

Lab 05

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Question 01

a) `ps -A , -e, -el , eL -a , a -d r T x f -l`

```
Ubuntu 20.04 LTS
kumarraj@kumarraj:~$ ps -e
  PID TTY          TIME CMD
    1 ?            00:00:00 init
    7 tty1        00:00:00 init
    8 tty1        00:00:00 bash
   120 tty1        00:00:00 ps
kumarraj@kumarraj:~$ ps -a
  PID TTY          TIME CMD
    8 tty1        00:00:00 bash
   121 tty1        00:00:00 ps
kumarraj@kumarraj:~$ ps -el
 F S   UID     PID PPID  C PRI  NI ADDR SZ WCHAN  TTY          TIME CMD
 0 S    0        1      0  0  80   0 -  2234 ?           ?            00:00:00 init
 0 S    0        7      1  0  80   0 -  2234 -           tty1         00:00:00 init
 0 S  1000      8      7  0  80   0 -  4519 -           tty1         00:00:00 bash
 0 R  1000     122      8  0  80   0 -  4642 -           tty1         00:00:00 ps
kumarraj@kumarraj:~$ ps -eL
  PID   LWP  TTY          TIME CMD
    1     1  ?            00:00:00 init
    1     6  ?            00:00:00 init
    7     7  tty1        00:00:00 init
    8     8  tty1        00:00:00 bash
   123   123  tty1        00:00:00 ps
kumarraj@kumarraj:~$ ps -d
  PID TTY          TIME CMD
    8 tty1        00:00:00 bash
   124 tty1        00:00:00 ps
kumarraj@kumarraj:~$ ps -r
  PID TTY      STAT   TIME COMMAND
   125 tty1      R       0:00 ps -r
kumarraj@kumarraj:~$ ps -x
  PID TTY      STAT   TIME COMMAND
    8 tty1      S       0:00 -bash
   126 tty1      R       0:00 ps -x
kumarraj@kumarraj:~$ ps -f
UID          PID  PPID  C STIME TTY          TIME CMD
kumarraj      8      7  0 18:54 tty1        00:00:00 -bash
kumarraj    127      8  0 21:21 tty1        00:00:00 ps -f
kumarraj@kumarraj:~$
```

ps -A and ps -e : Both can be used to view all the current active processes.
ps -a : To view processes not associated with a terminal and group leaders.
ps -el : To view all the process in long list form, with additional details.
ps -eL : To view all processes along with information about threads.
ps -d : To view all processes except session leaders.
ps -T : To view all processes of this terminal.
ps -r : To view all running processes.
ps -x : To view all the of this user or myself.
ps -f : To view full format listing with all additional attributes.

```

root@kumarraj: /home/kumarraj/MCS_172/Lab05
root@kumarraj:/home/kumarraj/MCS_172/Lab05# ps -el
 F S      UID      PID  PPID  C PRI  NI ADDR SZ WCHAN  TTY          TIME CMD
 0 S      0         1      0  0  80   0 -  2234 ?          ?           00:00:00 init
 0 S      0         7      1  0  80   0 -  2234 -        tty1        00:00:00 init
 0 S    1000         8      7  0  80   0 -  4519 -        tty1        00:00:00 bash
 0 S      0        462      8  0  80   0 -  4740 -        tty1        00:00:00 sudo
 0 S      0        463     462  0  80   0 -  4542 -        tty1        00:00:00 su
 0 S      0        464     463  0  83   3 -  4252 -        tty1        00:00:00 bash
 0 R      0        494     464  0  83   3 -  4642 -        tty1        00:00:00 ps
root@kumarraj:/home/kumarraj/MCS_172/Lab05# nice -5 gcc Lab05.c
root@kumarraj:/home/kumarraj/MCS_172/Lab05# renice -0 -p 464
464 (process ID) old priority -3, new priority 0
root@kumarraj:/home/kumarraj/MCS_172/Lab05#

```

b) nice command

Nice command is used to execute a program or process with altered priority. Negative value being more prioritised and as it slides up with number towards positive the priority decreases.

Eg: nice -5 command

c) renice command

Renice command is used to change scheduling priority of current running process.

Eg: renice -n -5 -p 7504

top and ptree/pstree

top command is used to view the real-time running of Linux processes.

ptree/pstree : Displays a tree of running processes.

```
Ubuntu 20.04 LTS
kumarranj@kumarranj:~$ pstree
init--init--bash--pstree
    |--{init}
kumarranj@kumarranj:~$
```

```
Ubuntu 20.04 LTS
top - 21:57:46 up 3:03, 0 users, load average: 0.52, 0.58, 0.59
Tasks: 4 total, 1 running, 3 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.2 us, 2.0 sy, 0.0 ni, 96.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 8007.9 total, 1334.9 free, 6449.1 used, 224.0 buff/cache
MiB Swap: 24576.0 total, 23916.9 free, 659.1 used. 1428.2 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
130	kumarranj	20	0	18928	2156	1520	R	0.7	0.0	0:00.04	top
1	root	20	0	8936	300	256	S	0.0	0.0	0:00.10	init
7	root	20	0	8936	212	168	S	0.0	0.0	0:00.00	init
8	kumarranj	20	0	18076	3568	3476	S	0.0	0.0	0:00.26	bash