# LINUX ASSIGNMENT

## Exercise: 1

Q-2.Enter these commands at the UNIX prompt, and try to interpret the output. Ask questions and don't be afraid to experiment (as a normal user you cannot do much harm):

Command:echo hello world.

Output: It types “hello world” on terminal screen.

Command: passwd

It is used to change user’s password.

Command:date

Output: Wed Oct 20 12:23:10 PDT 2012

It gives us today’s date & time.

Command: hostname

Output:localhost.localdomain

Command: arch

Output:i686

It is used to print machine hardware name.

Command: uname –a

Output:Linux localhost.localdomain 2.6.32-131.0.15.el6.i686 #1 SMP Tue May 10 15:42:28 EDT 2011 i686 i686 i386 GNU/Linux.

It gives us Kernel name, hostname, Kernel release, Kernel Version, machiene hardware name &OS name

Command: dmesg | more

It is used to print or control the kernel ring buffer.

Command: uptime

Output: 05:37:57 up 32 min,  2 users,  load average: 0.23, 0.34, 0.42

It tells us how long the system has been running.

Command: who am i

Output:student  pts/0        2012-10-17 05:23 (:0.0)

It shows current users

Command: who

Output: student  tty1         2012-10-17 05:08 (:0)

student  pts/0        2012-10-17 05:23 (:0.0)

List all users.

Command:id

Output:uid=500(student) gid=500(student) groups=500(student) context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023.

It prints real and effective user and group IDs& Context.

Command: last

It gives us the list of last logged in users.

Command: w

Output:05:53:18 up 47 min,  2 users,  load average: 0.12, 0.10, 0.18

USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT

student tty1 :0 05:08 47:20 1:10 0.18s pam: gdm-passwo

student pts/0 :0.0 05:23 3.00s 1.35s 0.33s w

It shows who is logged on and what they are doing.

Command: top

It displays Linux tasks.

Command: echo $SHELL

Output:/bin/bash

It is used to view current shell that is being used.

Command:echo {con,pre}{sent,fer}{s,ed}
Output:consents consented confers confered presents presented prefers preferred.

It gives us the combination of all possible words.

Command: man ls

It gives us manual page of ls command.

Basically, ls command is used to give list of directory contents.

Command: man who

It gives us manual page of who command.

Basically, who command is used to show who is logged on.

Command: clear

It is used to clear terminal.

Command: cal 2000

It gives us calendar of year 2000.

Command: 9 1752

It gives us calendar of Sept. 1752.

Command: bc-l

Output: bc 1.06.95

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Here, bc stands for an arbitrary precision calculator language.

Command: echo 5+4 | bc–l

Output:9

Command: yes please

It continuously prints “please”

Command: time sleep 5

Output:real 0m5.098s

user 0m0.001s

sys 0m0.008s

Command: history

It shows us history of all commands which were typed in terminal.

## Exercise: 2

Q-1. Try the following command sequence:

- ✓ cd – change to home directory
  - output - [student@localhost ~]$
- ✓ pwd – show current working directory
  - output - /home/student
- ✓ ls -al - formatted listing with hiding files in /home/student directory.
- ✓ cd . – no change
- ✓ pwd (where did that get you?) - /home/student
- ✓ cd .. - [student@localhost home]$
- ✓ pwd - /home
- ✓ ls -al - formatted listing with hiding files in /home directory.
- ✓ cd .. - [student@localhost /]$
- ✓ pwd - /
- ✓ ls -al – formatted listing with hiding files in / directory.
- ✓ cd .. - [student@localhost /]$
- ✓ pwd (what happens now) - /
- ✓ cd /etc - [student@localhostetc]$
- ✓ ls -al |more – formatted listing with hiding files in /etc directory.

- ✓ cat passwd –
- ✓ cd - [student@localhost ~]$
- ✓ pwd - /home/student

Q-2.
Continue to explore the filesystem tree using cd, ls, pwd and cat. Look in /bi n,

/usr/bin, /sbin, /tmp and /boot. What do you see?

Sol.

- [student@localhost Desktop]$ cd /bin
- [student@localhost bin]$ ls -al
  Gives us list of all files in /bin
- [student@localhost bin]$ pwd

  /bin
- [student@localhost bin]$ cat /bin

  cat: /bin: Is a directory
- [student@localhost bin]$ cd /sbin
- [student@localhostsbin]$ ls
  Gives us list of all files in /sbin
- [student@localhostsbin]$ pwd

  /sbin
- [student@localhostsbin]$ cat /sbin

  cat: /sbin: Is a directory
- [student@localhostsbin]$ cd /tmp
- [student@localhosttmp]$ ls
  Gives us list of all files in /boot directory.

