

Assignment- 01

ELP780 Software Lab

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2020EET2631

A report presented for assignment on
LINUX Command

IIT DELHI
India

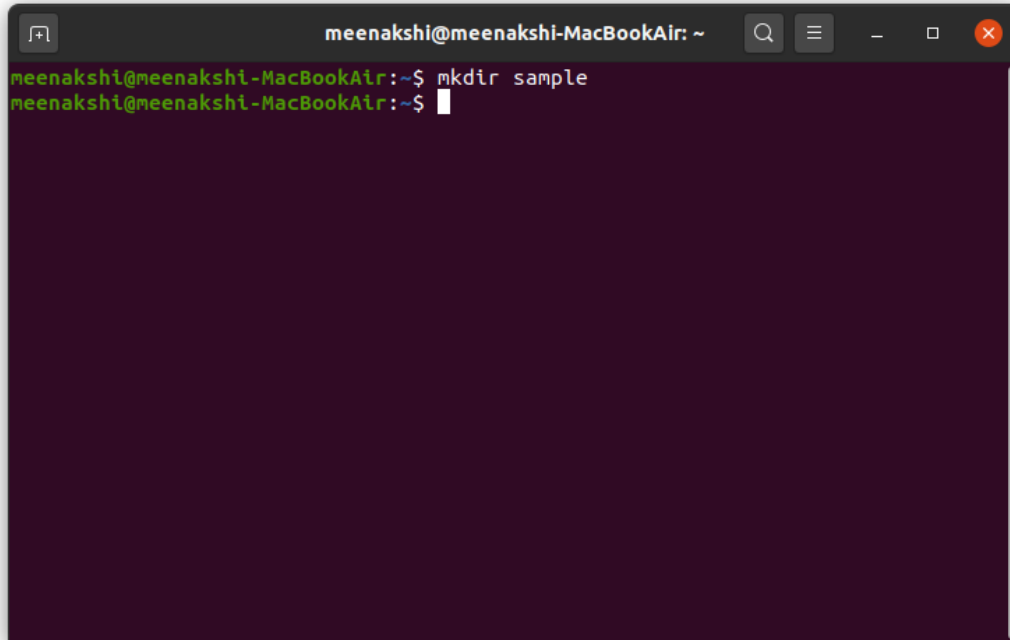
January 2, 2021

USE LINUX COMMAND

1. Make a new directory in the home folder.
2. Change Directory to this new directory.
3. Display full path of the Present Working Directory.
4. Make a file with .txt extension.
5. Copy any text of less than 500 words from Wikipedia and paste it in the file.
6. Change mode of the file to read only.
7. Display Word Count of the file.
8. Using the pipe command , Display number of “the” words in the file using grep command.
9. Add the sentence “The world ech round” to the end of the file, without opening the file.
10. Display the last modified time of the file.
11. Update last modified time of the file to current time, without opening or writing anything to the file.
12. Create a new empty file without opening the file.
13. Copy top 10 lines of the first file to the second file, without opening the file.
14. Make a soft link to your Documents directory, in this directory.
15. Pipe the command history of terminal to a new file called “terminal.cmd”. [0.25cm]

1. Make a new directory in the home folder:

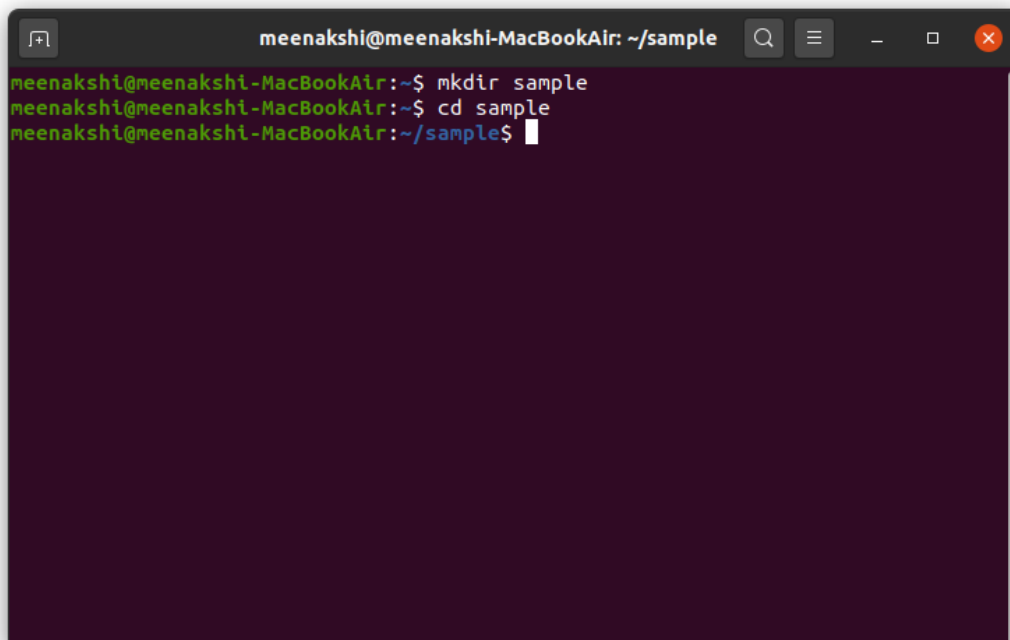
To make a new directory type command in the terminal "mkdir foldername".
Example: To make a new directory name -sample type "mkdir sample.txt".



```
meenakshi@meenakshi-MacBookAir: ~  
meenakshi@meenakshi-MacBookAir:~$ mkdir sample  
meenakshi@meenakshi-MacBookAir:~$
```

