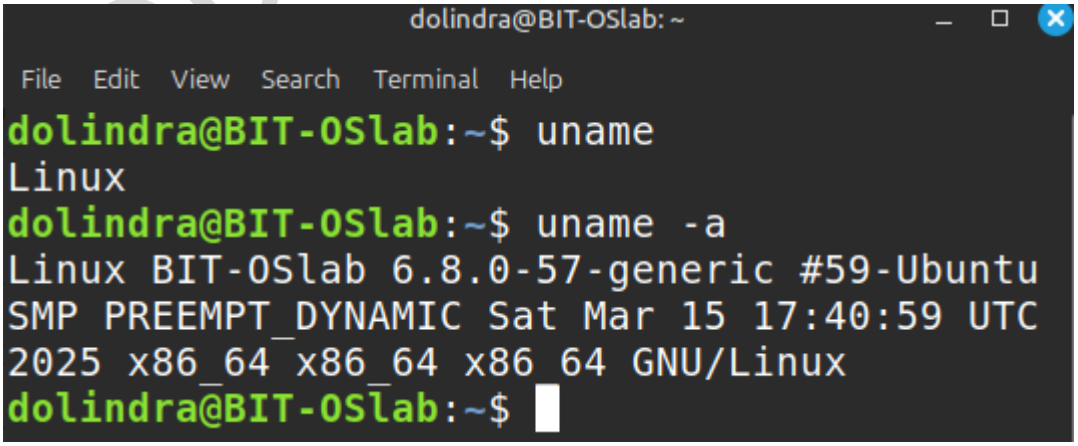
Syntax : uname [options]

Usage : uname is used to print certain system information.

Commands Used:

- uname : prints certain system information.
- uname -a : prints all system information.

Output:



1.25 Command Name: passwd

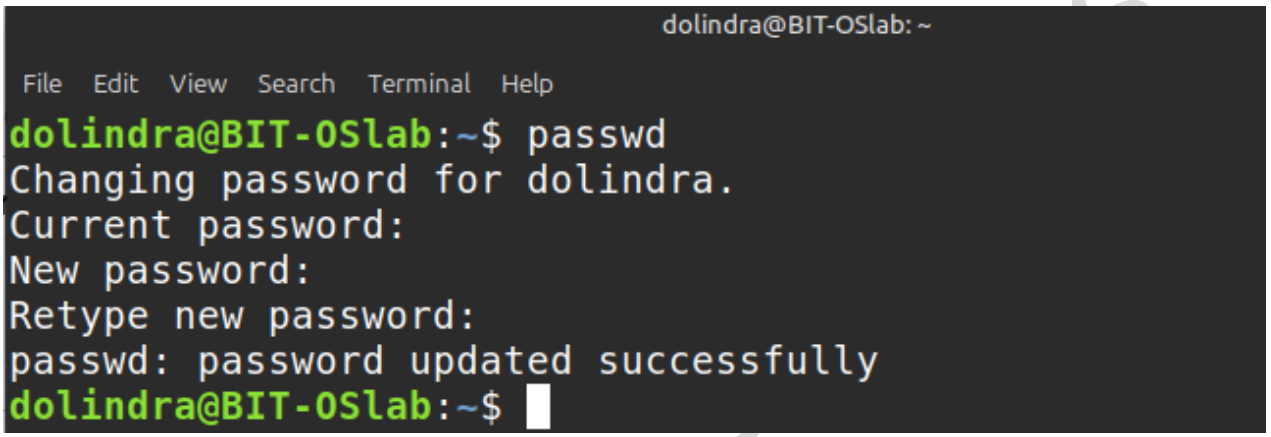
Syntax : passwd [options]

Usage : passwd is used to change the password of a user.

Commands Used:

- passwd : changes the password of the current user.

