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**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/init
1	0	2	0	20	0	0	0	-	S	?	0:00	[kthreadd]
1	0	3	2	20	0	0	0	-	S	?	0:00	[ksoftirqd/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_sched]
1	0	8	2	20	0	0	0	-	S	?	0:00	[rcu_bh]
1	0	9	2	-100	-	0	0	-	S	?	0:00	[migration/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
```

user	line	time	idle	session	time	idle	session
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
```

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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 2019 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

