Experiment – 2

NAME : Madhuram Brijeshkumar Modi

ROLL NO. : 21BCP102

DIV, GROUP : 2,G3

1. cd Command

cd stands for change directory

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 ~
$ cd Desktop

Madhuram@LAPTOP-FIJA1JIK MINGW64 ~/Desktop
$
```

2. cd ~ Command

~ stands for home directory, this command will change current directory to home directory.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 ~/Desktop
$ cd ~

Madhuram@LAPTOP-FIJA1JIK MINGW64 ~
$
```

3. cd .

. stands for the current directory, it will stay in current directory

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 ~
$ cd .

Madhuram@LAPTOP-FIJA1JIK MINGW64 ~
$
```

4. cd ..

.. stands for parent directory, It will change from current directory to parent directory

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cd ..

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4
$
```

5. cmp command

cmp command is used to compare the two files byte by byte and helps you to find out whether the two files are identical or not.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cmp text.txt text1.txt
cmp: EOF on text.txt after byte 1, in line 1
```

6. cd / command

/ It takes you to the system's root directory.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cd /

Madhuram@LAPTOP-FIJA1JIK MINGW64 /
$
```

7. cat command

cat command reads data from the file and gives their content as output. It helps us to create, view, and concatenate files.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cat text.txt
a
```

8. cal -y command

Shows the calendar of the complete current year with the current date highlighted.

```
$ cal -y
2023

      January               February               March
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7            1  2  3  4            1  2  3  4
 8  9 10 11 12 13 14    5  6  7  8  9 10 11    5  6  7  8  9 10 11
15 16 17 18 19 20 21   12 13 14 15 16 17 18   12 13 14 15 16 17 18
22 23 24 25 26 27 28   19 20 21 22 23 24 25   19 20 21 22 23 24 25
29 30 31               26 27 28               26 27 28 29 30 31
April                  May                    June
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
                1      1  2  3  4  5  6                  1  2  3
 2  3  4  5  6  7  8    7  8  9 10 11 12 13    4  5  6  7  8  9 10
 9 10 11 12 13 14 15   14 15 16 17 18 19 20   11 12 13 14 15 16 17
16 17 18 19 20 21 22   21 22 23 24 25 26 27   18 19 20 21 22 23 24
23 24 25 26 27 28 29   28 29 30 31            25 26 27 28 29 30
30
      July                   August                 September
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
                1               1  2  3  4  5                  1  2
 2  3  4  5  6  7  8    6  7  8  9 10 11 12    3  4  5  6  7  8  9
 9 10 11 12 13 14 15   13 14 15 16 17 18 19   10 11 12 13 14 15 16
16 17 18 19 20 21 22   20 21 22 23 24 25 26   17 18 19 20 21 22 23
23 24 25 26 27 28 29   27 28 29 30 31         24 25 26 27 28 29 30
30 31
      October                November               December
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
```

9. grep command

Grep command used to search for a string of characters in a specified file. The text search pattern is called a regular expression. When it finds a match, it prints the line with the result.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ grep Hello text.txt
Hello World!!
```

10.uname, uname -a, uname -n, uname -s commands

uname -a prints all the system information in the following order: Kernel name, network node hostname, kernel release date, kernel version, machine hardware name, hardware platform, operating system. Uname -s prints the kernel name. uname -n prints the hostname of the network node(current computer).

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ uname
MINGW64_NT-10.0-19045

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ uname -a
MINGW64_NT-10.0-19045 LAPTOP-FIJA1JIK 3.3.6-341.x86_64 2022-09-05 20:28 UTC x86_64 Msys

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ uname -s
MINGW64_NT-10.0-19045

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ uname -n
LAPTOP-FIJA1JIK
```

11.free command

free command outputs a summary of RAM usage, including total, used, free, shared, and available memory and swap space.

```
$ free
total        used        free      shared  buff/cache   available
Mem:      131764560    15567976    88683124       18408    27513460   114956880
Swap:       4194300           0     4194300
```

12.date -d command

This option allows user to operate on a specific date.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /
$ date -d 2023
Thu, Feb  2, 2023  8:23:00 PM
```

13. passwd command

passwd command is used to change the user account passwords.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /
$ passwd
Old password:
```

14. comm command

The 'comm' command compares two files or streams.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ comm text.txt text1.txt
        ab
Hello World!!
```

15. cp

Cp command copies one file's content to another file.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cp text.txt text1.txt