Output:



1.26 Command Name: useradd

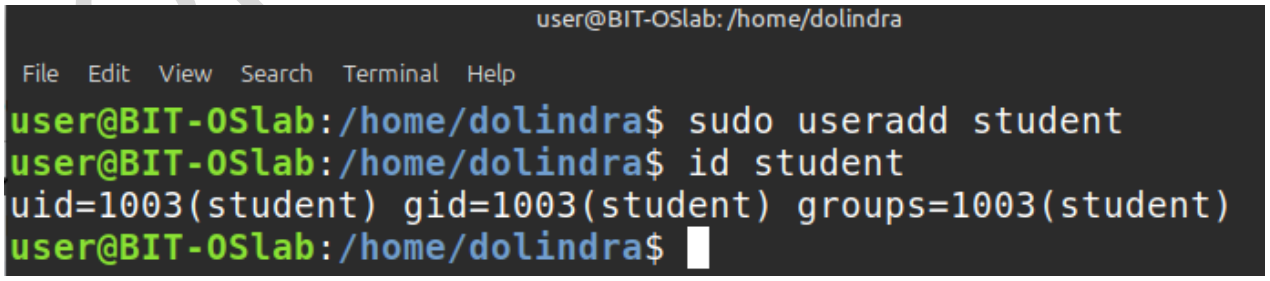
Syntax : useradd [options] [username]

Usage : useradd is used to add a new user to the system.

Commands Used:

- useradd student : Creates a new user named student.

Output:



1.27 Command Name: userdel

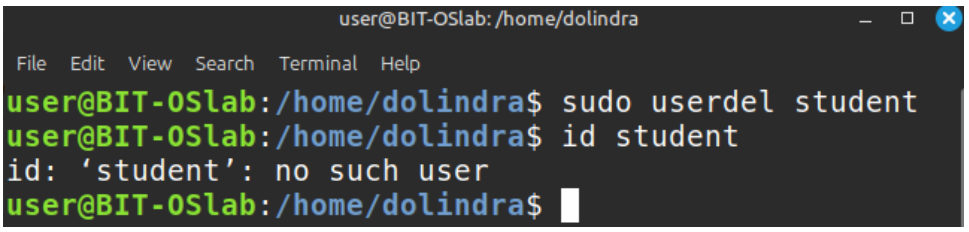
Syntax : userdel [options] [username]

Usage : userdel is used to delete a user from the system.

Commands Used:

- sudo userdel student : Deletes "student" user from the system.

Output:



1.28 Command Name: apt-get

Syntax : apt-get [options]

apt-get install [package name], apt-get remove [package name]

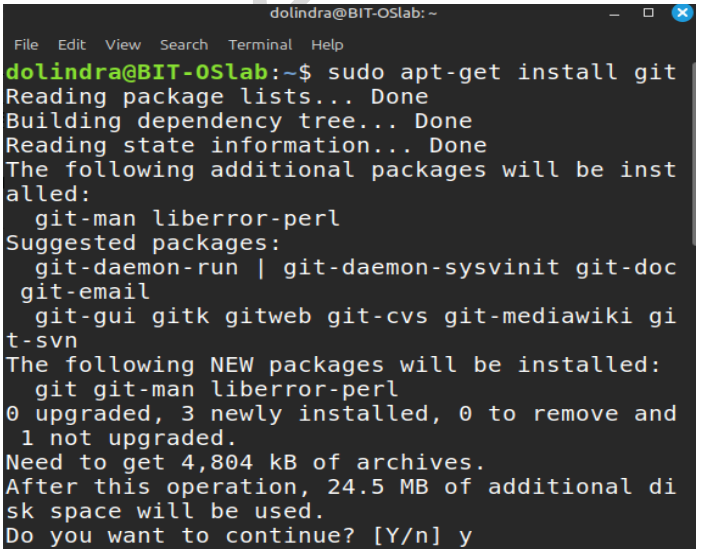
Note: You may need to add sudo before the commands.