2. Change directory to this new directory:

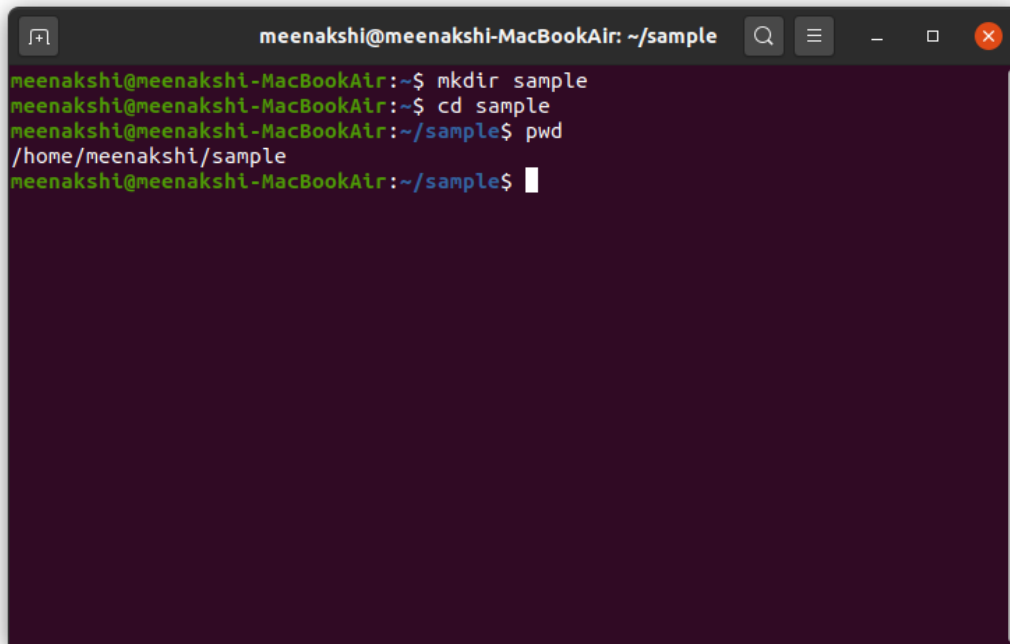
To change the directory type command "cd foldername" Example: "cd sample.txt".



```
meenakshi@meenakshi-MacBookAir: ~/sample  
meenakshi@meenakshi-MacBookAir:~$ mkdir sample  
meenakshi@meenakshi-MacBookAir:~$ cd sample  
meenakshi@meenakshi-MacBookAir:~/sample$
```

3.Display full path of the Present Working Directory:

To display the full path of present directory type command "pwd"

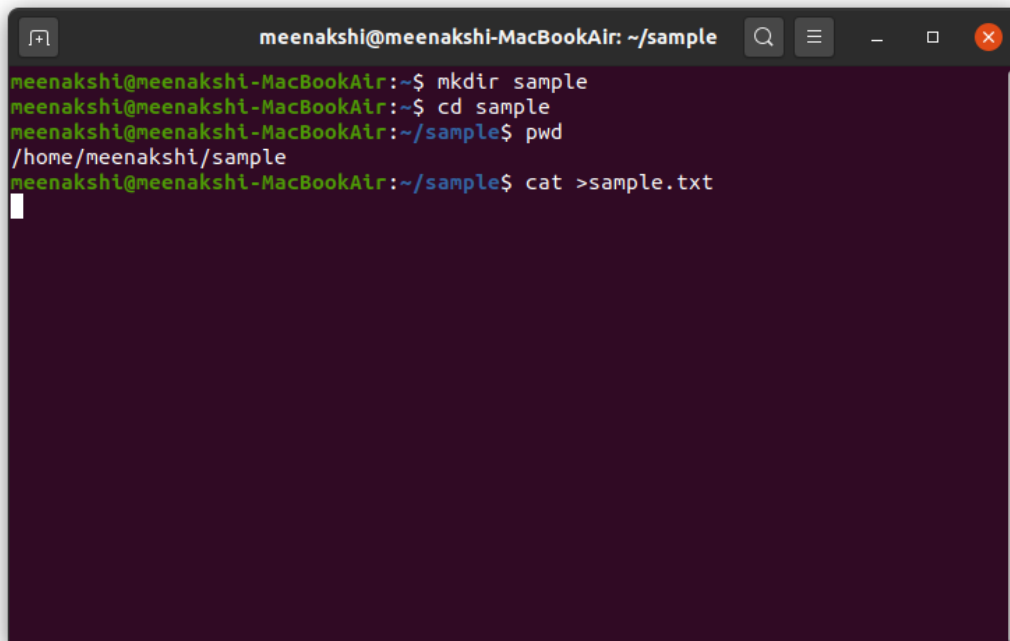
A terminal window titled 'meenakshi@meenakshi-MacBookAir: ~/sample'. The window shows a sequence of commands: 'mkdir sample', 'cd sample', and 'pwd'. The output of 'pwd' is '/home/meenakshi/sample'. The prompt is now 'meenakshi@meenakshi-MacBookAir: ~/sample\$'.

```
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$
```

4.Make a file with .txt extension:

To make a file with .txt extension type command "cat >filename.txt".

Example: "cat >sample.txt"

A terminal window titled 'meenakshi@meenakshi-MacBookAir: ~/sample'. The window shows a sequence of commands: 'mkdir sample', 'cd sample', 'pwd', and 'cat >sample.txt'. The output of 'pwd' is '/home/meenakshi/sample'. The prompt is now 'meenakshi@meenakshi-MacBookAir: ~/sample\$'.

```
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$ cat >sample.txt
```

5.Copy any text of less than 500 words from Wikipedia and paste it in the file:
copy and paste text and press ctrl+z for stop the current command and go to next command.

6.Change mode of the file to read only:

To change the file permission to read mode only remove the other permission using "chmod" command. Example:

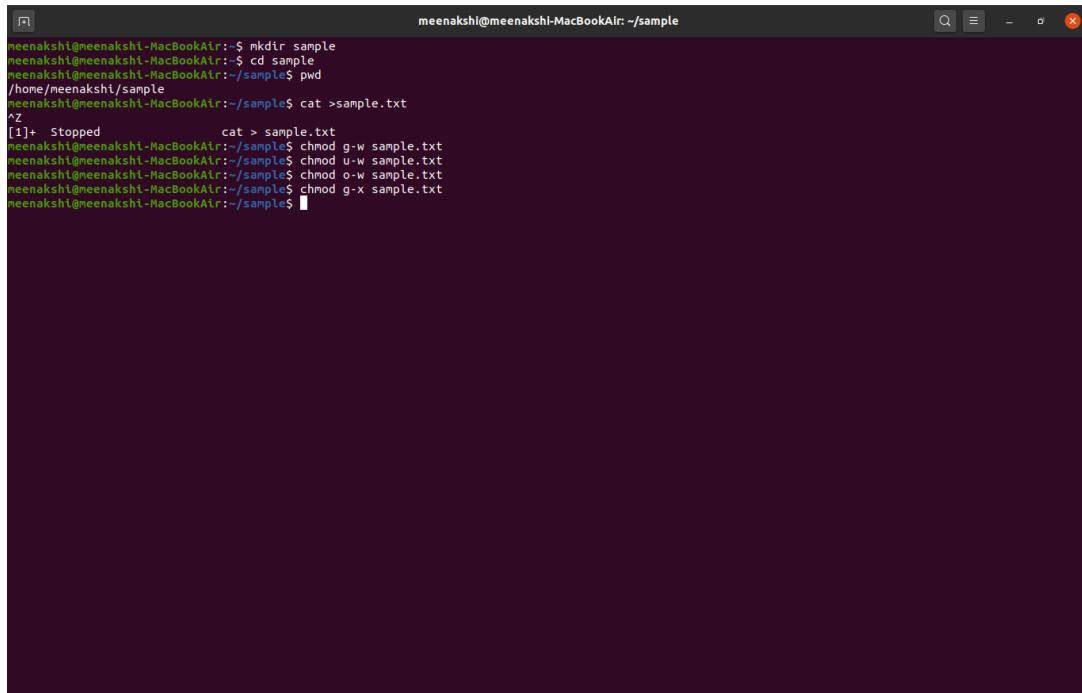
chmod g-w sample.txt,

chmod u-w sample.txt,

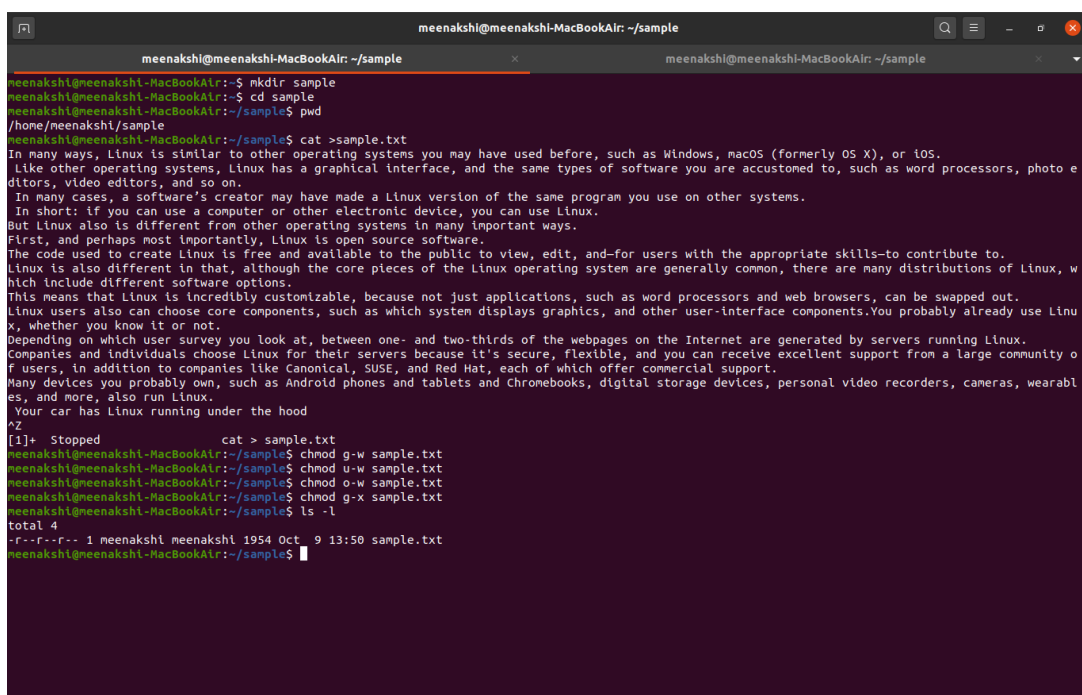
chmod o-w sample.txt,

chmod g-x sample.txt,

To check the mode of file type command "ls -l".



```
meenakshi@meenakshi-MacBookAir: ~/sample
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$ cat >sample.txt
^Z
[1]+  Stopped                  cat > sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod u-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod o-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-x sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```

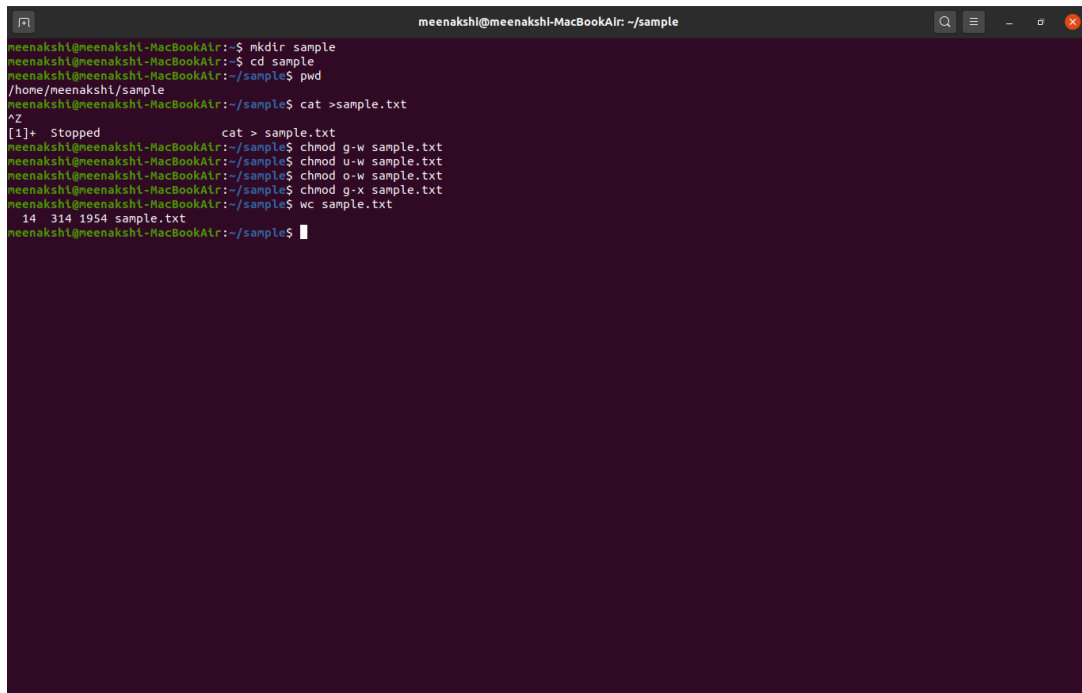