- [student@localhost boot]$ pwd

  /boot

- [student@localhost boot]$ cat /boot

  cat: /boot: Is a directory

Q-3. Explore /dev. Can you identify what devices are available? Which are character- oriented and which are block-oriented? Can you identify your tty (terminal)device (typing who am i might help); who is the owner of your tty (use ls -l)?

Sol.

[student@localhost Desktop]$ cd /dev

[student@localhostdev]$

- Block oriented-Hd,RAM,cash memory
- Character oriented-mouse,CPU,keyboard

[student@localhostdev]$ who am i

student pts/0 2012-10-19 08:25 (:0.0)

[student@localhostdev]$ ls –l

Total:0

4.Explore /proc. Display the contents of the files interrupts, devices, cpuinfo , meminfo & uptime using cat. Can you see why we say /proc is a pseudo-fil esystem which allows access to kernel data structures?

Sol. [student@localhost Desktop]$ cd /proc

Q-5.
Change to the home directory of another user directly, using cd ~username.

Sol.

For this, first of all we have to add another user by 'sudo' command.

And after that, we have to modify it's permission by using 'chmod' command, then we can change to the home directory of another user

directly using cd ~ username

Q-6.Change back into your home directory.

Sol. For this, we will use  cd /home command.

Q-7. Make subdirectories called work and play.

Sol: To make subdirectories, we use ‘mkdir’ command.

Q-8. Delete the subdirectory called work.

Sol: To delete, we use ‘rmdir’ command.

Q-9. Copy the file /etc/passwd into your home directory.

Sol: For this, we use

```
cp      /etc/passwd         /home
```

Q-10 Move it into the subdirectory play.

Sol: For this, we use

```
mv     /home/passwd    /Desktop/hello/play
```

Q-11 .Change into subdirectory play and create a symbolic link called terminal that
points to your tty device. What happens if you try to make a hard link to the tty device?

Q-12. What is the difference between listing the contents of directory play with lsl
andlsL?

Sol:

ls –l gives list of all files information with permission details file size etc…

whilels –L gives only file and directory names..

Q-13. Create a file called hello.txt that contains the words "hello world". Can you use

"cp" using "terminal" as the source file to achieve the same effect?

Sol: [student@localhost ~]$ vi hello.txt

[student@localhost ~]$ cp hello.txt /dev/tty

"hello world"

Q-14.Copy hello.txt to terminal. What happens?

Sol. For this we will use command:

cp hello.txt /dev/pts/1

Q-15. Imagine you were working on a system and someone accidentally deleted the ls

command (/bin/ls). How could you get a list of the files in the current directory?

Sol: we can use ‘dir’ or ‘echo *’ command in this condition.

Q-16 How would you create and then delete a file called "$SHELL"? Try it.

Sol: We can’t create a file $SHELL Because it interprete it as a shell script command.

Q-17 How would you create and then delete a file that begins with the symbol #? Try it.

Sol: We can not create a file that begins with the symbol #.

Q-18 How would you create and then delete a file that begins with the symbol ? Try it.

Sol: We can create a file that begins with the symbol by using 'vi --' command.

And we can delete such files by using 'rm' command.

Q-19 What is the output of the command: echo {con,pre}{sent,fer}{s,ed}?
Now, from your home directory, copy /etc/passwd and /etc/group into your home directory in one command given that you can only type /etc once.

Sol: Output of the command : echo {con,pre}{sent,fer}{s,ed} is:
consents consented confers confered presents presented prefers preferred.

Now, to copy given directory we can use this command,

cp /etc/{passwd,group} /home

Q-20 Still in your home directory, copy the entire directory play to a directory called
work, preserving the symbolic link.

Sol: we can do this by usning 'ln' command.

Q-21. Delete the work directory and its contents with one command. Accept no
complaints or queries.
Sol: We can delete directly using 'rm' command.

22. Change into a directory that does not belong to you and try to delete all the
files (avoid /proc or /dev, just in case!)

23 .Experiment with the options on the ls command. What do the d, i, R and F
options do?

Sol:

ls -d list directory contents only

ls -i print the index number of each file

ls -R list subdirectories recursively

ls -F  append indicator (one of */=>@|) to entries