

OSL-Assignment 2
Vidhi Binwal
22070122249
CSE-C3 (2022-26)
Sem IV

OSL- Assignment # 2

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Class :- CSE-C3

Sem :- IV (2022-26)

Title :- Basic shell commands

* AIM:- Demonstrate the use of basic Shell commands.

* HARDWARE / SOFTWARE:- Ubuntu

* THEORY:-

- (i) pwd : It stands for "print working directory". When we run this command, it outputs the current working directory in the terminal.
- (ii) ls : The 'ls' command in a shell is used to list the contents of a directory. When we run this command without any arguments, it displays the names of files and subdirectories in the current directory.
- (iii) cd : It stands for "change directory". It is used to change the current working directory. We can navigate to different directories within the file system.
- (iv) touch : It is used to create empty files and update the access and modification timestamps of existing files.
- (v) mkdir : It is used to create a new directory (folder). It is useful for organizing files and managing the structure of our file system by creating new directories as needed.

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- (vi) cat: It is used to concatenate and display the contents of one or more files. It's commonly used to create, concatenate and display files.
 - (vii) rm: The 'rm' command in a shell is used to remove or delete files and directories.
 - (viii) bc:- The 'bc' command in a shell is a calculator that performs arithmetic operations. It stands for "basic calculator". It can be used interactively or by providing it with a file containing the mathematical expressions to evaluate.
 - (ix) tty: It stands for "teletypewriter" and is used to print the file name of the terminal connected to the standard input.
 - (x) who: Used to display information about users who are currently logged into the system. It provides details like the username, terminal, login time and originating IP address.
 - (xi) man: Used to display the manual (documentation) pages for a given command or topic. Stands for "manual".
 - (xii) date: Used to display the current date and time, and it can also be used to set the system date and time.
 - (xiii) history: Used to display a list of previously executed commands in the current shell session. It provides a history of commands that you have entered, along with their corresponding line numbers.
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(xiv) ps : Used to display information about currently running processes. It provides a snapshot of the processes running in the system at the time the command is executed.

(xv) time : Used to measure the execution time of a command or a shell script. Tells about the real-time, user CPU time, and system CPU time used by the command or script.

(xvi) head : used to print the first N lines of a file. It accepts N as input and the default value of N is 10.

(xvii) tail : used to print the last n-1 lines of a file.

(xviii) cp : Used to copy files or directories from one location to another. It accepts the source file/directory and destination file/directory.

(xix) sort : Used to sort the contents of files.

(xx) wc : used to count the number of characters or words in a file.

(xxi) chmod : Used to change the permissions of a file or directory. It stands for "change mode" (+w write, +r for read etc.)

* CONCLUSION:

We were able to understand and work with fundamental shell commands. These can help lay a solid basis for using them, while handling files and system administration.

OUTPUT (Screenshots)

pwd

```
student@student-VirtualBox:~$ pwd
/home/student
```

ls

```
student@student-VirtualBox:~$ ls
compareString  Desktop  Downloads  Music  Public  Templates
concatenation  Documents  lengthString  Pictures  snap  Videos
```

cd

```
student@student-VirtualBox:~$ cd Music
```

touch

```
student@student-VirtualBox:~/Music$ touch doc.txt
student@student-VirtualBox:~/Music$ ls
doc.txt
```

cat

```
doc.txt
student@student-VirtualBox:~/Music$ cat doc.txt
student@student-VirtualBox:~/Music$ ls
doc.txt
```

mkdir

```
doc.txt
student@student-VirtualBox:~/Music$ mkdir note
student@student-VirtualBox:~/Music$ ls
doc.txt  note
```

rm

```
student@student-VirtualBox:~/Music$ rm doc.txt
student@student-VirtualBox:~/Music$ ls
note
```

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bc

```
student@student-VirtualBox:~/Music$ bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software
Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
89+35
124
25*6
150
8<10
1
120/5
24
^C
(interrupt) use quit to exit.
quit
```

tty

```
student@student-VirtualBox:~/Desktop$ tty
/dev/pts/0
```

who

```
student@student-VirtualBox:~/Desktop$ who
student  tty2          2024-01-24 13:58 (tty2)
```

ps

```
student@student-VirtualBox:~/Desktop$ ps
  PID TTY          TIME CMD
  6278 pts/0    00:00:00 bash
  6324 pts/0    00:00:00 ps
```

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man

```
MAN(1)                                Manual pager utils                                MAN(1)

NAME
    man - an interface to the system reference manuals

SYNOPSIS
    man [man options] [[section] page ...] ...
    man -k [apropos options] regexp ...
    man -K [man options] [section] term ...
    man -f [whatis options] page ...
    man -l [man options] file ...
    man -w|-W [man options] page ...

DESCRIPTION
    man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order (see DEFAULTS), and to show only the first page found, even if page exists in several sections.

    The table below shows the section numbers of the manual followed by the
    Manual page man(1) line 1 (press h for help or q to quit)
```

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date

```
shilpi@ubuntu1:~$ date
Fri Jan 26 04:06:14 PM UTC 2024
shilpi@ubuntu1:~$ date +%h
Jan
shilpi@ubuntu1:~$ date +%m
01
shilpi@ubuntu1:~$ date +%Y
2024
shilpi@ubuntu1:~$ ^C
bash: :s^C: substitution failed
shilpi@ubuntu1:~$ date +%y
24
shilpi@ubuntu1:~$ date +%p
PM
shilpi@ubuntu1:~$ date +%d
26
shilpi@ubuntu1:~$ date +%A
Friday
shilpi@ubuntu1:~$ date +%B
January
```

wc

```
shilpi@ubuntu1:~$ wc note
4 14 62 note
```

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history

```
student@student-VirtualBox:~/Desktop$ history
1  gedit
2  bash compareString
3  gedit
4  bash compareString
5  gedit
6  bash compareString
7  edit
8  gedit
9  bash concatenation
10 gedit
11 bash concatenation
12 gedit
13 bash lengthString
14 gedit
15 bash lengthString
16 gedit
17 bash lengthString
18 edit
19 gedit
20 bash lengthString
21 gedit
22 bash compareString
23 gedit
24 bash compareString
25 gedit
26 bash compareString
27 pwd
28 ls
29 cd
30 touch
31 cat
```

time

```
student@student-VirtualBox:~/Desktop$ time
real    0m0.000s
user    0m0.000s
sys     0m0.000s
```

head


```
shilpi@ubuntu1:~$ cat > sample.txt
hello
how has your day been
what is your name
how old are you
shilpi@ubuntu1:~$ head -2 sample.txt
hello
how has your day been
```

tail

```
shilpi@ubuntu1:~$ tail -3 sample.txt
how has your day been
what is your name
how old are you
```

cp

```
shilpi@ubuntu1:~$ cp sample.txt note
```

sort

```
shilpi@ubuntu1:~$ sort note
hello
how has your day been
how old are you
what is your name
shilpi@ubuntu1:~$ wc note
 4 14 62 note
```

chmod

```
shilpi@ubuntu1:~$ chmod +r note  
shilpi@ubuntu1:~$ chmod +w note  
shilpi@ubuntu1:~$ chmod +x note
```

CONCLUSION

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	We were able to understand and work with fundamental shell commands. These can help lay a solid basis for using them, while handling files and system administration.