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**BANGLADESH UNIVERSITY OF
BUSINESS AND TECHNOLOGY**

Lab Assignment-1

Course Code: CSE 310

Course Title: Operating Systems Lab

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Q1 Solution:

Commands:

- 1) `cmp text1.txt text2.txt`
- 2) `cmp -i 10:20 text1.txt text2.txt`

```
nowshin@Lenovoip320:~$ pwd
/home/nowshin
nowshin@Lenovoip320:~$ ls
abc.txt      demo_file.txt  Downloads  f2.txt      file2.txt  grill.txt  Music    new.txt  second.sh  t2.txt    Videos
book         demo.txt       f11.txt    file        file.sh    grtly.txt  .vim     Pictures snap       tax.txt   Work
demo_file1.txt Desktop        f1.txt     file1.txt   fourth.sh  htly.txt  new11    Public   sun.sh    Templates year2020
demo_file2.txt Documents      f22.txt    file23      good.txt   lab.txt   new1.txt sample   t1.txt    third.sh  year2020.txt
nowshin@Lenovoip320:~$ cat > text1.txt
My name is syeda
^C
nowshin@Lenovoip320:~$ cat > text2.txt
My name is syeda nowshin
^C
nowshin@Lenovoip320:~$ cmp text1.txt text2.txt
text1.txt text2.txt differ: byte 17, line 1
nowshin@Lenovoip320:~$ cmp -i 10:20 text1.txt text2.txt
text1.txt text2.txt differ: byte 1, line 1
nowshin@Lenovoip320:~$
```

Q2 Solution:

Command:

```
find -newermt 'Jul 08,2020'
```

Q3 Solution:

```
nowshin@Lenovoip320:~$ find . -maxdepth 1 -name "*new*" -print
./new11
./new1
./new1.txt
./new.txt
nowshin@Lenovoip320:~$ ls
abc.txt      demo.txt    f1.txt      file23      grill.txt   new1        Public      t1.txt      text2.txt   year2020.txt
book         Desktop     f22.txt     file2.txt   grtly.txt  new11       sample      t2.txt      third.sh
demo_file1.txt Documents   f2.txt      file.sh     htly.txt   new1.txt    second.sh   tax.txt     Videos
demo_file2.txt Downloads   file        fourth.sh   lab.txt    new.txt     snap        Templates   Work
demo_file.txt f11.txt    file1.txt   good.txt    Music      Pictures    sun.sh      text1.txt   year2020
nowshin@Lenovoip320:~$
```

Q4 Solution:

Before:

```
nowshin@Lenovoip320:~$ pwd
/home/nowshin
nowshin@Lenovoip320:~$ ls -l
```

```
drwxrwxr-x 5 nowshin nowshin 4096 জানু 5 15:44 new11
-rw-rw-r-- 1 nowshin nowshin 12 ডিসেম্বর 29 16:28 new1.txt
-r--rw-r-- 1 nowshin nowshin 11 জানু 7 20:30 new.txt
```

After:

```
nowshin@Lenovoip320:~$ chmod u+w+x new.txt
nowshin@Lenovoip320:~$ ls -l
```

```
drwxrwxr-x 5 nowshin nowshin 4096 জানু 5 15:44 new11
-rw-rw-r-- 1 nowshin nowshin 12 ডিসেম্বর 29 16:28 new1.txt
-rwxrw-r-- 1 nowshin nowshin 11 জানু 7 20:30 new.txt
```

Q5 Solution:

`chmod` command can be use for this.

I am doing this task for file `abc.txt`. Removing Execute permission from User/Owner and Adding Execute permission to Group & Others.

Before:

```
nowshin@Lenovoip320:~$ ls -l
total 144
-rwxrw-r-- 1 nowshin nowshin 13 ডিসেম্বর 29 15:37 abc.txt
```

After:

```
nowshin@Lenovoip320:~$ chmod u-x,g+x,o+x abc.txt
nowshin@Lenovoip320:~$ ls -l
total 144
-rw-rwxr-x 1 nowshin nowshin 13 ডিসেম্বর 29 15:37 abc.txt
```

Q6 Solution:

`grep` command can be use for this.

```
nowshin@Lenovoip320:~$ cat > str.txt
good food
Good life
^C
nowshin@Lenovoip320:~$ grep -c -i "Good*" str.txt
2
```

Q7 Solution:

Command:

`grep -r amet*`

Q8 Solution:

If file having large number of content that won't fit in output terminal and screen scrolls up very fast, we can use parameters more and less with **cat** command.

Commands:

cat file name | more

cat file name | less

Ex:

```
nowshin@Lenovoip320:~$ cat str.txt
good food
Good life
nowshin@Lenovoip320:~$
```

```
nowshin@Lenovoip320:~$ cat str.txt | less
```

```
good food
Good life
(END)
```

