

Name: Shaily Shekhar  
Roll Number: 21CS8197

## Operating Systems Laboratory

### Assignment 2: Question 1

Command to view the details of a specific process through its PID:

```
shellz@Shellz-VM:~/Desktop$ ps -f --pid 2951
UID          PID    PPID  C STIME TTY          TIME CMD
shellz       2951    2885  0 17:47 pts/0      00:00:00 bash
shellz@Shellz-VM:~/Desktop$
```

Forest command to view all processes in hierarchical manner:

```
shellz@Shellz-VM:~/Desktop$ ps -e -o pid,args --forest
  PID COMMAND
    2 [kthreadd]
    3 \_ [rcu_gp]
    4 \_ [rcu_par_gp]
    5 \_ [slub_flushwq]
    6 \_ [netns]
    8 \_ [kworker/0:0H-events_highpri]
   10 \_ [mm_percpu_wq]
   11 \_ [rcu_tasks_kthread]
   12 \_ [rcu_tasks_rude_kthread]
   13 \_ [rcu_tasks_trace_kthread]
   14 \_ [ksoftirqd/0]
```

```
2395 \_ /usr/libexec/ibus-x11
2422 \_ /usr/bin/VBoxClient --seamless
2423 | \_ /usr/bin/VBoxClient --seamless
2430 \_ /usr/bin/VBoxClient --draganddrop
2431 | \_ /usr/bin/VBoxClient --draganddrop
2439 \_ /usr/bin/VBoxClient --vmsvga-session
2440 | \_ /usr/bin/VBoxClient --vmsvga-session
2885 \_ /usr/libexec/gnome-terminal-server
2951 | \_ bash
3747 | \_ bash
13053 | \_ ps -e -o pid,args --forest
4379 \_ /usr/bin/snap userd
5419 \_ /usr/bin/nautilus --gapplication-service
```

Command to list all threads of a particular or an ongoing process:

```
shellz@Shellz-VM:~/Desktop$ ps -L
  PID     LWP  TTY          TIME CMD
  3747    3747 pts/1      00:00:00 bash
 13102   13102 pts/1      00:00:00 ps
shellz@Shellz-VM:~/Desktop$
```

Command to view elapsed time since the process has begun:

```
shellz@Shellz-VM:~/Desktop$ ps -o pid,etime=  
  PID  
  3747      56:42  
 13128      00:00  
shellz@Shellz-VM:~/Desktop$
```