

# CSE341 - Operating Systems Lab

## Monsoon semester 2020

### Lab Assignment 1



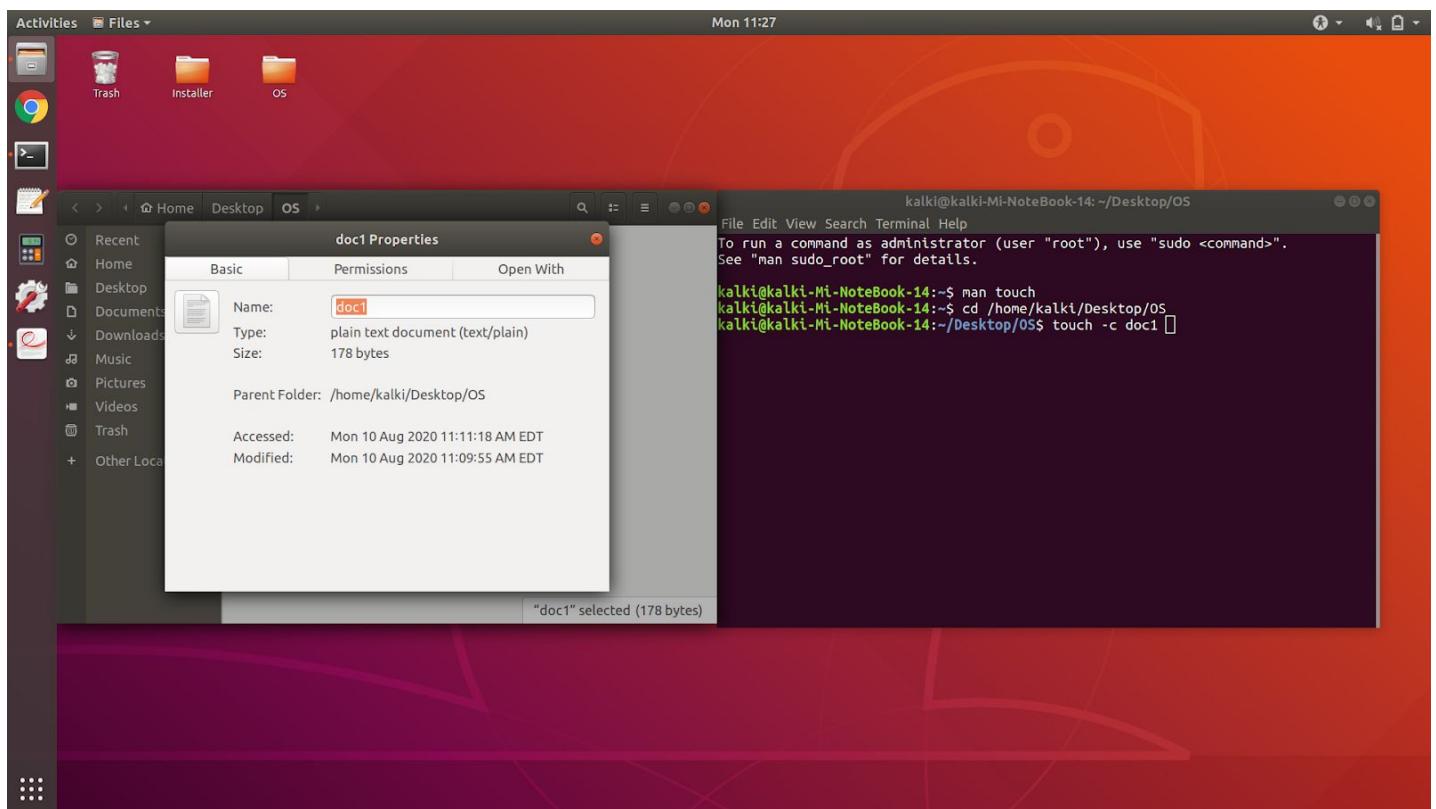
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Enrollment number: AU1841029  
Major In: BTech ICT 2018-22  
Assigned on: August 6, 2020  
Submission deadline: August 12, 2020 11:59 PM

**Command 1: touch**

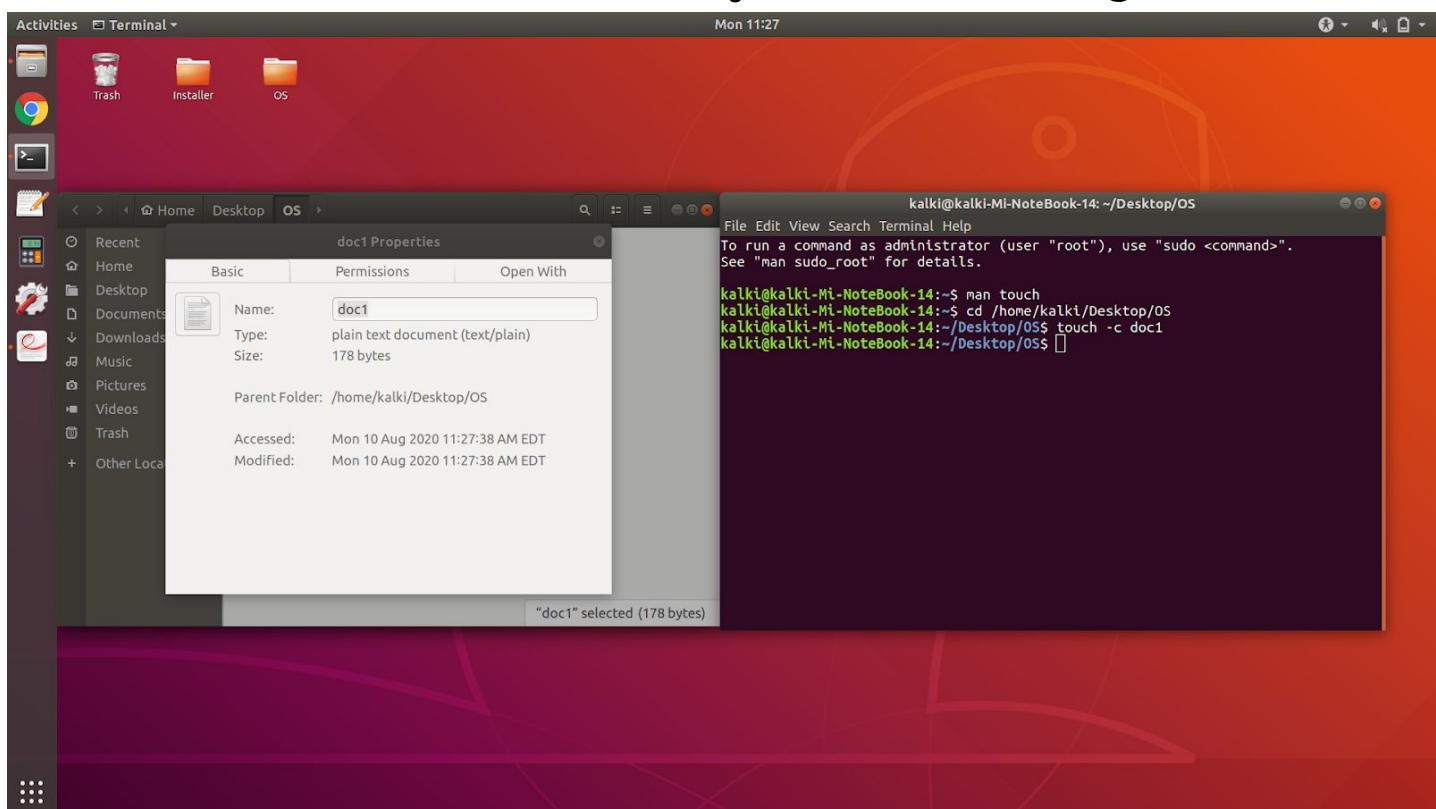
Command: touch -c doc1

Output: the access time and modification time (touch command) of the file if exists (-c), named "doc1" in the current directory will be changes to current date and time

Before: Current access time is 11:11AM and modification time is 11:09AM



After: Current access time and modification time is changed to current date and time @11:27AM

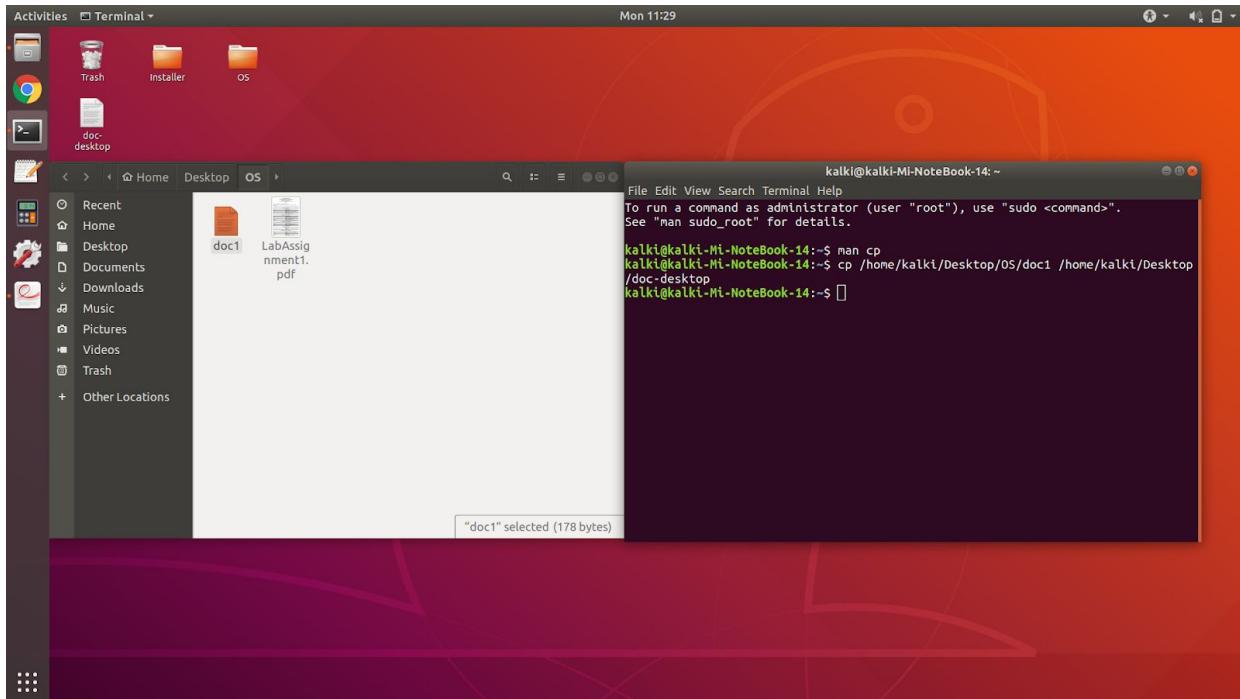


### Command 2: cp

Command: cp source destination

Output: the file “doc1” in /Desktop/OS/ folder is copied to /Desktop/ with name doc-desktop (Hence copied as well as renamed)

After: The desktop contains file names doc-desktop that was not previously on the desktop.