Q9 Solution:

```
nowshin@Lenovoip320:~$ ps -elf|grep root
4 S root      1      0  0  80  0 - 41946 -    17:27 ?    00:00:04 /sbin/init splash
1 S root      2      0  0  80  0 - 0 -    17:27 ?    00:00:00 [kthreadd]
1 I root      3      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [rcu_gp]
1 I root      4      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [rcu_par_gp]
1 I root      6      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [kworker/0:0H-kblockd]
1 I root      9      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [mm_percpu_wq]
1 S root     10      2  0  80  0 - 0 -    17:27 ?    00:00:00 [ksoftirqd/0]
1 I root     11      2  0  80  0 - 0 -    17:27 ?    00:00:02 [rcu_sched]
1 S root     12      2  0 -40  - - 0 -    17:27 ?    00:00:00 [migration/0]
5 S root     13      2  0  9  - - 0 -    17:27 ?    00:00:00 [idle_inject/0]
1 S root     14      2  0  80  0 - 0 -    17:27 ?    00:00:00 [cpuhp/0]
5 S root     15      2  0  80  0 - 0 -    17:27 ?    00:00:00 [kdevtmpfs]
1 I root     16      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [netns]
1 S root     17      2  0  80  0 - 0 -    17:27 ?    00:00:00 [rcu_tasks_kthre]
1 S root     18      2  0  80  0 - 0 -    17:27 ?    00:00:00 [kauditd]
1 S root     19      2  0  80  0 - 0 -    17:27 ?    00:00:00 [khungtaskd]
1 S root     20      2  0  80  0 - 0 -    17:27 ?    00:00:00 [oom_reaper]
1 I root     21      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [writeback]
1 S root     22      2  0  80  0 - 0 -    17:27 ?    00:00:00 [kcompactd0]
1 S root     23      2  0  85  5 - 0 -    17:27 ?    00:00:00 [ksmd]
1 S root     24      2  0  99 19 - 0 -    17:27 ?    00:00:00 [khugepaged]
1 I root     70      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [kintegrityd]
1 I root     71      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [kblockd]
1 I root     72      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [blkcg_punt_bio]
1 I root     73      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [tpm_dev_wq]
1 I root     74      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [ata_sff]
1 I root     75      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [nd]
1 I root     76      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [edac-poller]
1 I root     77      2  0  60 -20 - 0 -    17:27 ?    00:00:00 [devfreq_wq]
1 S root     78      2  0 -40  - - 0 -    17:27 ?    00:00:00 [watchdogd]
1 S root     82      2  0  80  0 - 0 -    17:27 ?    00:00:00 [kworker/0:0]
```

Q10 Solution:

```
nowshin@Lenovo1p320:~$ find /home -name "*.txt" -group nowshin
/home/nowshin/t1.txt
/home/nowshin/year2020.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/AlternateServices.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/ClientAuthRememberList.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/pkcs11.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/enumerate_devices.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/weave/logs/error-sync-1608391639449.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/SiteSecurityServiceState.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/SecurityPreloadState.txt
/home/nowshin/.mozilla/firefox/gt10inxr.default-release/serviceworker.txt
/home/nowshin/Work/Test.txt
/home/nowshin/abc.txt
/home/nowshin/grill.txt
/home/nowshin/f22.txt
/home/nowshin/good.txt
/home/nowshin/f2.txt
/home/nowshin/tax.txt
/home/nowshin/f1.txt
/home/nowshin/demo_file2.txt
/home/nowshin/demo_file1.txt
/home/nowshin/str.txt
/home/nowshin/pattern.txt
/home/nowshin/text1.txt
/home/nowshin/htly.txt
/home/nowshin/demo_file.txt
/home/nowshin/.cache/tracker/parser-version.txt
/home/nowshin/.cache/tracker/first-index.txt
/home/nowshin/.cache/tracker/last-crawl.txt
/home/nowshin/.cache/tracker/locale-for-miner-apps.txt
/home/nowshin/.cache/tracker/db-locale.txt
/home/nowshin/.cache/tracker/db-version.txt
/home/nowshin/demo.txt
/home/nowshin/grtly.txt
/home/nowshin/t2.txt
/home/nowshin/Documents/newfile.txt
/home/nowshin/Documents/bubt.txt
/home/nowshin/Documents/Test.txt
/home/nowshin/new1.txt
/home/nowshin/file2.txt
/home/nowshin/file1.txt
/home/nowshin/new.txt
/home/nowshin/lab.txt
/home/nowshin/f11.txt
/home/nowshin/text2.txt
nowshin@Lenovo1p320:~$
```

Q11 Solution:

The command name 'chage' is an acronym for 'change age'. This command is used to change the user's password aging/expiry information.

Commands:

```
sudo chage -E 2022-12-11
```

```
chage -W 60 nowshin
```

Q12 Solution:

```
nowshin@Lenovoip320:~$ df -h
Filesystem      1M-blocks  Used Available Use% Mounted on
udev             1941       0      1941    0% /dev
tmpfs            394        2       393    1% /run
/dev/sda5       24059    8037    14778   36% /
tmpfs           1969       0      1969    0% /dev/shm
tmpfs            5         1         5    1% /run/lock
tmpfs           1969       0      1969    0% /sys/fs/cgroup
/dev/loop0        55        55         0 100% /snap/core18/1880
/dev/loop1        56        56         0 100% /snap/core18/1944
/dev/loop2       256       256         0 100% /snap/gnome-3-34-1804/36
/dev/loop4        63        63         0 100% /snap/gtk-common-themes/1506
/dev/loop3       218       218         0 100% /snap/gnome-3-34-1804/60
/dev/loop7        52        52         0 100% /snap/snap-store/518
/dev/loop5        65        65         0 100% /snap/gtk-common-themes/1514
/dev/loop6        50        50         0 100% /snap/snap-store/467
/dev/loop8        32        32         0 100% /snap/snapd/10492
/dev/loop9        32        32         0 100% /snap/snapd/10707
/dev/sda2        512        1       512    1% /boot/efi
tmpfs            394        1       394    1% /run/user/1000
/dev/sr0         59        59         0 100% /media/nowshin/VBox_GAs_6.1.16
nowshin@Lenovoip320:~$
```