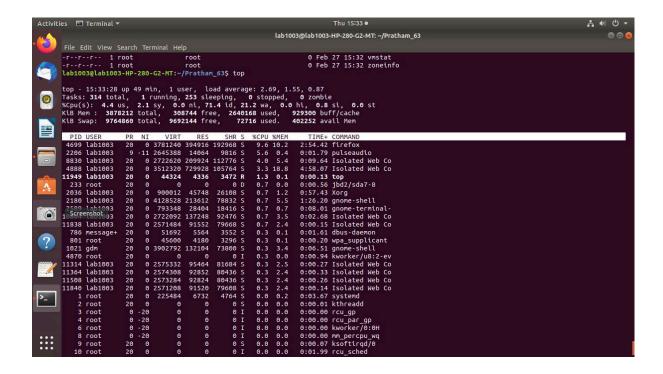
## **5.MEMORY MANAGEMENT**

AIM: To study process and memory management commands in unix. THEORY: Process Management: Process management in Unix involves creating, scheduling, and terminating processes. Unix allows multiple processes to run concurrently, and it ensures they don't interfere with each other.

The free command in Linux displays information about available and used memory, including RAM and swap space.

```
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$ free
total used free shared buff/cache available
Mem: 3878212 2151424 270532 653904 1456256 821200
Swap: 9764860 15628 9749232
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$
```



Displays disk space usage, which indirectly helps monitor memory usage related to disk I/O.

Reports information about processes, memory, paging, block IO, and CPU activity.

```
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$ vmstat
procs -------memory--------swap-- ----io---- system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa st
1 0 137216 238120 29692 995772 0 11 133 305 234 669 6 2 89 3 0
lab1003@lab1003-HP-280-G2-MT:~/Pratham 63$
```

dmidecode is a command-line tool used on Linux systems to decode and display hardware information stored in the Desktop Management Interface (DMI) table

```
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$ dmidecode

# dmidecode 3.1
/sys/firmware/dmi/tables/smbios_entry_point: Permission denied
Scanning /dev/mem for entry point.
/dev/mem: Permission denied
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$
```

Collects, reports, and saves system activity information, including memory

```
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$ sar -v
Cannot open /var/log/sysstat/sa27: No such file or directory
Please check if data collecting is enabled
[1]+ Done sleep 1000
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$
```

Returns the size of a memory page in the system.

```
lab1003@lab1003-HP-280-G2-MT:~/Pratham_63$ pagesize
4096

lab1003@lab1003-HP-280-G2-MT:-/Pratham_63$ sleep 100 &
[1] 4657
[ab1003@lab1003-HP-280-G2-MT:-/Pratham_63$ jobs
[1]+ Running sleep 100 &
[1]+ Running sleep 100 &
[1]+ Running sleep 100 &
[1]+ sleep 100 &
```

Changes the priority (nice value) of running processes.

Estimates file and directory space usage on disk.

```
/home/pratham10/.hushlogin tile.
pratham10@DESKTOP-K9GVHM1:~$ du

0 ./.cache

0 ./.landscape

0 ./.local/share/nano

0 ./.local/share

0 ./.local

0 ./NS2

0 ./Pratham
```