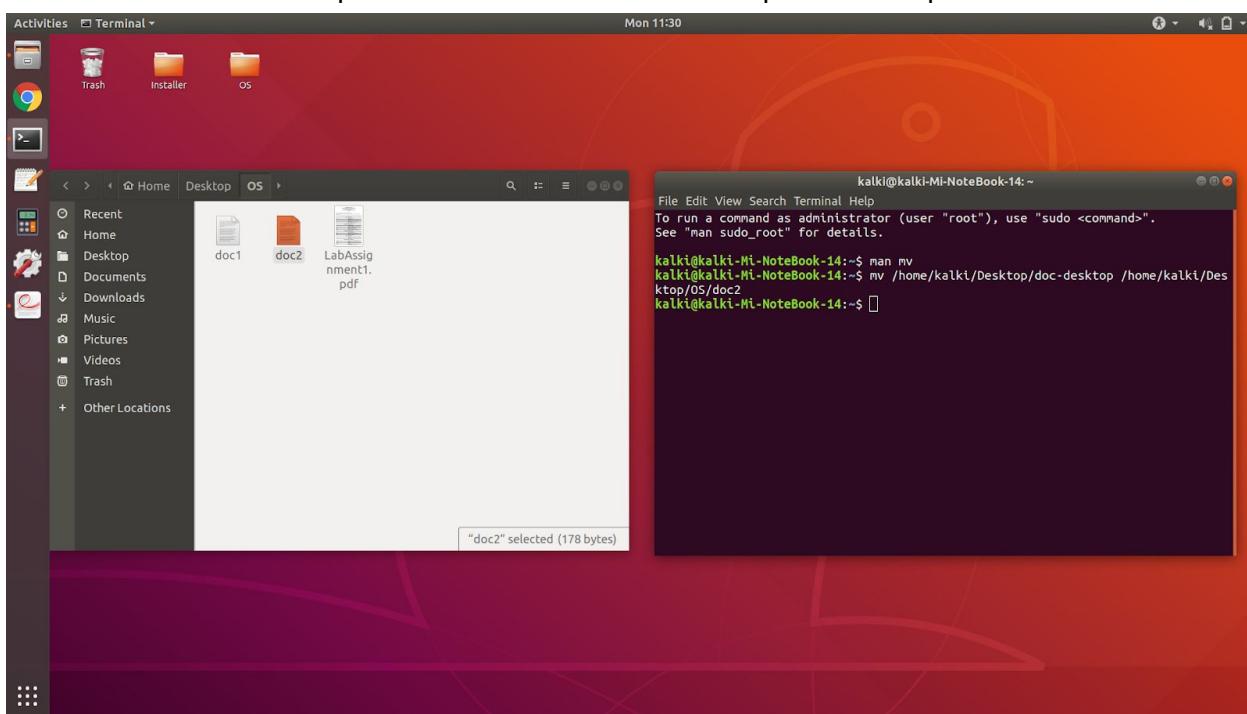


### Command 3: mv

Command: mv source destination

Output: the file “doc-desktop” in /Desktop/ folder is copied to /Desktop/OS/ with name “doc2” (Hence moved as well as renamed)

After: The file “doc-desktop” has been moved from /Desktop/ to /Desktop/OS folder after renaming to “doc2”.

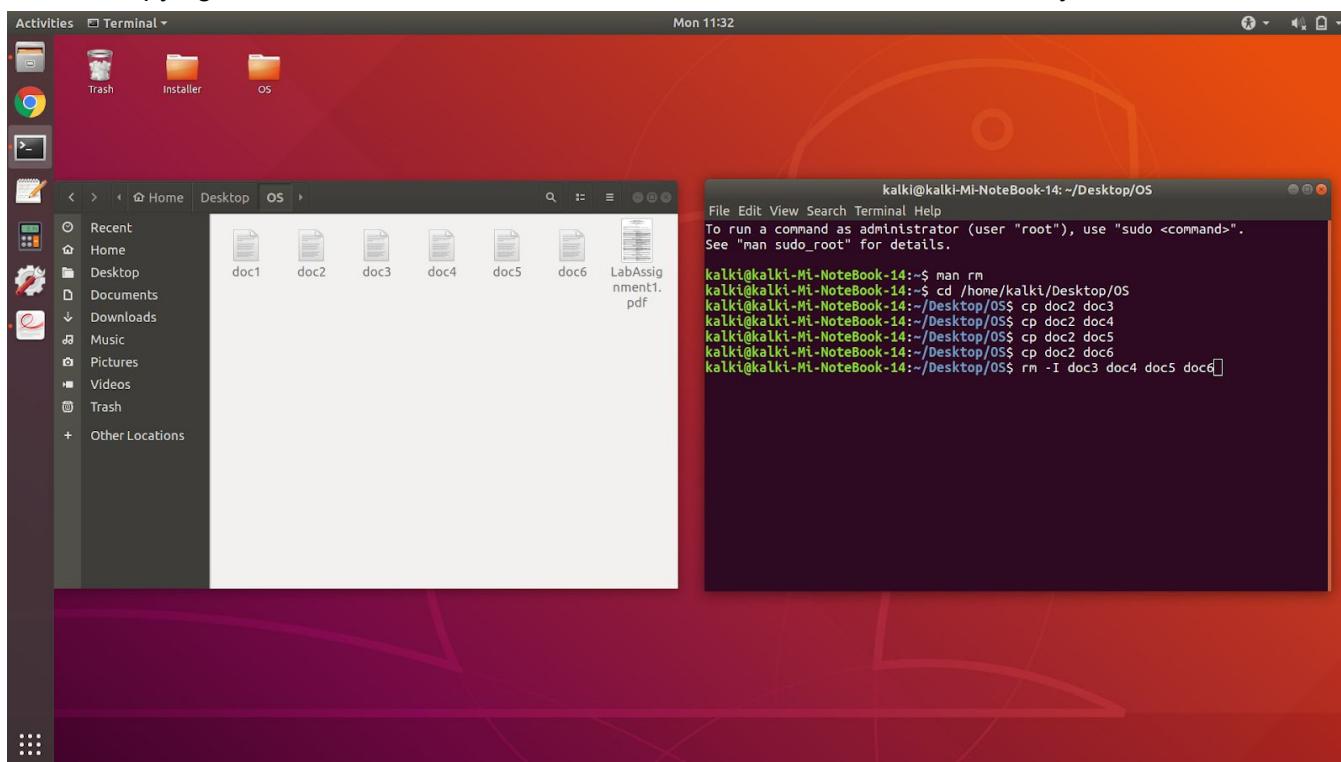


### Command 4: rm

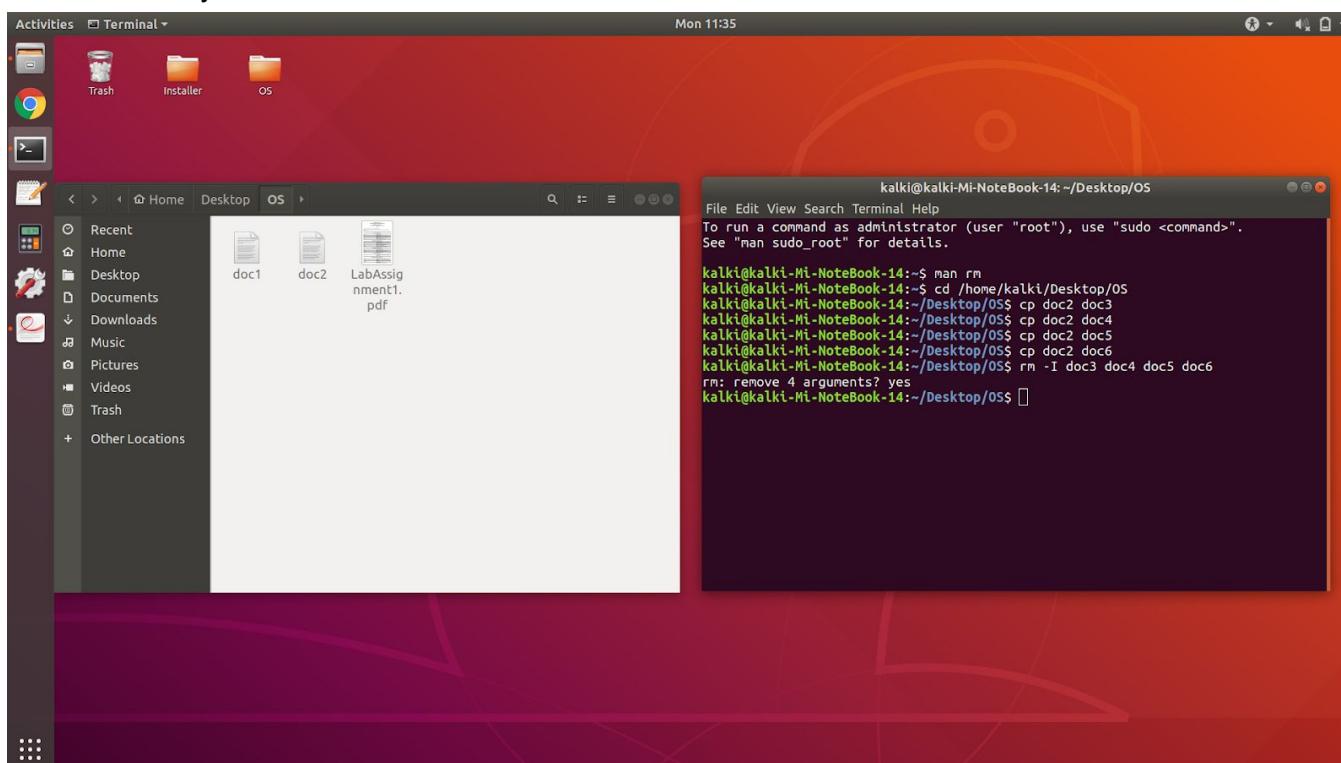
Command: rm -I file...

Output: After copying 4 new files as “doc3”, “doc4”, “doc5” and “doc6” from “doc2”, the above command was run. -I mean there occurs a prompt when more than 3 files are to be deleted at a time.

Before: Copying new files “doc3”, “doc4”, “doc5” and “doc6” in the current directory



Prompt: After replying “yes” the newly created files “doc3”, “doc4”, “doc5” and “doc6” were deleted from the current directory.

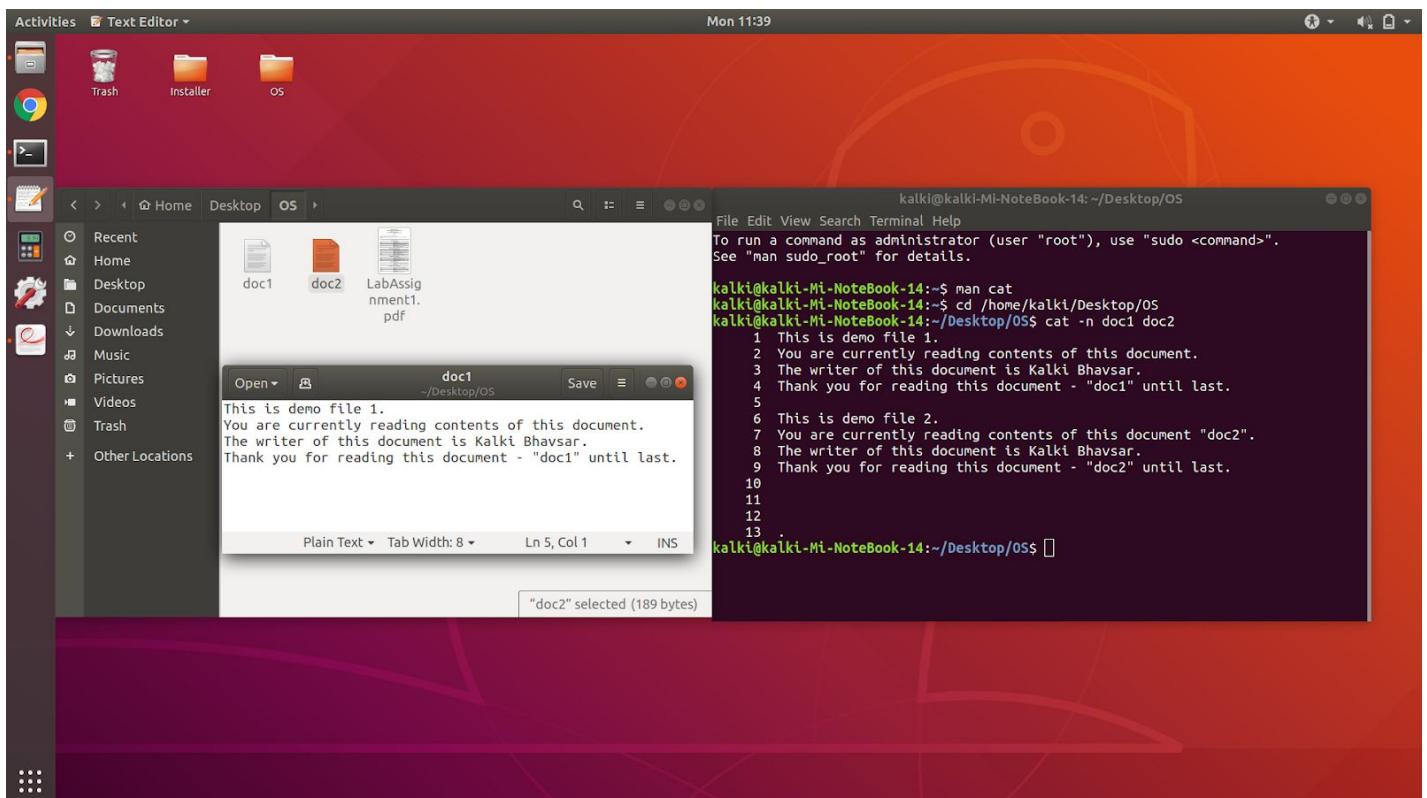


**Command 5: cat**

Command: cat -n file...