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cat text.txt
Hello World!!
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ cat text1.txt
Hello World!!
```

16. ps command

Ps command is used to list the currently running processes and their PIDs along with some other information depending on different options.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ ps
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
     1890       1    1890      14372  cons1      197609 20:27:20 /usr/bin/bash
     1869       1    1869      14892  cons0      197609 20:27:00 /usr/bin/bash
     1931    1890    1931       9128  cons1      197609 20:30:14 /usr/bin/ps
```

17. top Command

Top command is used to show the Linux processes. It provides a dynamic real-time view of the running system.

```
top - 15:19:24 up 52 min,  0 users,  load average: 0.00, 0.00, 0.00
Tasks:   6 total,   1 running,   5 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us,  0.2 sy,  0.0 ni, 99.8 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   2854.8 total,   2338.5 free,    325.5 used,    190.8 buff/cache
MiB Swap:   1024.0 total,   1024.0 free,      0.0 used.   2384.7 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
    1 root      20   0    2276   1536   1440 S   0.0   0.1   0:00.02 init
    4 root      20   0    2276      4      0 S   0.0   0.0   0:00.00 init
   59 root      20   0    2280    104      0 S   0.0   0.0   0:00.00 init
   60 root      20   0    2296    108      0 S   0.0   0.0   0:00.12 init
   61 mahek     20   0    6072   5152   3432 S   0.0   0.2   0:00.63 bash
  132 mahek     20   0    7788   3576   2988 R   0.0   0.1   0:00.05 top
```

18. date --date="02/02/2023" command

To display the given date string in the format of a date. This command does not affect the system's actual date and time.

```
$ date --date="02/02/2023"
Thu Feb  2 00:00:00 UTC 2023
```

19. wc -w command

Gives the count of words in the given file.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ wc -w text.txt text1.txt
 2 text.txt
 2 text1.txt
 4 total
```

20. wc -l command

Gives the count of lines in the given file.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ wc -l text.txt
0 text.txt
```

21. wc -c command

Gives the count of characters in the given file.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ wc -c text1.txt
13 text1.txt
```

22. chmod command

Use to change permissions of a file or directory. (chmod -change mode) Syntax: ch mod category operation permission file. Assigns write & execute permissions for users (- used to reduce power).

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ chmod u-wx text.txt

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ chmod u+rx text.txt

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ chmod g+rw text.txt

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ chmod g=rwx text.txt
```

23. kill pid command

Kills the process with the given PID.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ ps
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
     1890       1    1890      14372  cons1     197609 20:27:20 /usr/bin/bash
     1869       1    1869      14892  cons0     197609 20:27:00 /usr/bin/bash
     1971    1890    1971      11756  cons1     197609 20:35:31 /usr/bin/ps

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ kill 1971
bash: kill: (1971) - No such process

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ ps
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
     1890       1    1890      14372  cons1     197609 20:27:20 /usr/bin/bash
     1869       1    1869      14892  cons0     197609 20:27:00 /usr/bin/bash
     1978    1890    1978      11676  cons1     197609 20:36:18 /usr/bin/ps
```

24. killall proc command

Kills all the processes running.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ ps
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
     1890       1    1890      14372  cons1     197609 20:27:20 /usr/bin/bash
     1869       1    1869      14892  cons0     197609 20:27:00 /usr/bin/bash
     1982    1890    1982       2500  cons1     197609 20:37:07 /usr/bin/ps

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ kill ps
bash: kill: ps: arguments must be process or job IDs

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ killall ps
bash: killall: command not found

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ ps
      PID    PPID    PGID     WINPID   TTY         UID    STIME COMMAND
     1890       1    1890      14372  cons1     197609 20:27:20 /usr/bin/bash
     1869       1    1869      14892  cons0     197609 20:27:00 /usr/bin/bash
     1993    1890    1993       6824  cons1     197609 20:37:57 /usr/bin/ps
```

25. find command

The find command in UNIX is a command line utility for walking a file hierarchy. It can be used to find files and directories and perform subsequent operations on them.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ find
.
./exp1
./exp1/--version.png
./exp1/date.png
./exp1/echo.png
./exp1/exp1-madhuram.pdf
./exp1/exp1.docx
./exp1/help.png
./exp1/history.png
./exp1/ls -a.png
./exp1/ls -R.png
./exp1/ls.png
./exp1/mkdir.png
./exp1/mv.png
./exp1/pwd.png
./exp1/rm.png
./exp1/rmdir.png
./exp1/touch.png
./exp1/whoami.png
./exp2
./text.txt
./text1.txt

Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ find text.txt
text.txt
```

26. Locate Command

Locate command in Linux is used to find the files by name.

```
Madhuram@LAPTOP-FIJA1JIK MINGW64 /d/SEM 4/OS LAB
$ locate text.txt
```