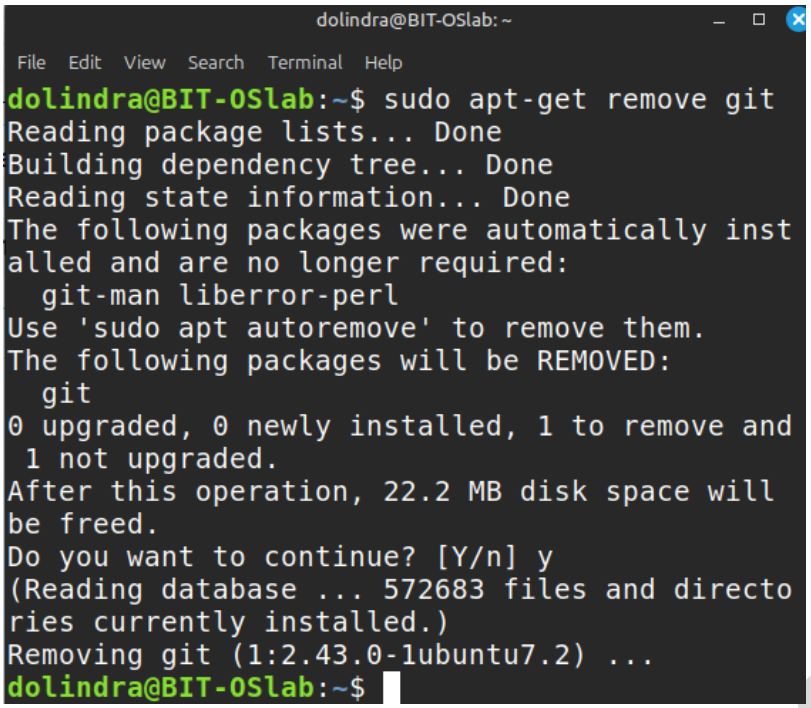
Usage : apt-get is used to install, remove, and update software packages on Debian based systems.

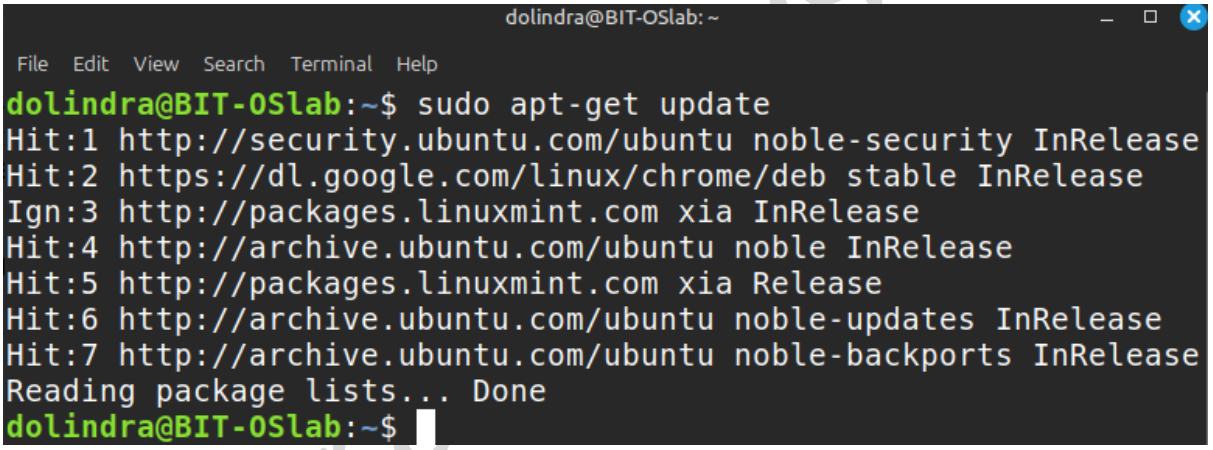
Commands Used:

- sudo apt-get install git : install the "git" package.
- sudo apt-get remove git : remove the "git" package.
- sudo apt-get update : update all available packages.