Output: In the current directory, first, the contents of the file “doc1” followed by the contents of “doc2” will be displayed in the command prompt. -n is for the sequential numbering of the lines.

After: Expected output, the contents of doc1 and doc2 can be seen in the command prompt.



## Directory Commands

The below mentioned commands are in just one screenshot as shown at the end of this page.

### Command 1: cd

Command: cd destination

Output: The current working directory /home/kalki/ is changed to destination directory - /home/kalki/Desktop/OS/.

### Command 2: pwd

Command: pwd

Output: The current working directory /home/kalki/Desktop/OS/ is displayed.

### Command 3: ls

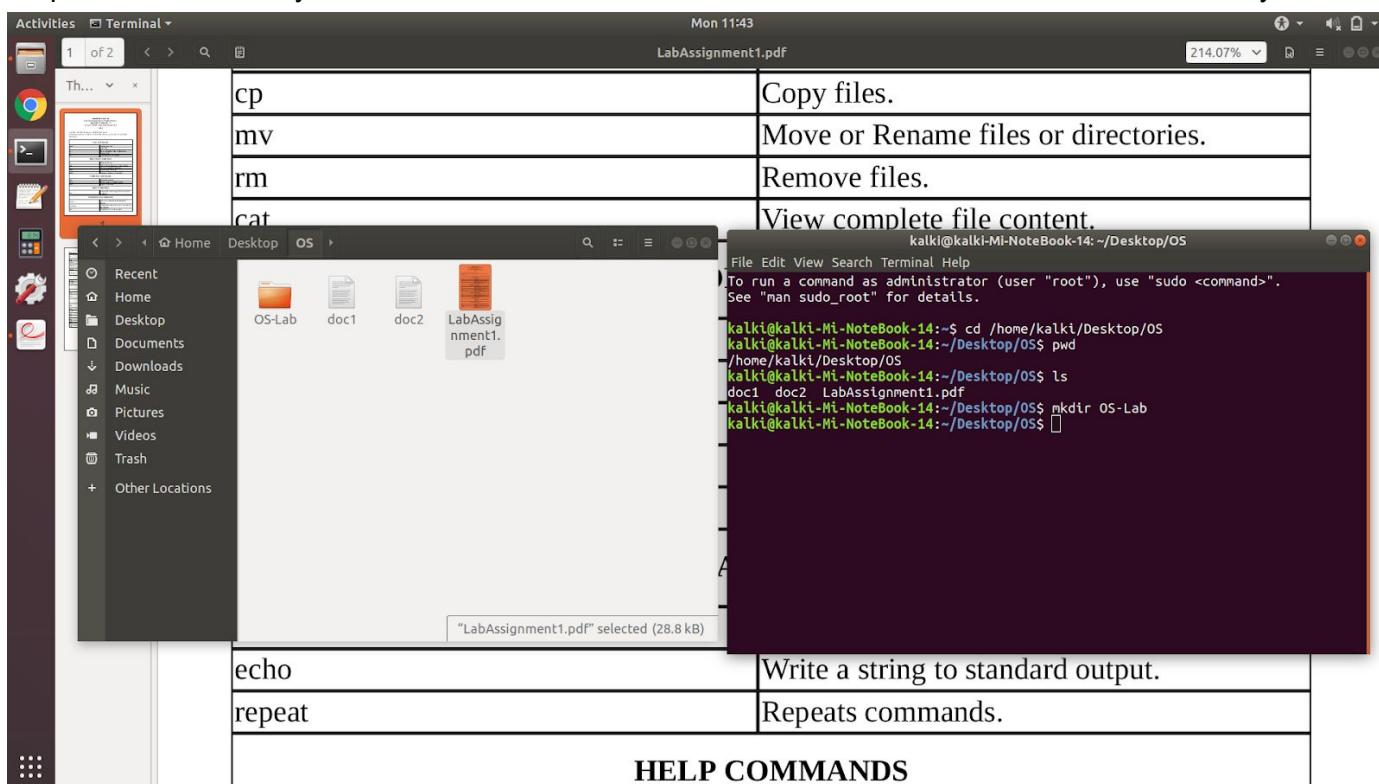
Command: ls

Output: All the files and directories in the current working directory are listed.

### Command 4: mkdir

Command: mkdir directory...

Output: A new directory named "OS-Lab" if it does not exist; will be created in the current directory.

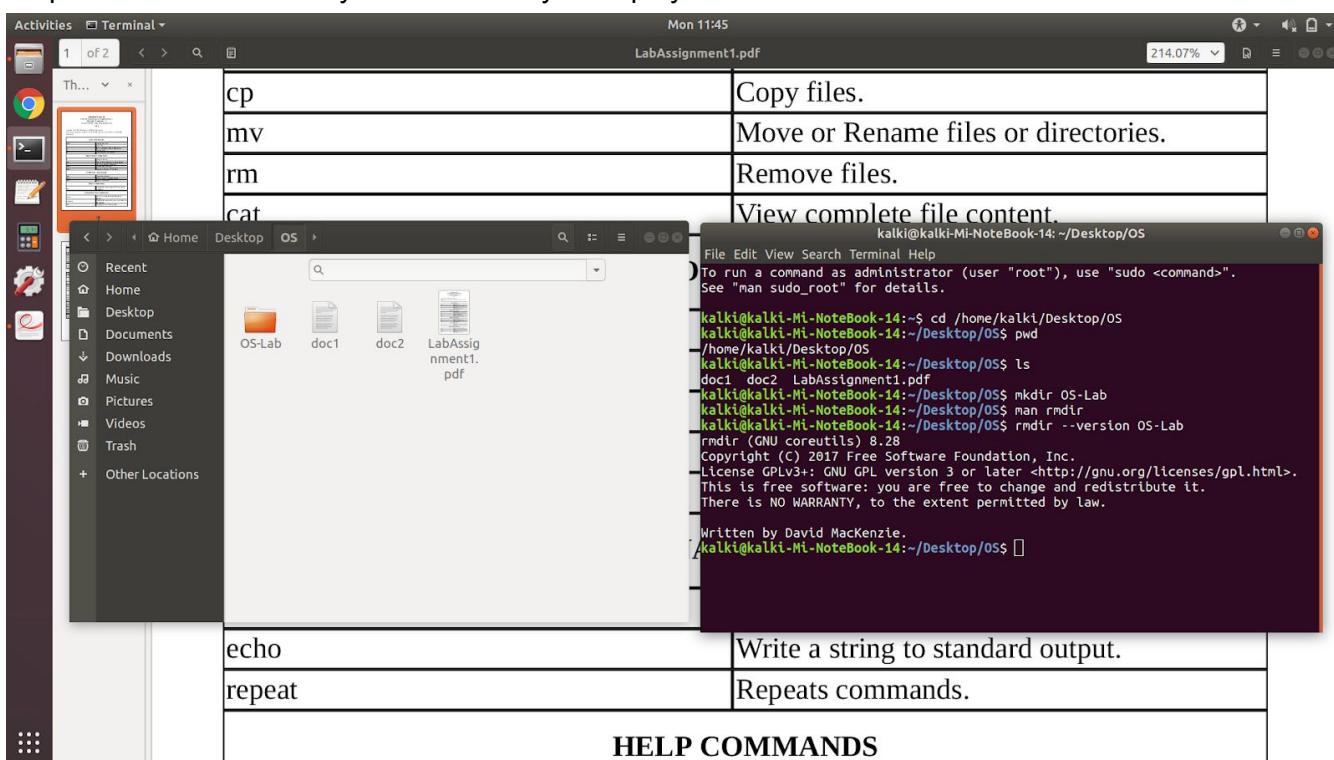


## HELP COMMANDS

**Command 5: rmdir**

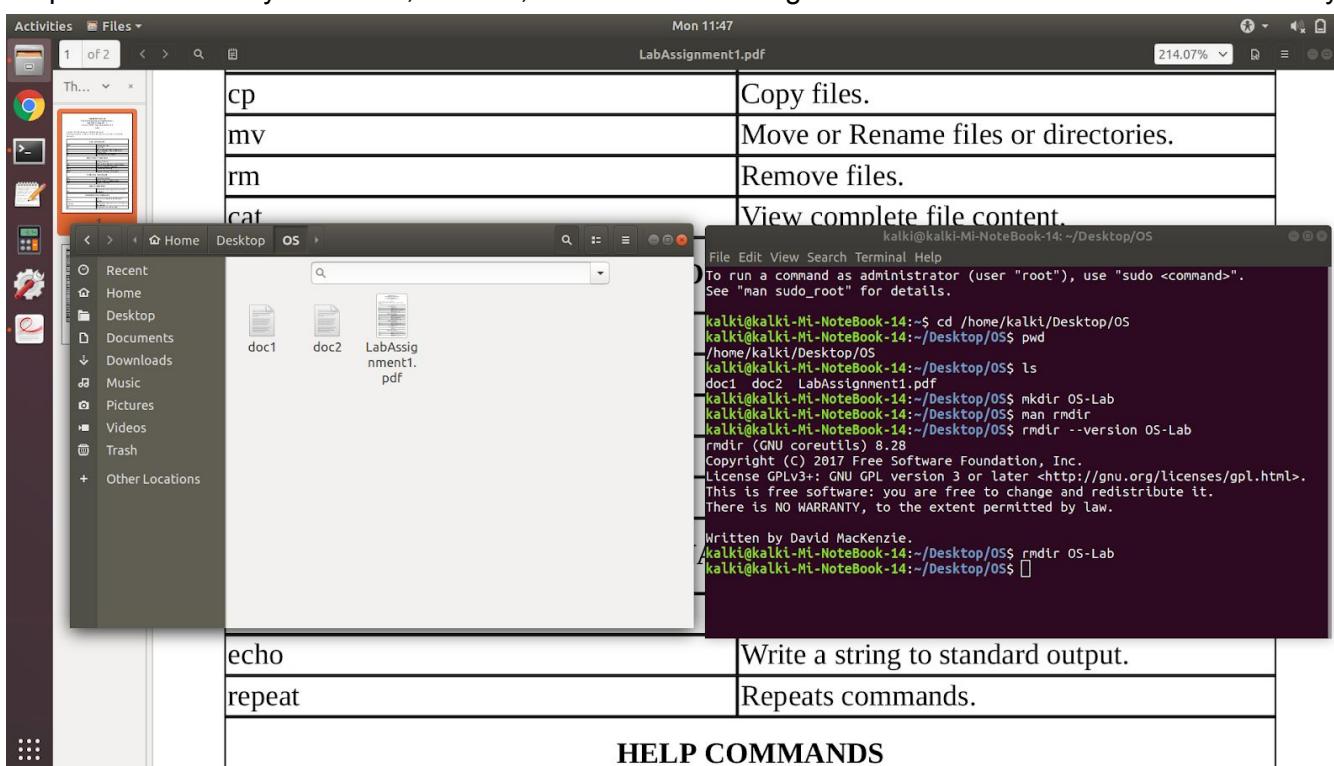
Command: rmdir --version directory...

