# **Lab 05**

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#### **Question 01**

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

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O 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
          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
                8 0 80 0 - 4642 -
0 R 1000 122
                                        tty1
                                                  00:00:00 ps
kumarraj@kumarraj:~$ ps -eL
 PID LWP TTY
                      TIME CMD
        1 ?
                  00:00:00 init
   1
        6 ?
                 00:00:00 init
               00:00:00 init
   7
        7 tty1
                00:00:00 bash
   8
       8 tty1
               00:00:00 ps
 123 123 tty1
kumarraj@kumarraj:~$ ps -d
 PID TTY
               TIME CMD
   8 tty1
          00:00:00 bash
          00:00:00 ps
 124 tty1
kumarraj@kumarraj:~$ ps -r
             STAT TIME COMMAND
 PID TTY
 125 tty1
             R 0:00 ps -r
kumarraj@kumarraj:~$ ps -x
 PID TTY
             STAT TIME COMMAND
            S 0:00
0:00 ps -x
  8 tty1
 126 tty1
kumarraj@kumarraj:~$ ps -f
UID
         PID PPID C STIME TTY
                                      TIME CMD
             7 0 18:54 tty1
kumarraj
         8
                                00:00:00 -bash
        127
              8 0 21:21 tty1
                                  00:00:00 ps -f
kumarraj
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.

## oot@kumarraj: /home/kumarraj/MCS\_172/Lab05

root@kumarraj:/home/kumarraj/MCS\_172/Lab05# ps -el

FS	UID	PID	PPID	C	PRI	NI	l	ADD	OR 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

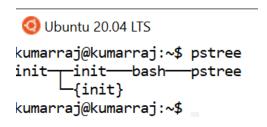
#### c) renice command

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 L	TS								_	×
p - 21:57:46	up	3:03.	0 user	s. loa	ad averag	e: 0.52	. 0.58	. 0.59		
sks: 4 tota	•	•		•	_		-	•		
pu(s): 1.2 ι									0.0 st	
	-	_	-	-	-	-		24.0 buff/c		
			•		•		•			
			•		•		•			
B Swap: 2457			•		•	.1 used	•		Mem	
B Swap: 2457 PID USER	76.0	total	23916	.9 free	e, 659	.1 used	. 14	28.2 avail N	Mem MMAND	
B Swap: 2457 PID USER	76.0 PR	total;	, 23916 VIRT	5.9 free RES	e, 659 SHR S	.1 used %CPU	. 14 %MEM	28.2 avail   TIME+ CO	Mem MMAND	
B Swap: 2457  PID USER  130 kumarraj	76.0 PR 20	total)	VIRT 18928	RES 2156	SHR S 1520 R	.1 used %CPU 0.7	. 14 %MEM 0.0	28.2 avail   TIME+ CO 0:00.04 to	Mem MMAND o it	