Output:







1.29 Command Name: ping

Syntax : ping [options] hostname

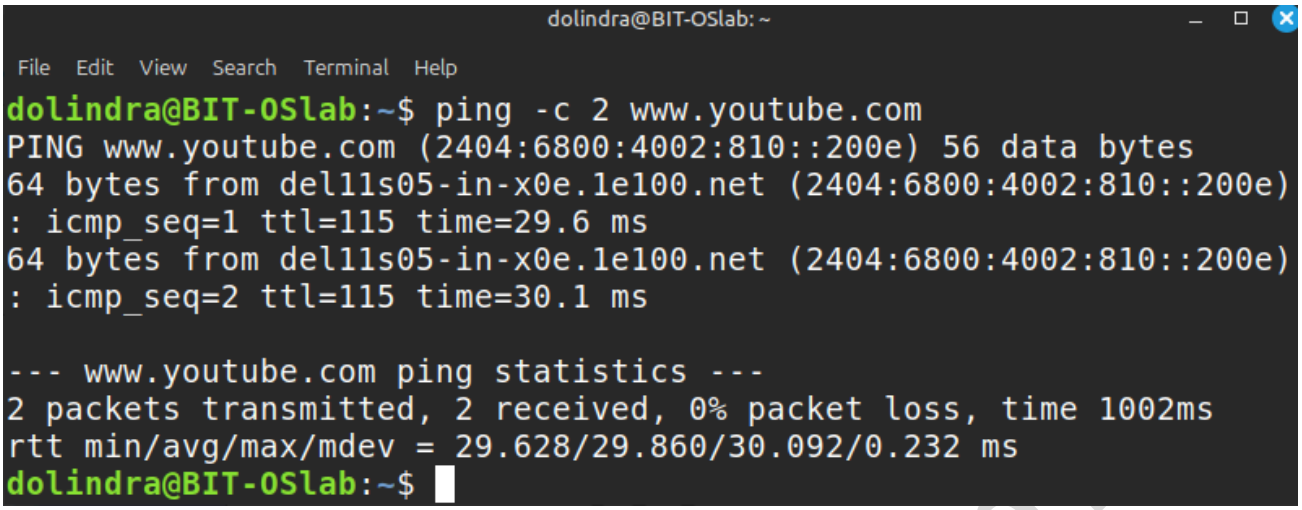
hostname is the name of the host to be pinged eg: "www.google.com".

Usage : ping is used to test the reachability of a host on an Internet Protocol (IP) network.

Commands Used:

- ping -c 2 www.youtube.com : tests the reachability of "www.youtube.com" by sending 2 packets and stops.

Output:



1.30 Command Name: find

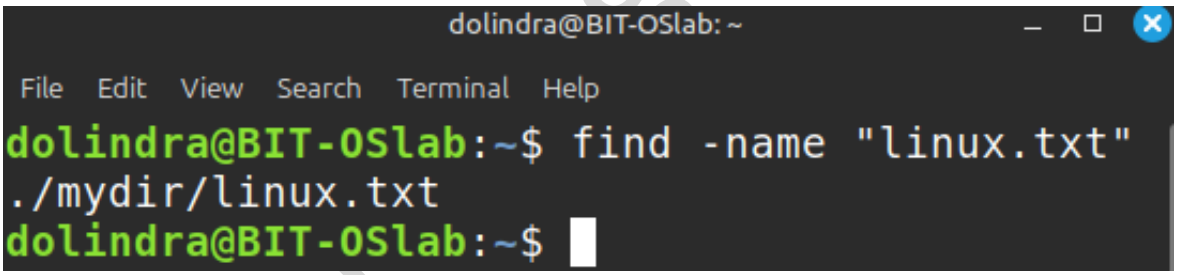
Syntax : find [options] path

Usage : find is used to search for files in a directory hierarchy.