Output: The version history of the directory is displayed in the terminal.



Command: Command: rmdir directory...

Output: The directory "OS-Lab"; if exists; will be deleted along with the subdirectories and files directory.

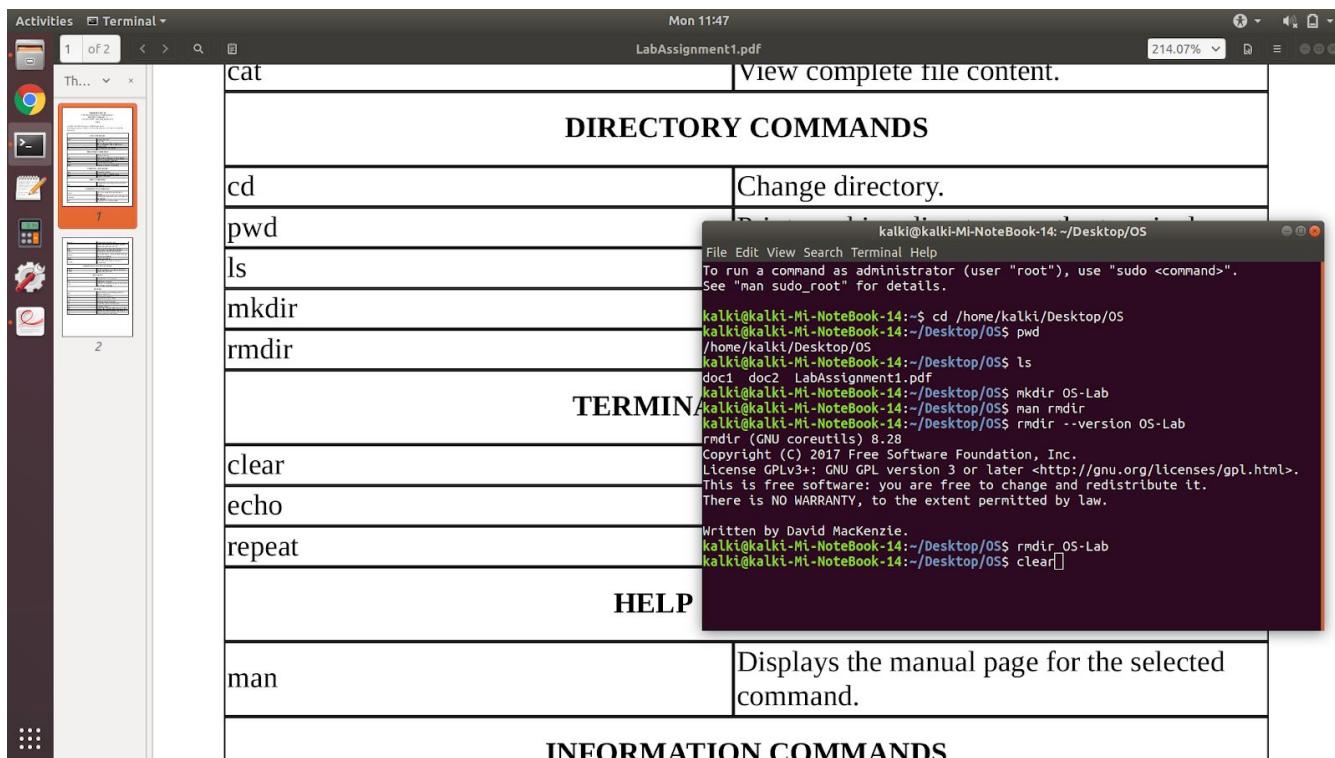


**Command 1: clear**

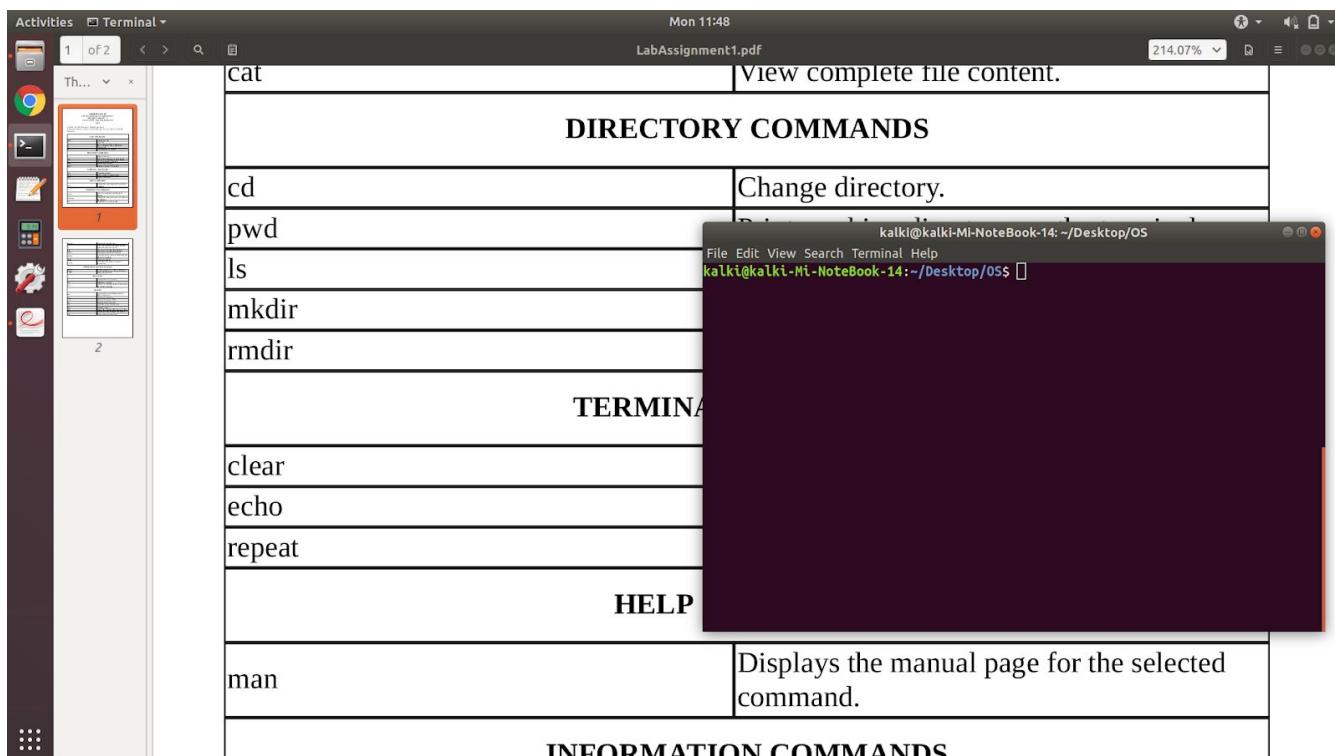
Command: clear

Output: The previous commands and its output will be cleared.

Before:



After:

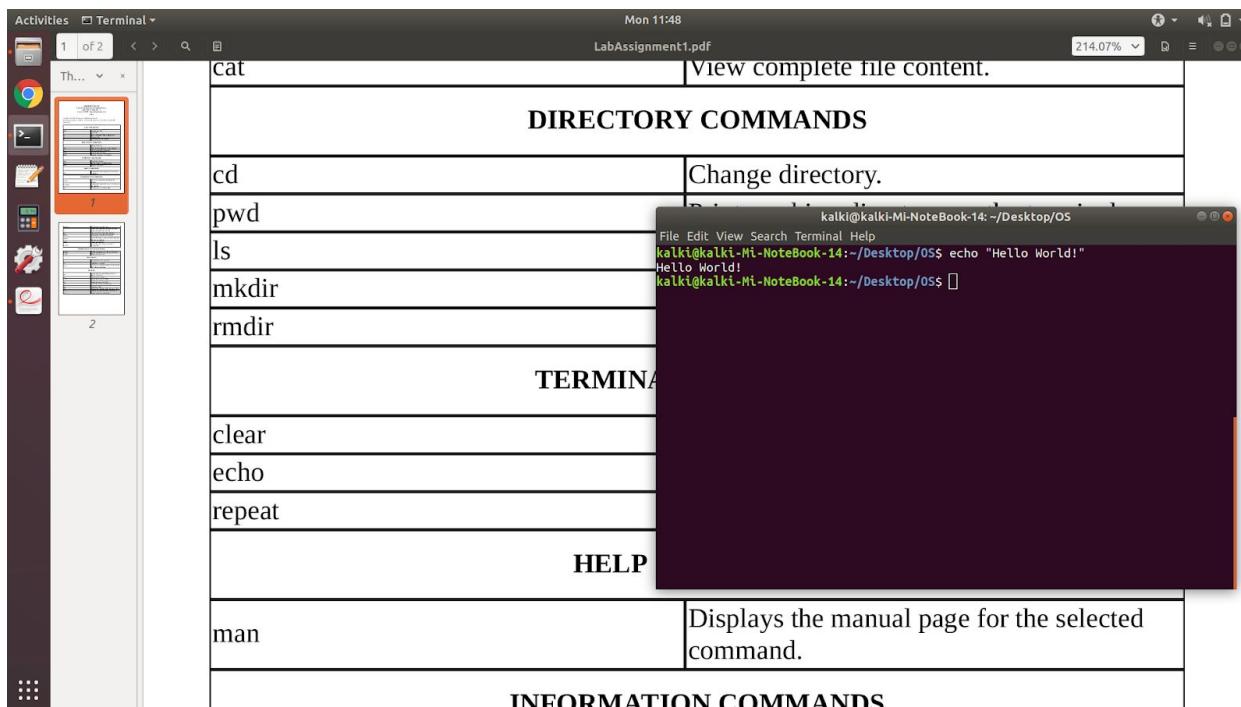


**Command 2: echo**

Command: echo "string-content"

Output: The string(without quotes) will be displayed in the terminal output

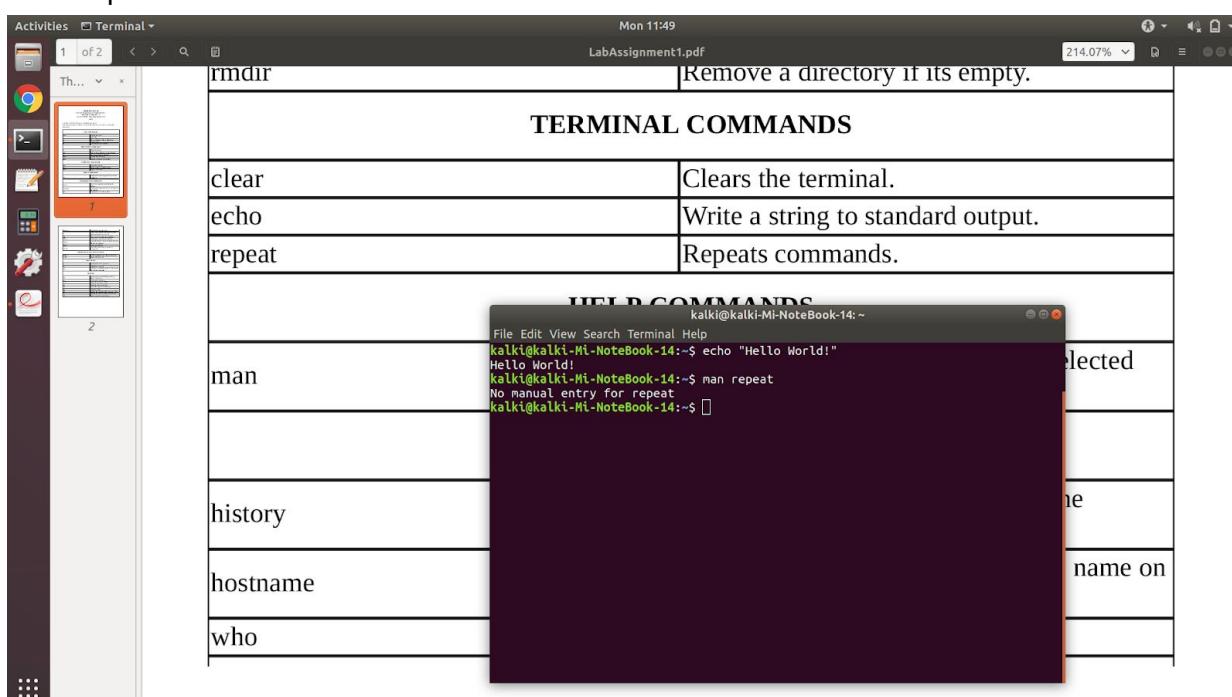
After :Printing the string "Hello World!"