```
meenakshi@meenakshi-MacBookAir:~/sample
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$ cat >sample.txt
In many ways, Linux is similar to other operating systems you may have used before, such as Windows, macOS (formerly OS X), or iOS.
Like other operating systems, Linux has a graphical interface, and the same types of software you are accustomed to, such as word processors, photo e
ditors, video editors, and so on.
In many cases, a software's creator may have made a Linux version of the same program you use on other systems.
In short: if you can use a computer or other electronic device, you can use Linux.
But Linux also is different from other operating systems in many important ways.
First, and perhaps most importantly, Linux is open source software.
The code used to create Linux is free and available to the public to view, edit, and-for users with the appropriate skills-to contribute to.
Linux is also different in that, although the core pieces of the Linux operating system are generally common, there are many distributions of Linux, w
hich include different software options.
This means that Linux is incredibly customizable, because not just applications, such as word processors and web browsers, can be swapped out.
Linux users also can choose core components, such as which system displays graphics, and other user-interface components.You probably already use Linu
x, whether you know it or not.
Depending on which user survey you look at, between one- and two-thirds of the webpages on the Internet are generated by servers running Linux.
Companies and individuals choose Linux for their servers because it's secure, flexible, and you can receive excellent support from a large community o
f users, in addition to companies like Canonical, SUSE, and Red Hat, each of which offer commercial support.
Many devices you probably own, such as Android phones and tablets and Chromebooks, digital storage devices, personal video recorders, cameras, wearabl
es, and more, also run Linux.
Your car has Linux running under the hood
^Z
[1]+  Stopped                  cat > sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod u-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod o-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-x sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ ls -l
total 4
-r--r--r-- 1 meenakshi meenakshi 1954 Oct  9 13:50 sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```

7.Display Word Count of the file:

To display the word count type command "wc filename.txt"

Example: "wc sample.txt"

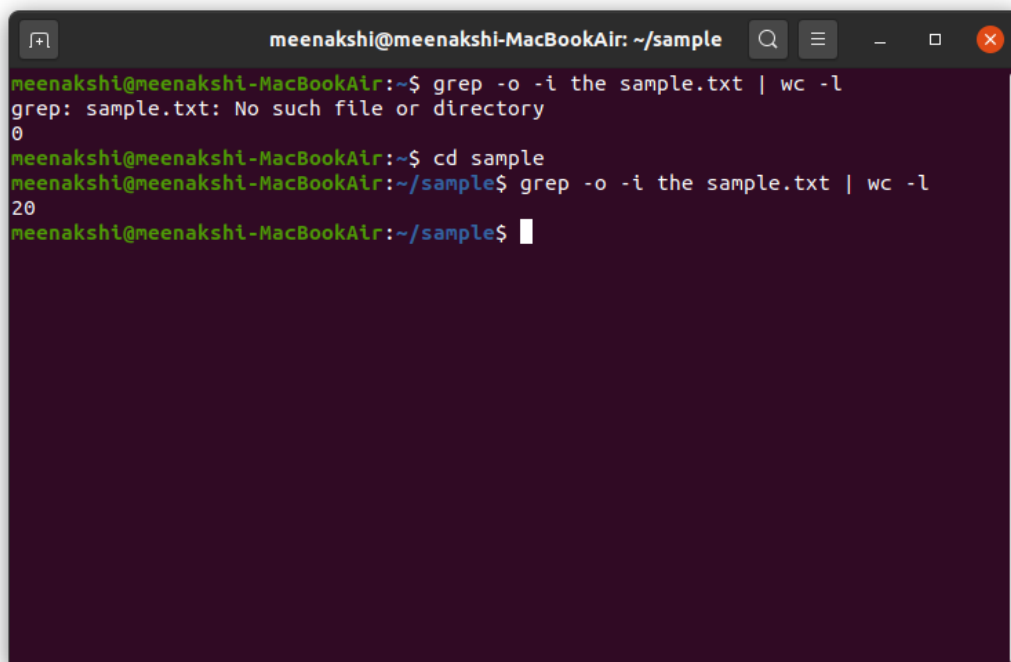
A terminal window titled 'meenakshi@meenakshi-MacBookAir: ~/sample' showing a series of commands to create a file and check its word count. The commands include 'mkdir sample', 'cd sample', 'pwd', 'cat > sample.txt', and several 'chmod' commands. Finally, the 'wc sample.txt' command is executed, displaying the output '14 314 1954 sample.txt'.

```
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$ cat > sample.txt
^Z
[1]+  Stopped                  cat > sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod u-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod o-w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g-x sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ wc sample.txt
 14 314 1954 sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```

8.Using the pipe command , Display number of “the” words in the file using grep command:

To display number of the word in the file using grep command type

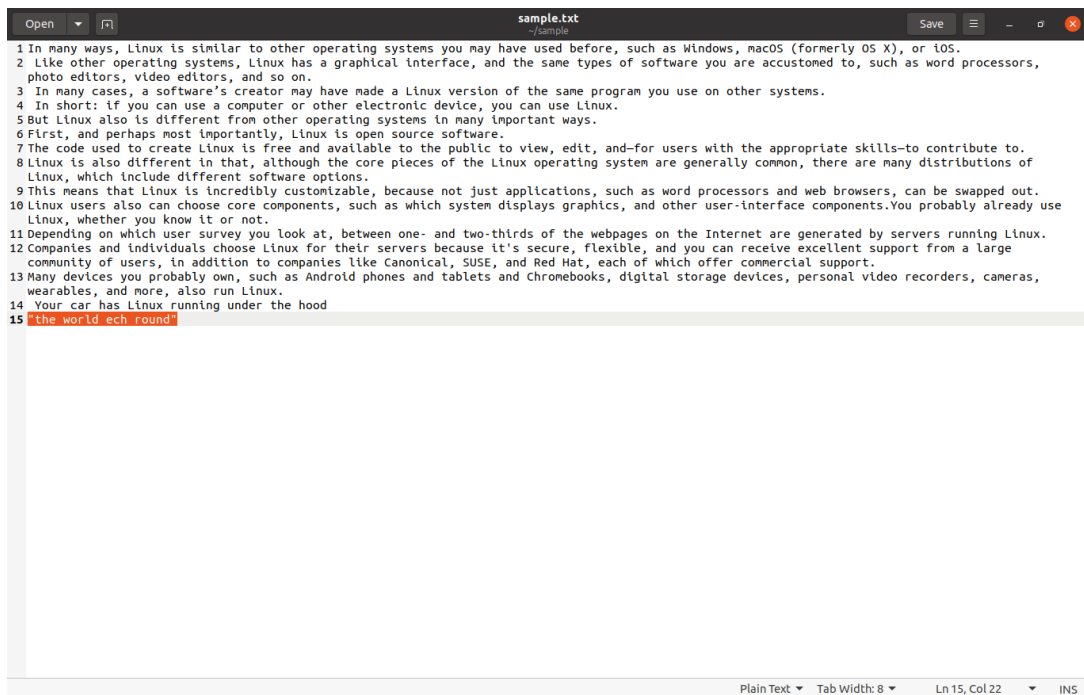
"grep -o -i the "sample.txt|wc -l".

A terminal window titled 'meenakshi@meenakshi-MacBookAir: ~/sample' showing the use of the 'grep' command with a pipe to count the number of 'the' words in 'sample.txt'. The first command 'grep -o -i the sample.txt | wc -l' is run from the home directory, resulting in an error 'grep: sample.txt: No such file or directory' and output '0'. The second command is run from the 'sample' directory, resulting in output '20'.

