Experiment No. 2A

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Aim: To study and perform basic unix commands. Execution of Unix General Purpose Utility Commands like echo, clear, exit, date, time, uptime, cal, cat, tty, man, which, history, id, pwd, whoami, ping, ifconfig, pr, lpman , lpr, lpstat, lpq, lprm, cancel, mail, etc.

Note: every command should contain following things:

- **Command name & Explanation:**
- **Syntax :**
- **Options (every option with separate explanation and screenshot/Output)**

Theory : sample of one command echo

1. **Echo-** echo command in linux is used to display line of text/string that are passed as an argument . This is a built-in command that is mostly used in shell scripts and batch files to output status text to the screen or a file.

   SYNTAX : echo [option] [string]

   OPTIONS:

NOTE :- -e here enables the interpretation of backslash escapes

1. \b : it removes all the spaces in between

```
omkarraul@omkar:~$ echo -e "Welcome \bto \bLinux \bOS"
WelcometoLinuxOS
omkarraul@omkar:~$
```

2. \c : suppress trailing new line with backspace interpretor '-e' to continue without emitting new line.

Example :

echo -e "Geeks \cfor Geeks"

```
omkarraul@omkar:~$ echo -e "Welcome \cto Linux OS"
Welcome omkarraul@omkar:~$
```

In above example, text after \c is not printed and omitted trailing new line.

3. \n : this option creates new line from where it is used.

Example :

echo -e "Geeks \nfor \nGeeks"

```
omkarraul@omkar:~$ echo -e "Welcome \nto \nLinux \nOS"
Welcome
to
Linux
OS
```

4. \t : this option is used to create horizontal tab spaces.

Example :

echo -e "Geeks \tfor \tGeeks"

```
omkarraul@omkar:~$ echo -e "Welcome \tto \tLinux \tOS"
Welcome         to      Linux   OS
```

5. \r : carriage return with backspace interpretor '-e' to have specified carriage return in output.

Example :

echo -e "Geeks \rfor Geeks"

```
omkarraul@omkar:~$ echo -e "Welcome \rto Linux OS"
to Linux OS
```

In the above example, text before \r is not printed.

6. \v : this option is used to create vertical tab spaces.

Example :

echo -e "Geeks \vfor \vGeeks

```
omkarraul@omkar:~$ echo -e "Welcome \vto \vLinux \vOS"
Welcome
        to
           Linux
                 OS
```

7. \a : alert return with backspace interpretor '-e' to have sound alert.

Example :

echo -e "\aGeeks for Geeks

```
omkarraul@omkar:~$ echo -e "\aWelcome to Linux OS"
Welcome to Linux OS
```

This command when executed, it will produce an alert sound or Bel .

8. echo * : this command will print all files/folders, similar to ls command .

Example :

echo *

```
omkarraul@omkar:~$ echo *
Desktop Documents Downloads Music Pictures Public Templates Videos
omkarraul@omkar:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
```

2- Clear: clear the terminal window.

Syntac: clear

```
vboxuser@Ubuntuu:~$ echo "hello world"
hello world
vboxuser@Ubuntuu:~$
vboxuser@Ubuntuu:~$ echo -e "Geeks \cfor Geeks"
Geeks vboxuser@Ubuntuu:~$ echo -e "Geeks \nfor \ngeeks"
Geeks
for
geeks
vboxuser@Ubuntuu:~$ clear
```

```
vboxuser@Ubuntuu:~$
```

3 - Date: prints the date and time.

```
vboxuser@Ubuntuu:~$ date
Monday 22 January 2024 10:51:06 PM IST
```

4 - Uptime: Prints the uptime of the pc, number of users and average load.

```
vboxuser@Ubuntuu:~$ uptime
 22:53:35 up 41 min,  1 user,  load average: 1.42, 1.56, 1.53
```

5 - print the file name of the terminal connected to standard input.

```
vboxuser@Ubuntuu:~$ tty
/dev/pts/0
```

6 - man: an interface to the system reference manuals.

```
vboxuser@Ubuntuu:~$ man man
```

```
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)
```

7 - History: lists the commands last executed.

```
vboxuser@Ubuntuu:~$ history
    1  echo hello
    2  clear
    3  echo "hello world"
    4  echo -e "Geeks \cfor Geeks"
    5  echo -e "Geeks \nfor \ngeeks"
    6  clear
    7  date man
    8  man
    9  man date
   10  date
   11  uptime
   12  man cal
   13  cal
   14  apt install ncal
   15  cat
   16  tty
   17  man tty
   18  man man
   19  which
   20  history
```

8 - id: print real and effective user and group IDs.

```
vboxuser@Ubuntuu:~$ id
uid=1000(vboxuser) gid=1000(vboxuser) groups=1000(vboxuser)
```

9 - pwd: print name of current/working directory.

```
vboxuser@Ubuntuu:~$ pwd
/home/vboxuser
```

10 - whoami: returns current user's username

```
vboxuser@Ubuntuu:~$ whoami
vboxuser
```

11 - ping: send ICMP ECHO_Request to network hosts

```
vboxuser@Ubuntuu:~$ ping www.google.com
PING www.google.com (142.250.192.36) 56(84) bytes of data.
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=1 ttl=119 time
=51.8 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=2 ttl=119 time
=5.71 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=3 ttl=119 time
=11.3 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=4 ttl=119 time
=7.13 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=5 ttl=119 time
=7.21 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=6 ttl=119 time
=8.23 ms
64 bytes from bom12s15-in-f4.1e100.net (142.250.192.36): icmp_seq=7 ttl=119 time
=6.88 ms
^C
--- www.google.com ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6011ms
rtt min/avg/max/mdev = 5.710/14.044/51.808/15.503 ms
```

12 - pr: ready a text file to be printed

```
vboxuser@Ubuntuu:~$ vi hello.txt
vboxuser@Ubuntuu:~$ pr hello.txt


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hello world
```