**Command 3: repeat**

Command: repeat

Output: To repeat the commands

After: repeat command does not exist here

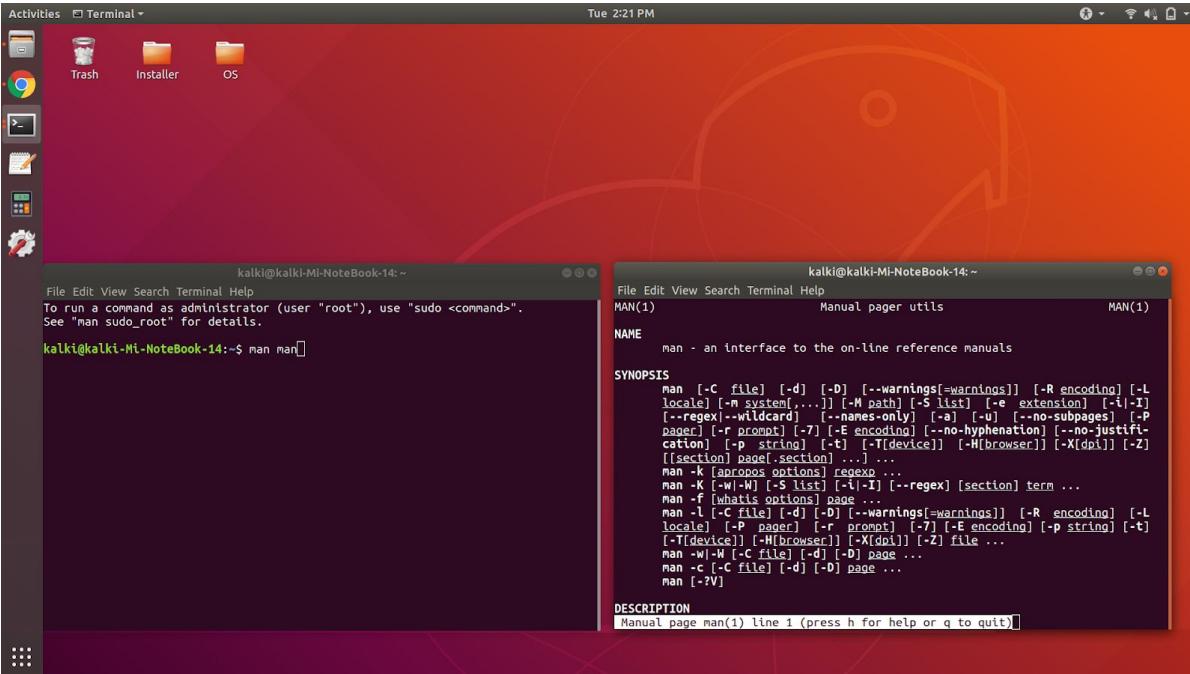


### Command 1: man command-name

Command: man

Output: The details of that command will be displayed

Before/After:



## Information Commands

### Command 1: history

Command: history

Output: All the previous used commands will be listed

After: All previously used commands are listed where the last command was “history”

The image shows a desktop environment with a terminal window open. The terminal window displays a list of commands run by the user, starting with 'ls', 'mkdir OS-Lab', 'rmkdir', 'nanmkdir', 'cd /home/kalki/Desktop/OS', 'ls', 'mkdir OS-Lab', 'cd /home/kalki/Desktop/OS', 'pwd', 'ls', 'clear', 'repeat', 'echo "Hello World!"', 'date', 'history'. This demonstrates that the 'history' command lists all previously used commands.

The below mentioned commands are in just one screenshot as shown at the end of this page.

### Command 1: hostname

Command: hostname

Output: The hostname is displayed

After: The hostname “kalki-Mi-NoteBook-14” is displayed

### Command 2: who

Command: who

Output: The current username is displayed

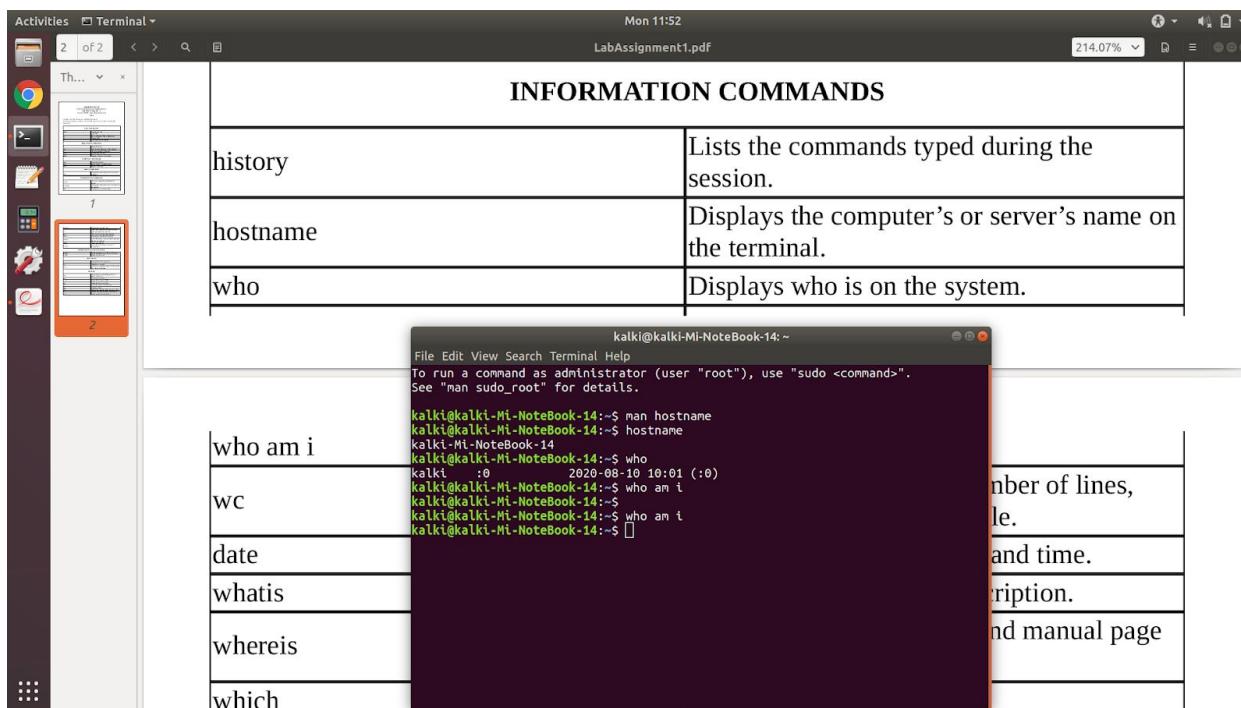
After: The current username “kalki” is displayed