```
meenakshi@meenakshi-MacBookAir:~$ grep -o -i the sample.txt | wc -l
grep: sample.txt: No such file or directory
0
meenakshi@meenakshi-MacBookAir:~$ cd sample
meenakshi@meenakshi-MacBookAir:~/sample$ grep -o -i the sample.txt | wc -l
20
meenakshi@meenakshi-MacBookAir:~/sample$
```

9. Add the sentence "The world ech round" to the end of the file, without opening the file:

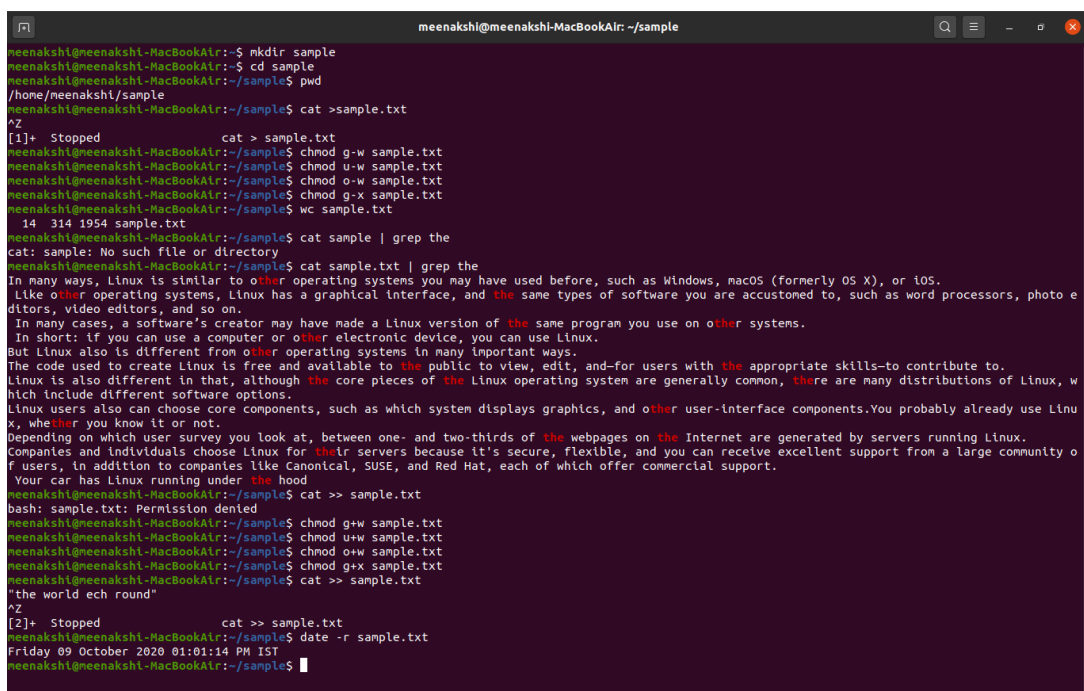
To add the sentence "The world ech round" to the end to the file, without opening the file, first we have to chnagne the mode of file using command" `chmod g+w sample.txt`,
`chmod u+w sample.txt`,
`chmod o+w sample.txt`,
`chmod g+x sample.txt`"
and then type command "`cat » sample.txt`" and then type "the world ech round"
and the output is -



