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DIV: B3

EXPERIMENT 1 : Explore the internal commands of linux and Write shell scripts

AIM :- Explore the internal commands of linux and Write shell scripts to do the following:

1. Display top 10 processes in descending order

```
student@ubuntu:~$ ps axl | head -n 10
F   UID    PID   PPID PRI  NI    VSZ   RSS WCHAN  STAT TTY        TIME COMMAND
4     0      1      0  20   0  33792  1724 -      Ss   ?          0:01 /sbin/ini
t
1     0      2      0  20   0      0     0 -      S    ?          0:00 [kthreadd
]
1     0      3      2  20   0      0     0 -      S    ?          0:00 [ksoftirq
d/0]
1     0      4      2  20   0      0     0 -      S    ?          0:00 [kworker/
0:0]
1     0      5      2   0 -20      0     0 -      S<   ?          0:00 [kworker/
0:0H]
1     0      7      2  20   0      0     0 -      S    ?          0:00 [rcu_sche
d]
1     0      8      2  20   0      0     0 -      S    ?          0:00 [rcu_bh]
1     0      9      2 -100  -      0     0 -      S    ?          0:00 [migratio
n/0]
5     0     10      2 -100  -      0     0 -      S    ?          0:00 [watchdog
/0]
```

2. Display processes with highest memory usage.

```
-sh-4.2$ ps -eo pid,ppid,cmd,%mem,%cpu --sort=%mem |head
  PID  PPID CMD                         %MEM %CPU
12459  9656 head                         0.0  0.0
12458  9656 ps -eo pid,ppid,cmd,%mem,%c  0.0  0.0
 9656  9516 -sh                         0.0  0.0
-sh-4.2$
```

3. Display current logged in user and no. of users

```
student@ubuntu:~$ who -u
student  :0           2023-02-21 01:45   ?          1776 (:0)
student  pts/5        2023-02-21 01:46   .          2480 (:0)
student@ubuntu:~$ who -u | wc -l
2
```

4. Display current shell, home directory, operating system type, current working directory.

```
student@ubuntu:~$ whoami
student
student@ubuntu:~$ uname
Linux
student@ubuntu:~$ pwd
/home/student
```

5. Display OS version, release number.

```
student@ubuntu:~$ uname -a
Linux ubuntu 4.4.0-142-generic #168~14.04.1-Ubuntu SMP Sat Jan 19 11:26:28 UTC 2
019 x86_64 x86_64 x86_64 GNU/Linux
student@ubuntu:~$ uname -r
4.4.0-142-generic
```

6. Illustrate the use of sort, grep, awk, etc

```
student@ubuntu:~$ cat > abc
hello
hi
i
am
learning
linux
^Z
```

```
student@ubuntu:~$ ls
abc       Documents          lmn~                                newdir     Templates
abc~      Downloads          lmn.txt~                            Pictures   Videos
Desktop   examples.desktop   Music                               Public
dhruvi    lmn                nam_1.15-10-ubuntu14_amd64.deb      temp
student@ubuntu:~$ sort abc
am
hello
hi
i
learning
linux
student@ubuntu:~$ sort abc > lmno.txt
```

```
student@ubuntu:~$ cat lmno.txt
am
hello
hi
i
learning
linux
```

```
student@ubuntu:~$ awk '{print $1 "\t" $2}' lmn
apple   10
grapes  20
mangoes 30
```

Conclusion :

Hence all the internal commands of Linux were understood and performed