### Command 3: who am i

Command: who am i

Output: Displays the invoking user

After: No output

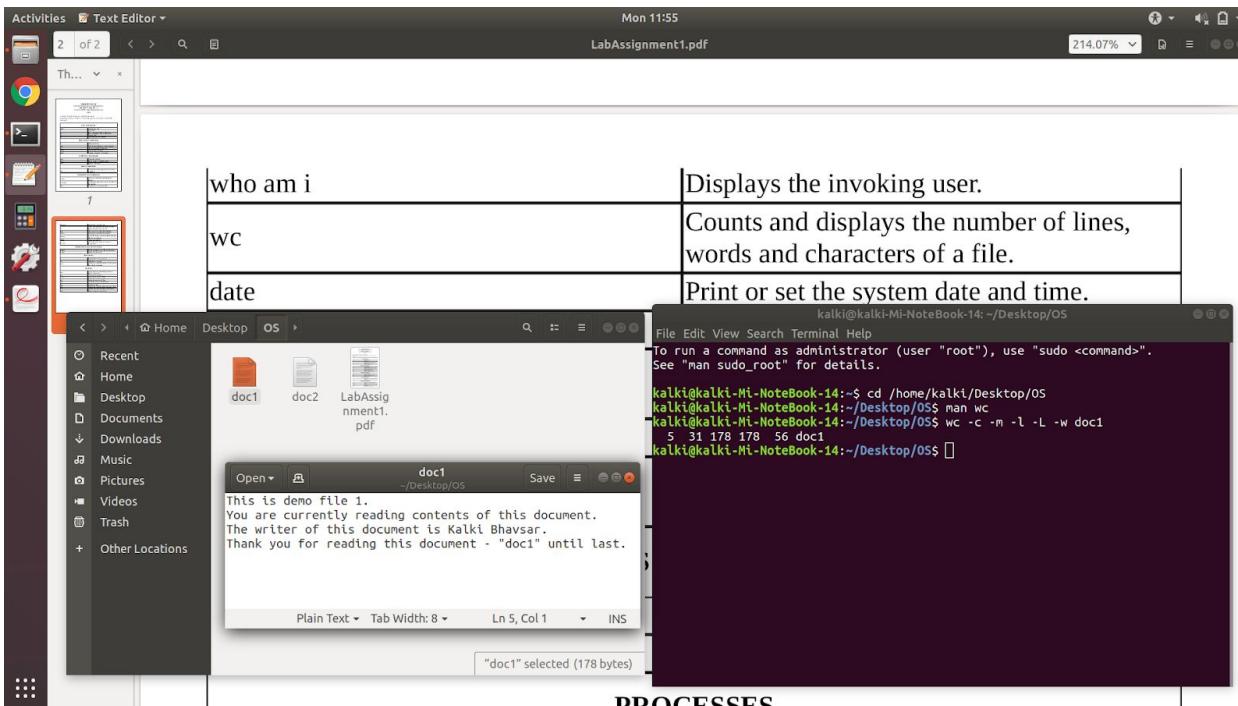


**Command 4:wc**

Command: wc -c -m -l -L -w file

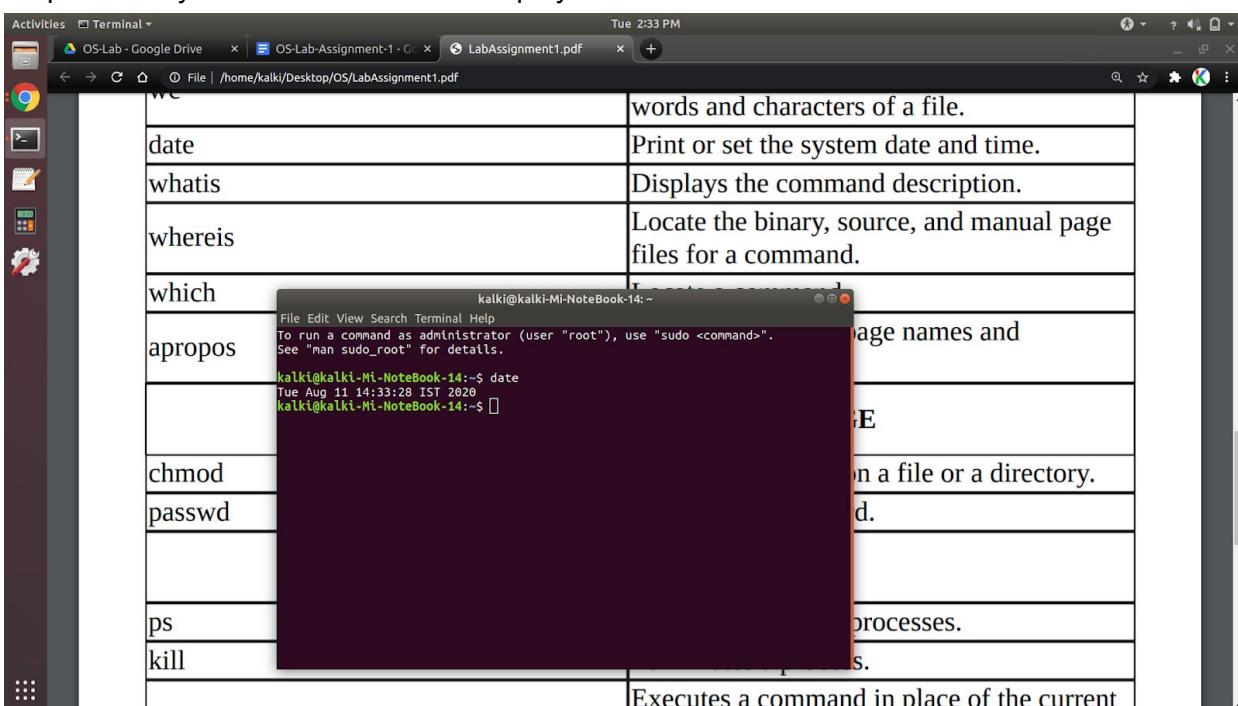
Output: The file details as asked is displayed

-c : print the byte counts      -m : print the character counts      -l : print the newline counts  
 -L : print the maximum display width      -w: print the word counts

**Command 5: date**

Command: date

Output: The system date and time is displayed



**Command 6: whatis**

Command: whatis command-name

Output: Description of that command is displayed

The screenshot shows a desktop environment with a terminal window open. The terminal window title is 'kalki@kalki-Mi-NoteBook-14: ~'. The command 'man whatis' is run, displaying the man page for 'whatis'. The output shows the command's purpose: 'Locate the binary, source, and manual page files for a command.' Below this, the command 'cal' is run, showing its purpose: 'displays a calendar and the date of Easter'. The terminal window is overlaid on a table of command descriptions.

wc	words and characters of a file.
date	Print or set the system date and time.
whatis	Displays the command description.
whereis	Locate the binary, source, and manual page files for a command.
which	To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.
apropos	kalki@kalki-Mi-NoteBook-14:~\$ man whatis kalki@kalki-Mi-NoteBook-14:~\$ whatis cal cal (1) - displays a calendar and the date of Easter kalki@kalki-Mi-NoteBook-14:~\$
chmod	Changes the file mode bits for a file or a directory.
passwd	
ps	
kill	Terminates a process.
-----	Executes a command in place of the current

**Command 7: whereis**

Command: whereis command-name

Output: The location of the binary and source file for the command is displayed

The screenshot shows a desktop environment with a terminal window open. The terminal window title is 'kalki@kalki-Mi-NoteBook-14: ~'. The command 'man whereis' is run, displaying the man page for 'whereis'. The output shows the command's purpose: 'Locate the binary, source, and manual page files for a command.' Below this, the command 'cal' is run, showing its purpose: 'displays a calendar and the date of Easter'. The terminal window is overlaid on a table of command descriptions.

wc	words and characters of a file.
date	Print or set the system date and time.
whatis	Displays the command description.
whereis	Locate the binary, source, and manual page files for a command.
which	To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.
apropos	kalki@kalki-Mi-NoteBook-14:~\$ man whatis kalki@kalki-Mi-NoteBook-14:~\$ whatis cal cal (1) - displays a calendar and the date of Easter kalki@kalki-Mi-NoteBook-14:~\$ whereis cal cal: /usr/bin/cal /usr/share/man/man1/cal.1.gz kalki@kalki-Mi-NoteBook-14:~\$
chmod	Changes the file mode bits for a file or a directory.
passwd	
ps	
kill	Terminates a process.
-----	Executes a command in place of the current

**Command 8: which**

Command: which command-name

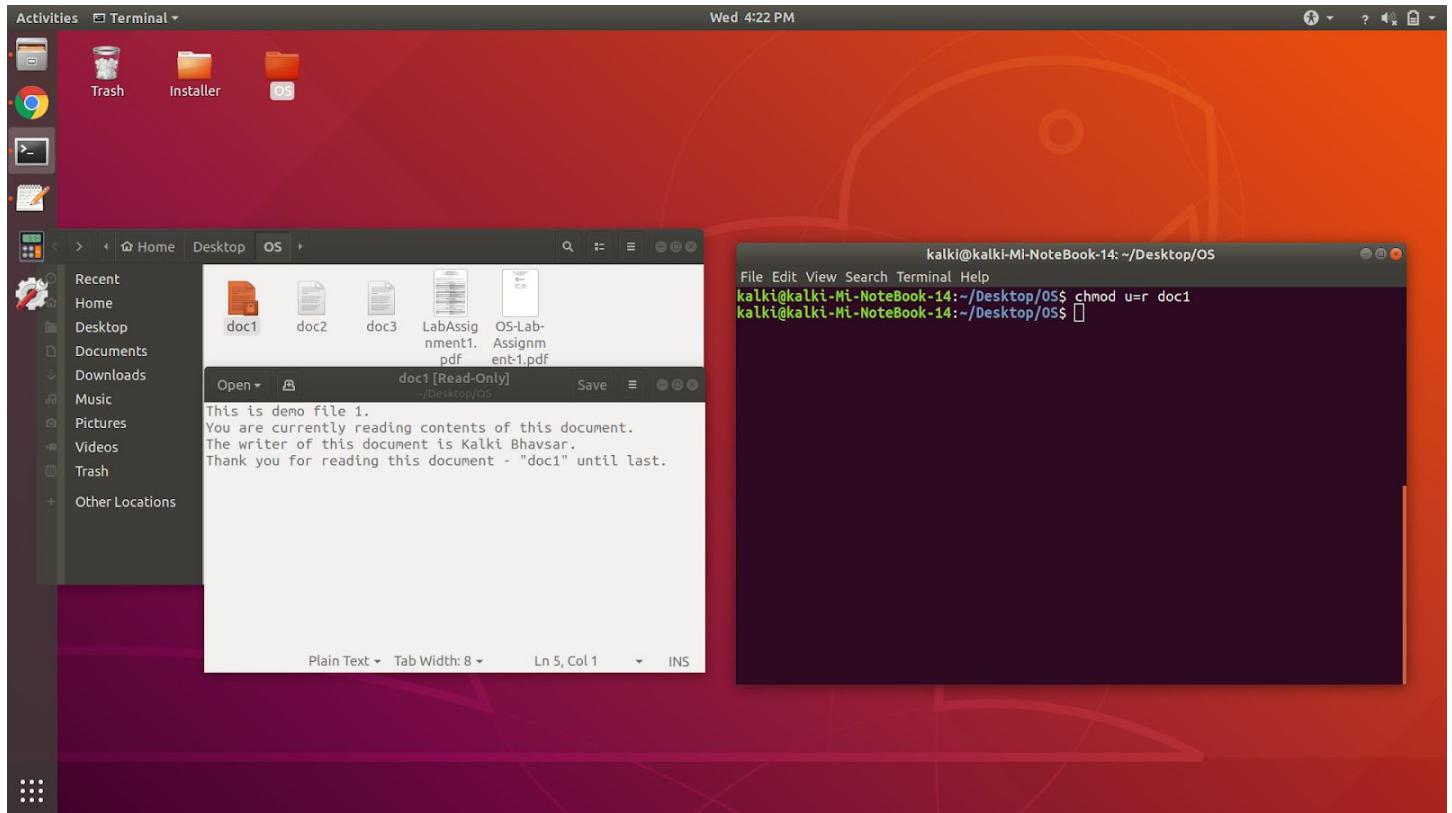
Output: The location of the command is displayed

Activities		Terminal	Tue 2:35 PM
	OS-Lab - Google Drive		LabAssignment1.pdf
File   /home/kalki/Desktop/OS/LabAssignment1.pdf			
			<img alt="

### Command 1: chmod

Command: chmod u=r file

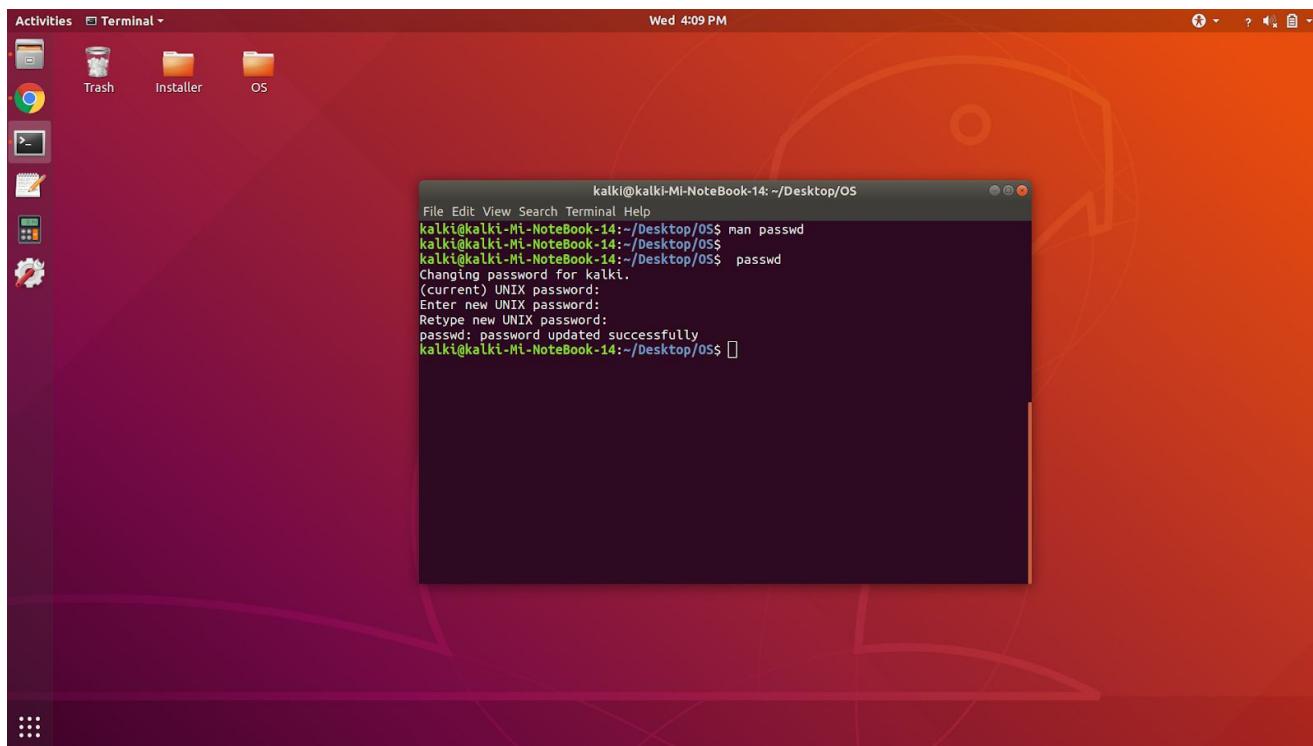
Output: Set the permission on a file or a directory. Here, doc1 for current user (admin) can only read this file.



### Command 2: passwd

Command: passwd

Output: Change the password for the current user.



The below mentioned commands are in just one screenshot as shown at the end of this page.

### Command 1: ps

Command: ps

Output: Displays the active processes

### Command 2: kill

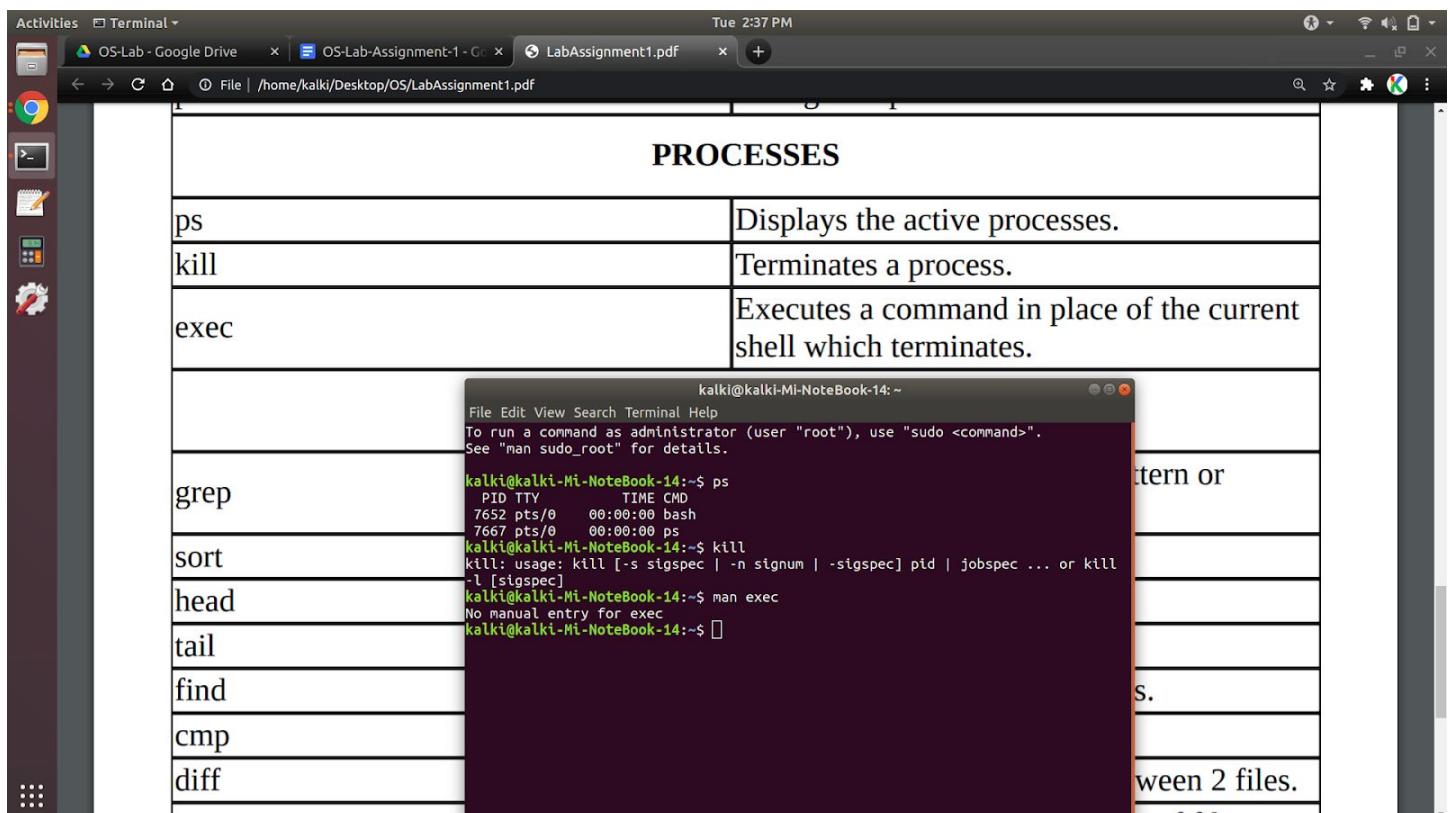
Command: kill

Output: Terminates a process

### Command 3: exec

Command: -

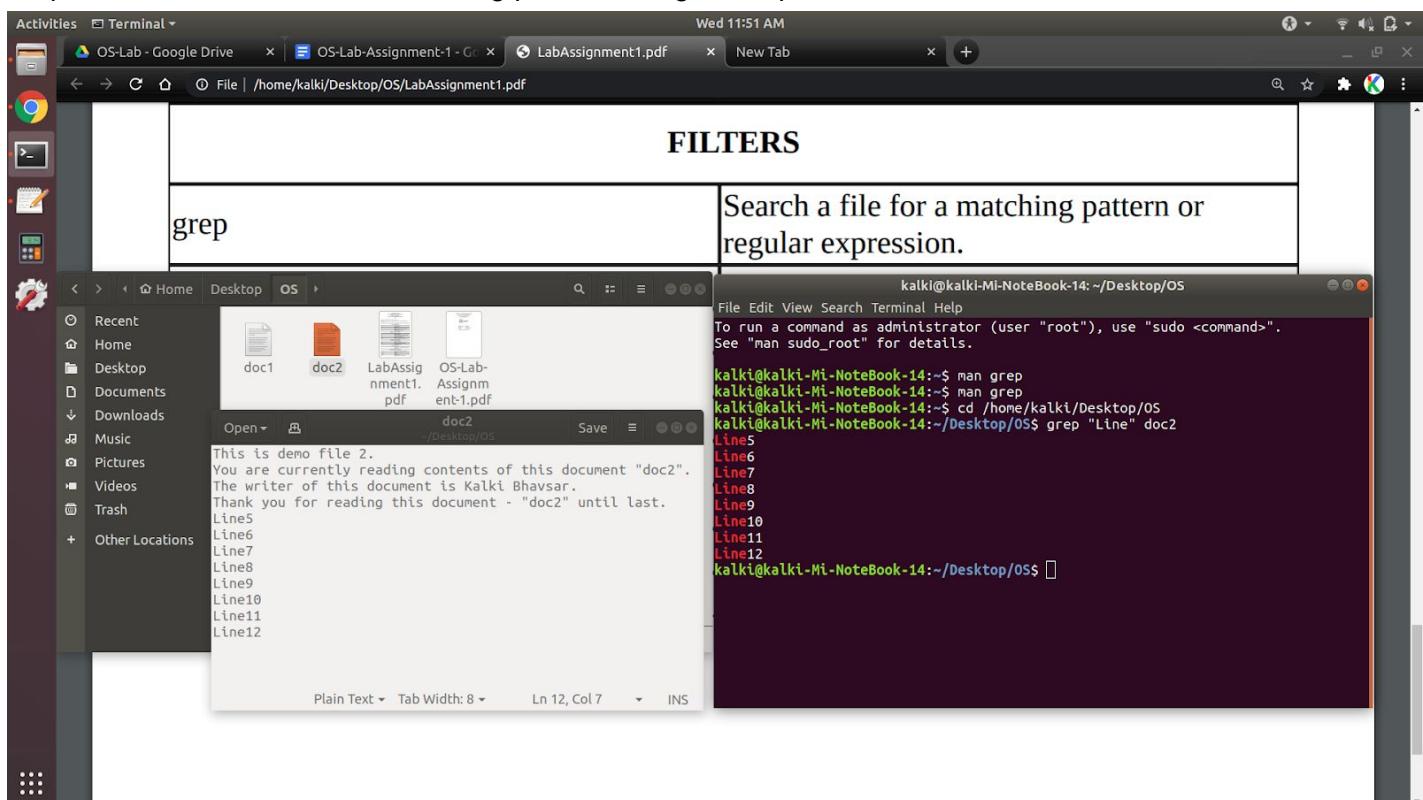
Output: Executes a command in place of the current shell which terminates



## Command 1: grep

Command: grep pattern file

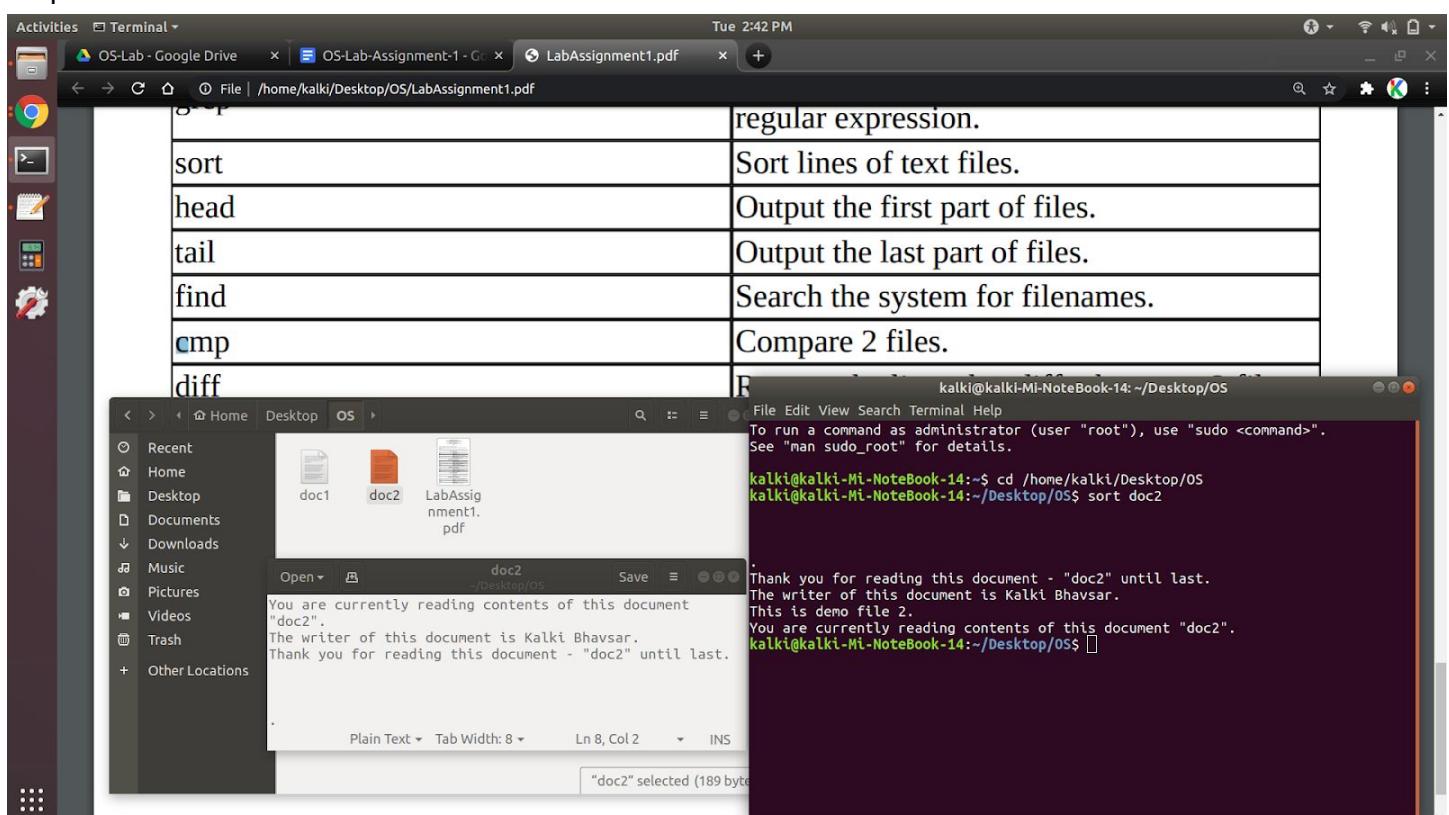
Output: Search for a file for a matching pattern or regular expression.



## Command 2: sort

Command: sort file

Output: Sort lines of text files.