Commands Used:

- find -name linux.txt : searches for “linux.txt” and prints its path.

Output:



1.31 Command Name: head

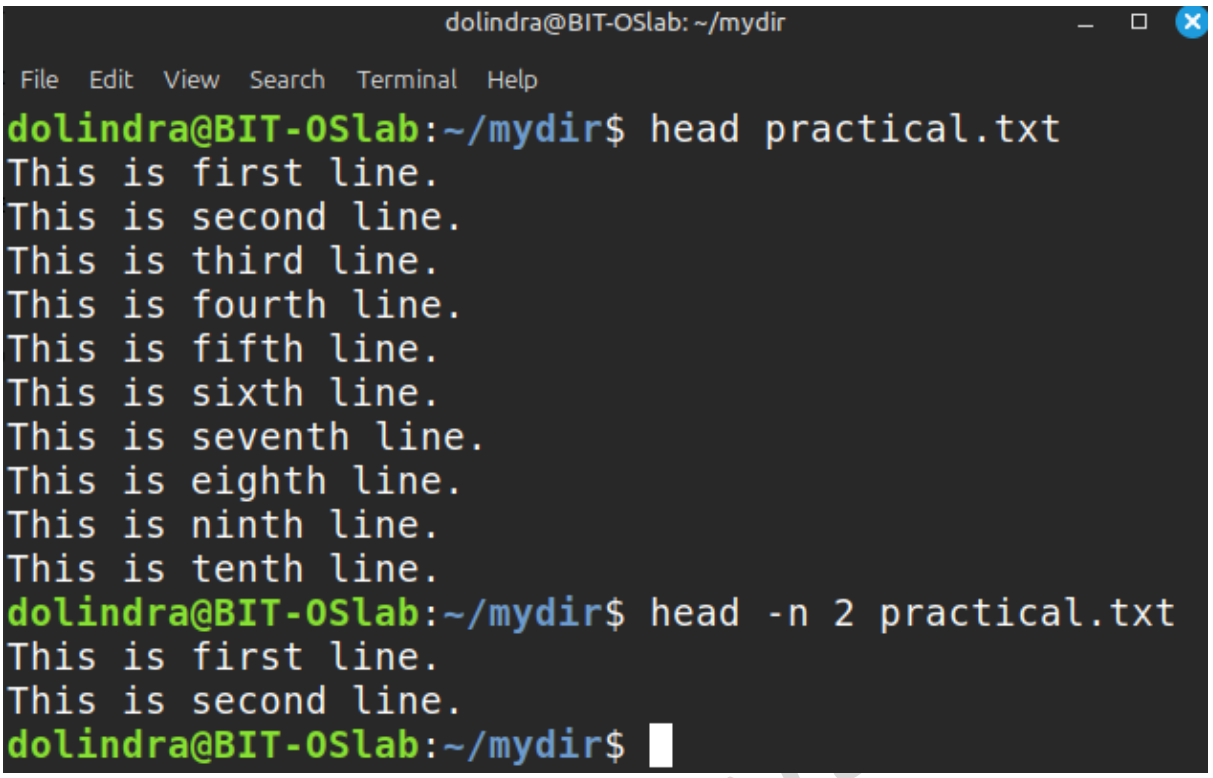
Syntax : head [options] file

Usage : head is used to output the first part of files.

Commands Used:

- head practical.txt : displays the first 10 lines of the file “practical.txt”.
- head -n 2 practical.txt : displays the first 2 lines of the file.