```
Open  sample.txt  Save  -  +  x
1 In many ways, Linux is similar to other operating systems you may have used before, such as Windows, macOS (formerly OS X), or iOS.
2 Like other operating systems, Linux has a graphical interface, and the same types of software you are accustomed to, such as word processors,
  photo editors, video editors, and so on.
3 In many cases, a software's creator may have made a Linux version of the same program you use on other systems.
4 In short: if you can use a computer or other electronic device, you can use Linux.
5 But Linux also is different from other operating systems in many important ways.
6 First, and perhaps most importantly, Linux is open source software.
7 The code used to create Linux is free and available to the public to view, edit, and—for users with the appropriate skills—to contribute to.
8 Linux is also different in that, although the core pieces of the Linux operating system are generally common, there are many distributions of
  Linux, which include different software options.
9 This means that Linux is incredibly customizable, because not just applications, such as word processors and web browsers, can be swapped out.
10 Linux users also can choose core components, such as which system displays graphics, and other user-interface components. You probably already use
  Linux, whether you know it or not.
11 Depending on which user survey you look at, between one- and two-thirds of the webpages on the Internet are generated by servers running Linux.
12 Companies and individuals choose Linux for their servers because it's secure, flexible, and you can receive excellent support from a large
  community of users, in addition to companies like Canonical, SUSE, and Red Hat, each of which offer commercial support.
13 Many devices you probably own, such as Android phones and tablets and Chromebooks, digital storage devices, personal video recorders, cameras,
  wearables, and more, also run Linux.
14 Your car has Linux running under the hood
15 the world ech round
```

10. Display the last modified time of the file:

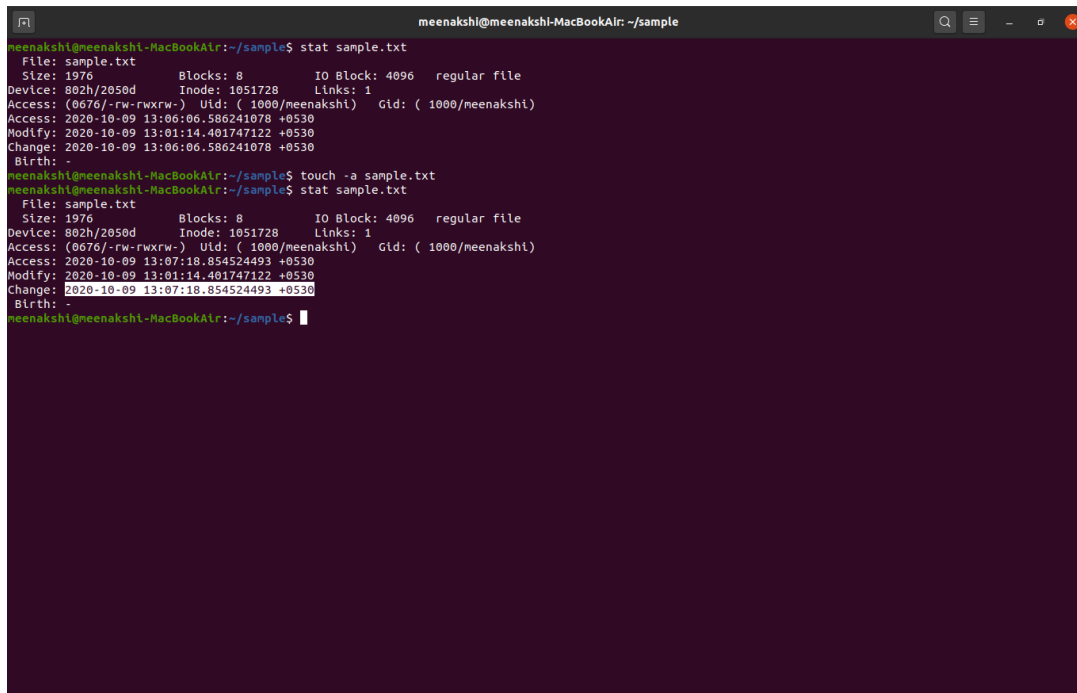
To display the last modified time of the file type "`date -r sample.txt`".



```
meenakshi@meenakshi-MacBookAir: ~/sample
meenakshi@meenakshi-MacBookAir:~$ mkdir sample
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meenakshi@meenakshi-MacBookAir:~/sample$ pwd
/home/meenakshi/sample
meenakshi@meenakshi-MacBookAir:~/sample$ cat >sample.txt
^Z
[1]+  Stopped                  cat > sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod u+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod o+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g+x sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ wc sample.txt
  14  314 1954 sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ cat sample | grep the
cat: sample: No such file or directory
meenakshi@meenakshi-MacBookAir:~/sample$ cat sample.txt | grep the
In many ways, Linux is similar to other operating systems you may have used before, such as Windows, macOS (formerly OS X), or iOS.
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Companies and individuals choose Linux for their servers because it's secure, flexible, and you can receive excellent support from a large community o
f users, in addition to companies like Canonical, SUSE, and Red Hat, each of which offer commercial support.
Your car has Linux running under the hood
meenakshi@meenakshi-MacBookAir:~/sample$ cat >> sample.txt
bash: sample.txt: Permission denied
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod u+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod o+w sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ chmod g+x sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ cat >> sample.txt
"the world ech round"
^Z
[2]+  Stopped                  cat >> sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ date -r sample.txt
Friday 09 October 2020 01:01:14 PM IST
meenakshi@meenakshi-MacBookAir:~/sample$
```

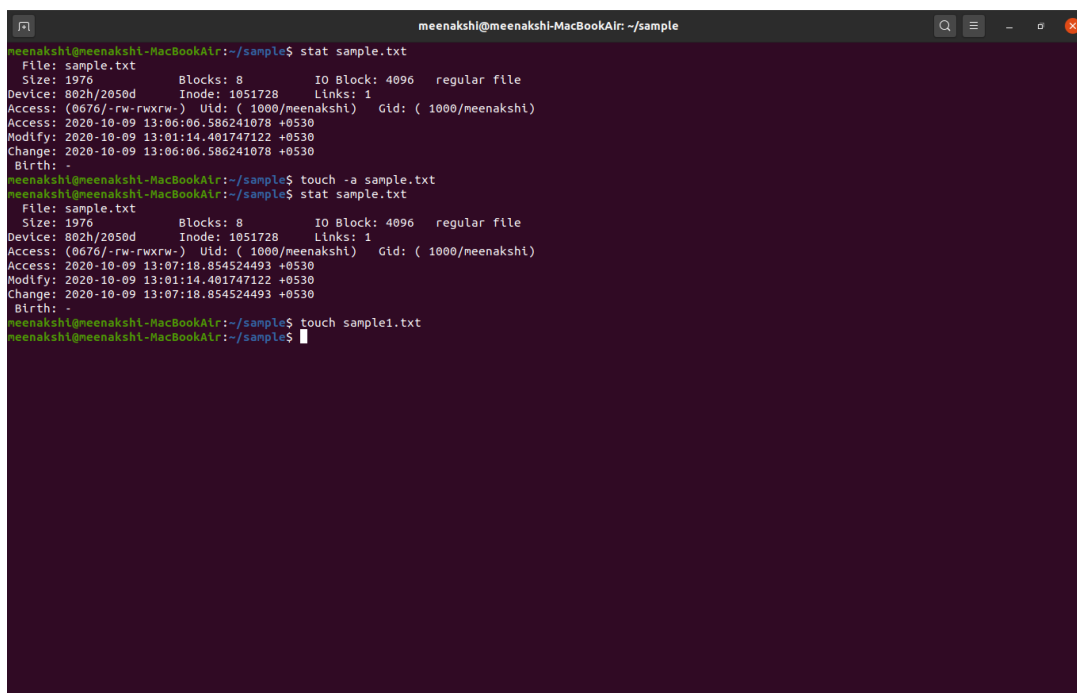
11. Update last modified time of the file to current time, without opening or writing anything to the file:

To update last modified time of the file to current time type command "touch -a sample.txt" and to show last modified time type command "stat sample.txt".



```
meenakshi@meenakshi-MacBookAir: ~/sample
meenakshi@meenakshi-MacBookAir:~/sample$ stat sample.txt
File: sample.txt
Size: 1976      Blocks: 8       IO Block: 4096   regular file
Device: 802h/2050d Inode: 1051728  Links: 1
Access: (0676/-rw-rwxrwx-)  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:06:06.586241078 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
Change: 2020-10-09 13:06:06.586241078 +0530
 Birth: -
meenakshi@meenakshi-MacBookAir:~/sample$ touch -a sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ stat sample.txt
File: sample.txt
Size: 1976      Blocks: 8       IO Block: 4096   regular file
Device: 802h/2050d Inode: 1051728  Links: 1
Access: (0676/-rw-rwxrwx-)  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:07:18.854524493 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
Change: 2020-10-09 13:07:18.854524493 +0530
 Birth: -
meenakshi@meenakshi-MacBookAir:~/sample$
```

12. Create a new empty file without opening the file: To create a new empty file type "touch sample1.txt".



```
meenakshi@meenakshi-MacBookAir: ~/sample
meenakshi@meenakshi-MacBookAir:~/sample$ stat sample.txt
File: sample.txt
Size: 1976      Blocks: 8       IO Block: 4096   regular file
Device: 802h/2050d Inode: 1051728  Links: 1
Access: (0676/-rw-rwxrwx-)  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:06:06.586241078 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
Change: 2020-10-09 13:06:06.586241078 +0530
 Birth: -
meenakshi@meenakshi-MacBookAir:~/sample$ touch -a sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ stat sample.txt
File: sample.txt
Size: 1976      Blocks: 8       IO Block: 4096   regular file
Device: 802h/2050d Inode: 1051728  Links: 1
Access: (0676/-rw-rwxrwx-)  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:07:18.854524493 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
Change: 2020-10-09 13:07:18.854524493 +0530
 Birth: -
meenakshi@meenakshi-MacBookAir:~/sample$ touch sample1.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```


13. Copy top 10 lines of the first file to the second file, without opening the file:

To copy top 10 line of one file to another file type command in terminal:-

```
"sed -e "10q" firstfile.txt > secondfile.txt".
```

Example: `sed -e "10q" sample.txt >sample1.txt`

```
meenakshi@meenakshi-MacBookAir: ~/sample$ stat sample.txt
  File: sample.txt
  Size: 1976          Blocks: 8          IO Block: 4096   regular file
Device: 802h/2050d   Inode: 1051728      Links: 1
Access: (0676/-rw-rwxr-- )  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:06:06.586241078 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
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meenakshi@meenakshi-MacBookAir:~/sample$ touch -a sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$ stat sample.txt
  File: sample.txt
  Size: 1976          Blocks: 8          IO Block: 4096   regular file
Device: 802h/2050d   Inode: 1051728      Links: 1
Access: (0676/-rw-rwxr-- )  Uid: ( 1000/meenakshi)   Gid: ( 1000/meenakshi)
Access: 2020-10-09 13:07:18.854524493 +0530
Modify: 2020-10-09 13:01:14.401747122 +0530
Change: 2020-10-09 13:07:18.854524493 +0530
 Birth: -

meenakshi@meenakshi-MacBookAir:~/sample$ touch sample1.txt
meenakshi@meenakshi-MacBookAir:~/sample$ sed -e "10q" sample.txt>sample1.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```

And the output is

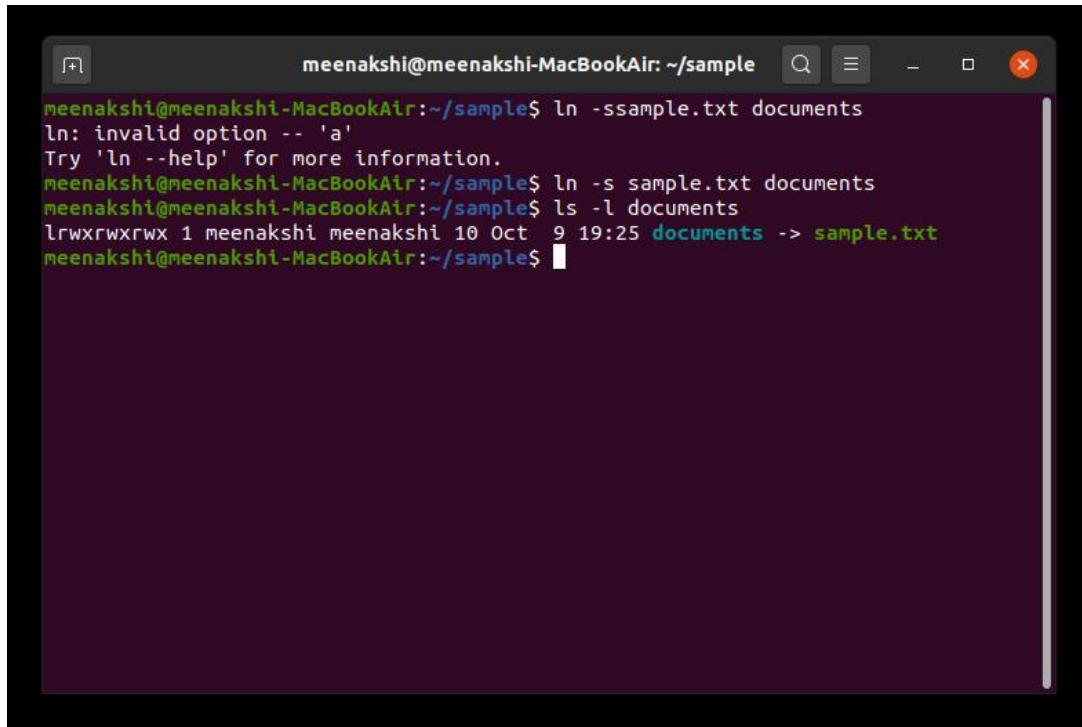
The screenshot shows a Linux terminal window with a text editor open. The window title is "sample1.txt". The text editor displays the content of "sample1.txt", which is a list of 10 numbered items. The status bar at the bottom indicates the file is in "Plain Text" mode, with a "Tab Width: 8" and the cursor is at "Ln 1, Col 1".

```

1 In many ways, Linux is similar to other operating systems you may have used before, such as Windows, macOS (formerly OS X), or iOS.
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  photo editors, video editors, and so on.
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    Linux, whether you know it or not.
  
```

14. Make a soft link to your Documents directory, in this directory:

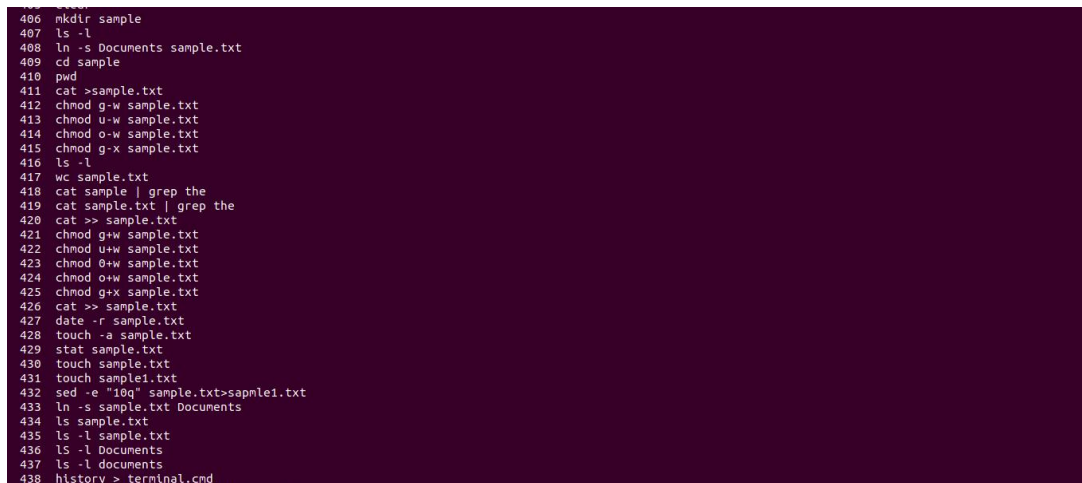
To make soft link type "ln -s sample.txt Documents"



```
meenakshi@meenakshi-MacBookAir: ~/sample
meenakshi@meenakshi-MacBookAir:~/sample$ ln -ssample.txt documents
ln: invalid option -- 'a'
Try 'ln --help' for more information.
meenakshi@meenakshi-MacBookAir:~/sample$ ln -s sample.txt documents
meenakshi@meenakshi-MacBookAir:~/sample$ ls -l documents
lrwxrwxrwx 1 meenakshi meenakshi 10 Oct  9 19:25 documents -> sample.txt
meenakshi@meenakshi-MacBookAir:~/sample$
```

15. Pipe the command history of terminal to a new file called "terminal.cmd" :

To pipe the command history of terminal type
"history >terminal.cmd".



```
406 cat > sample.txt
407 ls -l
408 ln -s Documents sample.txt
409 cd sample
410 pwd
411 cat > sample.txt
412 chmod g-w sample.txt
413 chmod u-w sample.txt
414 chmod o-w sample.txt
415 chmod g-x sample.txt
416 ls -l
417 wc sample.txt
418 cat sample | grep the
419 cat sample.txt | grep the
420 cat >> sample.txt
421 chmod g+w sample.txt
422 chmod u+w sample.txt
423 chmod o+w sample.txt
424 chmod g+x sample.txt
425 cat >> sample.txt
426 cat >> sample.txt
427 date -r sample.txt
428 touch -a sample.txt
429 stat sample.txt
430 touch sample.txt
431 touch sample1.txt
432 sed -e "10q" sample.txt>sample1.txt
433 ln -s sample.txt Documents
434 ls sample.txt
435 ls -l sample.txt
436 ls -l Documents
437 ls -l documents
438 history > terminal.cmd
```

```
406 mkdir sample
407 ls -l
408 ln -s Documents sample.txt
409 cd sample
410 pwd
411 cat >sample.txt
412 chmod g-w sample.txt
413 chmod u-w sample.txt
414 chmod o-w sample.txt
415 chmod g-x sample.txt
416 ls -l
417 wc sample.txt
418 cat sample | grep the
419 cat sample.txt | grep the
420 cat >> sample.txt
421 chmod g+w sample.txt
422 chmod u+w sample.txt
423 chmod 0+w sample.txt
424 chmod o+w sample.txt
425 chmod g+x sample.txt
426 cat >> sample.txt
427 date -r sample.txt
428 touch -a sample.txt
429 stat sample.txt
430 touch sample.txt
431 touch sample1.txt
432 sed -e "10q" sample.txt>sapmle1.txt
433 ln -s sample.txt Documents
434 ls sample.txt
435 ls -l sample.txt
436 ls -l Documents
437 ls -l documents
438 history > terminal.cmd
439 grep -o -i the sample.txt | wc -l
440 cd sample
441 grep -o -i the sample.txt | wc -l
442 cd sample
443 clear
444 ln -ssample.txt documents
445 ln -s sample.txt documents
446 ls -l documents
447 history > terminal.cmd
448 history | grep usr/bin
449 history > terminal.cmd
450 terminal.cmd
451 history
452 clear
453 history
454 history > terminal.cmd
455 history 53 >terminal.cmd
456 history 51 >terminal.cmd
```

Reference:

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- 5.<https://help.ubuntu.com/community/FilePermissions>
- 6.<https://www.youtube.com/watch?v=zEduPPP3xqk>