The below mentioned commands are in just one screenshot as shown at the end of this page.

### Command 3: head

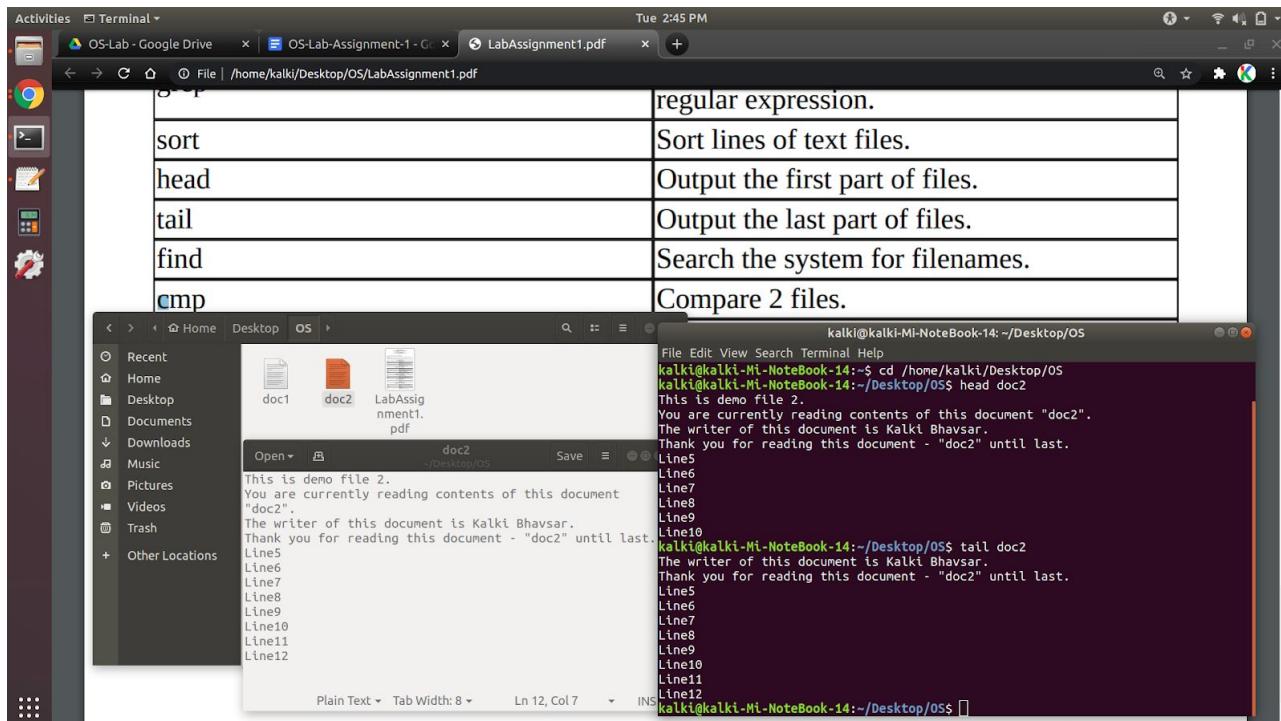
Command: head file

Output: Output the first part of files.

### Command 4: tail

Command: tail file

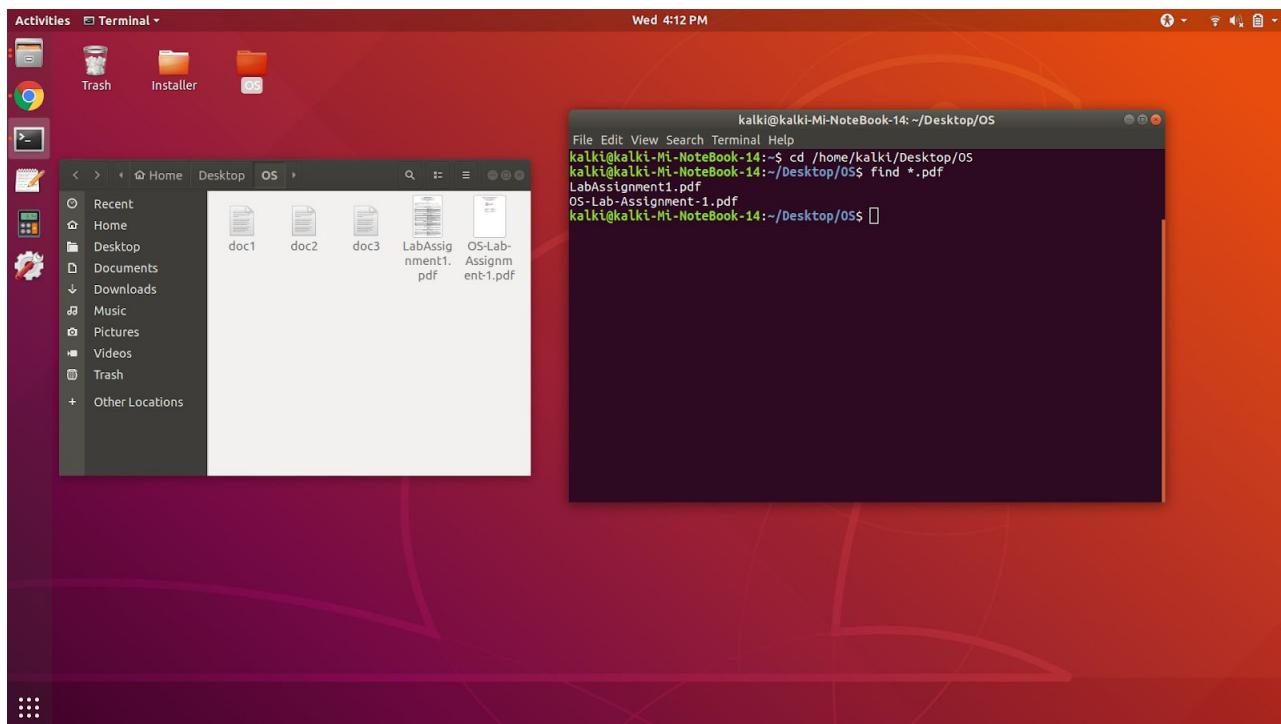
Output: Output the last part of files.



### Command 5: find

Command: find file

Output: Search the system for filenames.



## Command 6: cmp

Command: cmp file

Output: Compare 2 files. "This is demo file " has 19 bytes. And after the 19th bytes, difference starts.

## Command 7: diff

Command: diff file1 file2

Output: Reports the lines that differ between 2 files.

The screenshot shows a Linux desktop environment with several windows open:

- Activities**: A dock containing icons for various applications like a terminal, file manager, and browser.
- Terminal**: An open terminal window titled "OS-Lab - Google Drive" showing the command "ls" output.
- File Manager**: An open file manager window showing the desktop with files "doc1", "doc2", and "LabAssignment1.pdf". The file "doc1" is selected.
- Text Editor**: An open text editor window titled "doc1" showing its contents. It includes instructions for the user and a note about the writer's name.
- Terminal**: Another terminal window titled "LabAssignment1.pdf" showing the command "diff doc1 doc2" output, comparing the contents of "doc1" and "doc2".

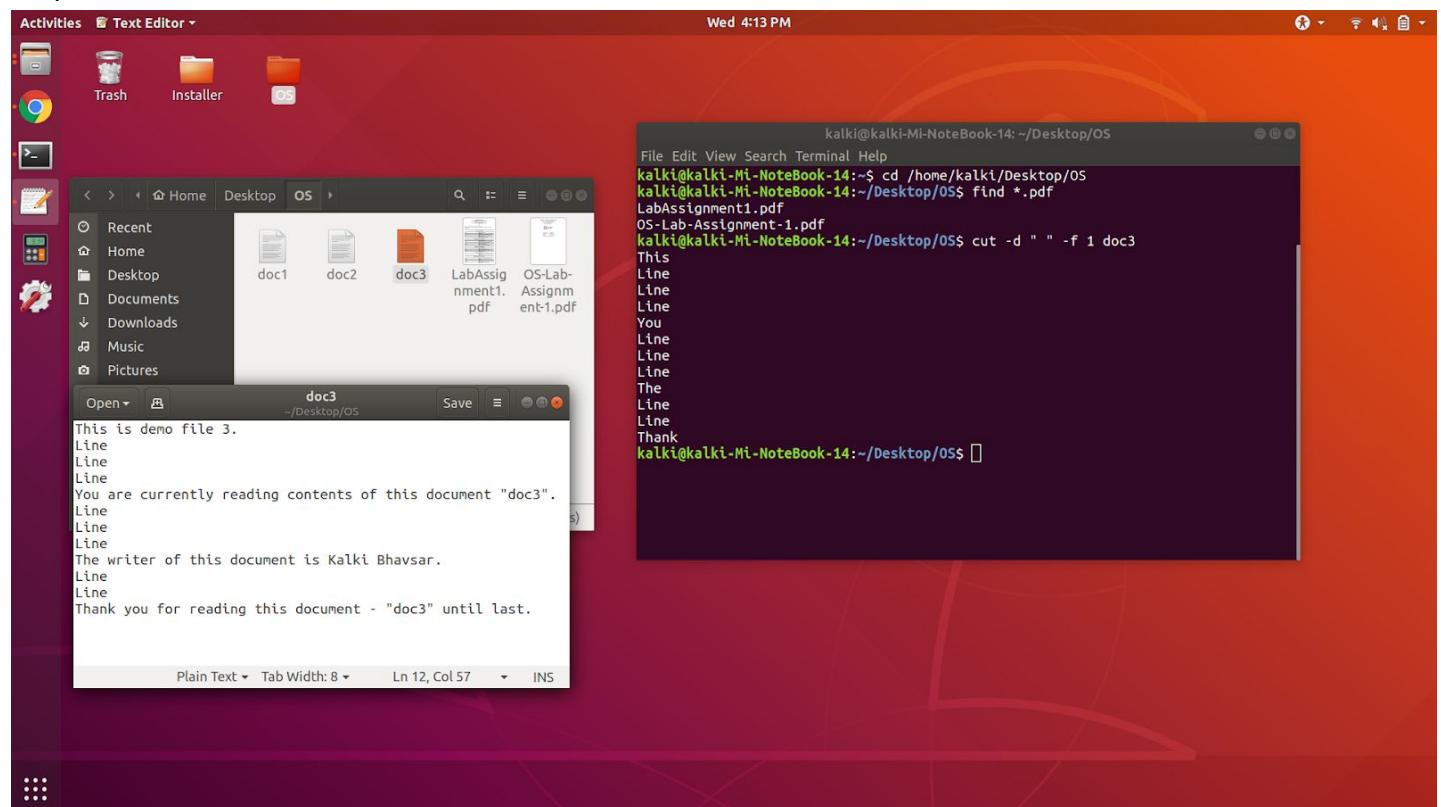
The terminal output for the diff command is as follows:

```
kalki@kalki-Mi-NoteBook-14: ~/Desktop/OS$ kalki@kalki-Mi-NoteBook-14: ~/Desktop/OS$ kalki@kalki-Mi-NoteBook-14: ~/Desktop/OS$ kalki@kalki-Mi-NoteBook-14: ~/Desktop/OS$ diff doc1 doc2
1,2c1,2
< This is demo file 1.
< You are currently reading contents of this document.
...
> This is demo file 2.
> You are currently reading contents of this document "doc2".
4,5c4,12
< Thank you for reading this document - "doc1" until last.
<
...
> Thank you for reading this document - "doc2" until last.
> Line5
> Line6
> Line7
> Line8
> Line9
> Line10
> Line11
> Line12
kalki@kalki-Mi-NoteBook-14: ~/Desktop/OS$
```

## Command 8: cut

Command: cut -d delimiter -f 1 file

Output: Remove sections from each line of files.



## Command 9: uniq

Command: uniq file, uniq --repeated file

Output: Report or omit repeated lines.