Output:



1.32 Command Name: tail

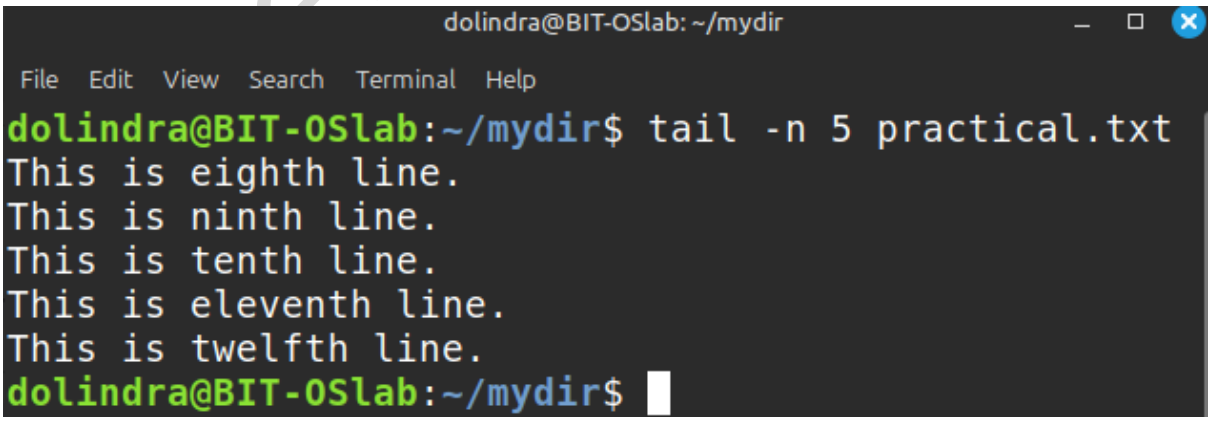
Syntax : tail [options] file

Usage : tail is used to output the last part of files.

Commands Used:

- tail -n 5 practical.txt : displays the last 5 lines of "practical.txt".

Output:



1.33 Command Name: rename

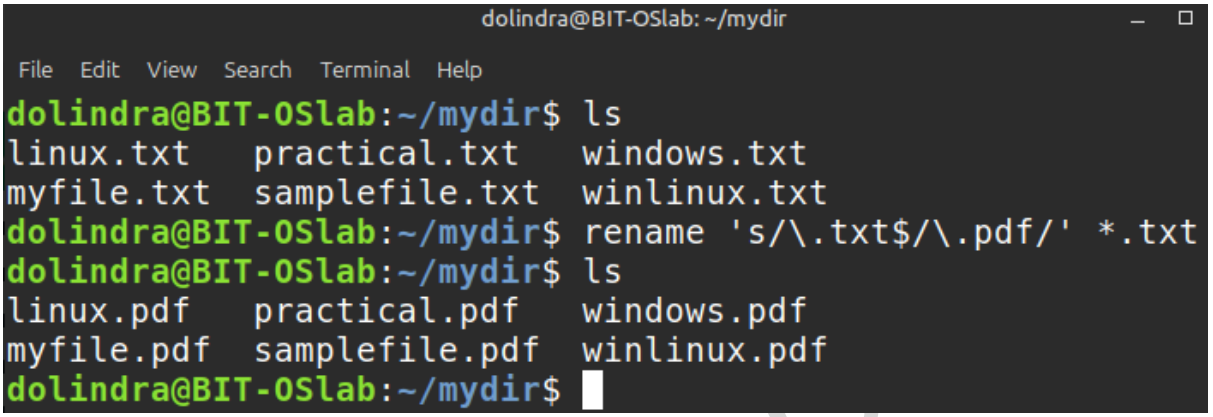
Syntax : rename [options]

Usage : rename is used to rename multiple files.

Commands Used:

- rename 's/\.txt$/\.pdf/' *.txt : rename all the text files of the current directory into pdf files.

Output:



1.34 Command name: tac

Syntax : tac [options] file

Usage : tac is used to print the contents of files in reverse.

Commands Used:

- Cat myfile.txt : prints the contents of "myfile.txt" in forward order (first to last line).
- tac myfile.txt : prints the contents of "myfile.txt" in reverse order.

Output: