# CO327 : Operating Systems

# Lab 01 : Multiprocessing

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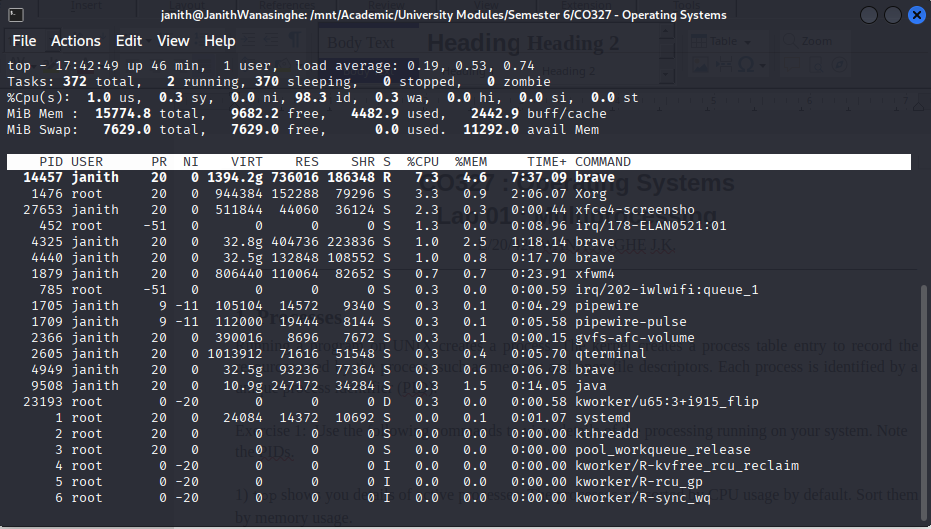
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## 1. Processes

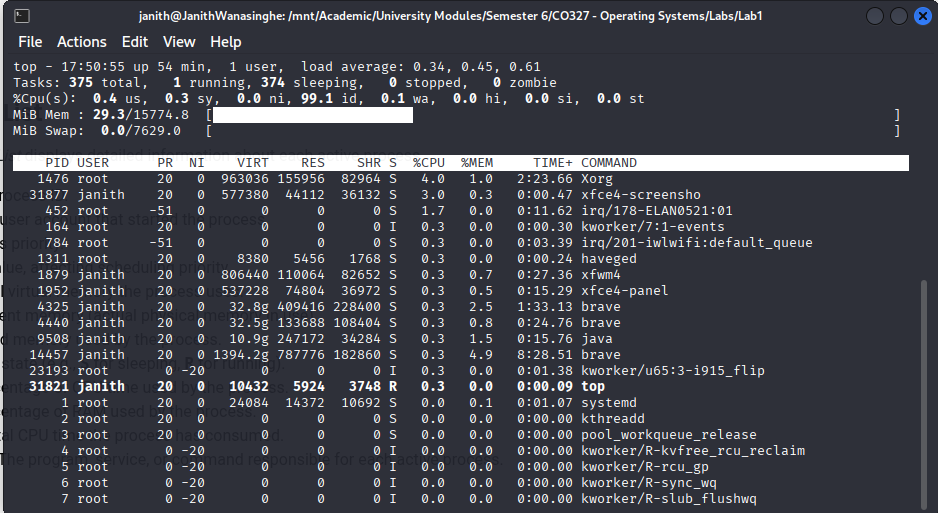
Running a program on UNIX creates a process. The kernel creates a process table entry to record the resources used by the process, such as memory and open file descriptors. Each process is identified by a unique process identifier (PID).

Exercise 1: Use the following commands to view details of the processing running on your system. Note the PIDs.

1) top shows you details of active processes. The processes are sorted by CPU usage by default. Sort them by memory usage.

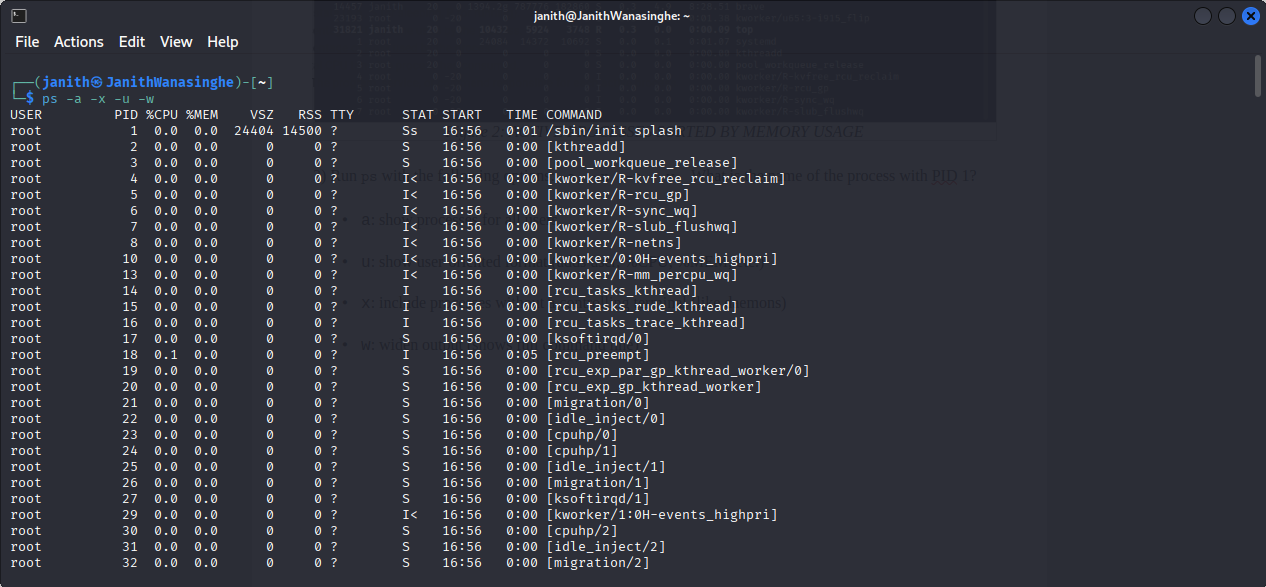
Figure 1: ACTIVE PROCESSES SORTED BY CPU USAGE

When Sorted by Memory Usage using Hotkey ‘M’ in keyboard

Figure 2: ACTIVE PROCESSES SORTED BY MEMORY USAGE

2) Run ps with the following options: -a, -x, -u, -w. What is the name of the process with PID 1?

* a: show processes for all users
* u: show user-oriented format (adds user, %CPU, %MEM, etc.)
* x: include processes without a controlling terminal (like daemons)
* w: widen output (shows full command line)

Figure 3: WHEN PS COMMAND IS RUN WITH GIVEN FLAGS

/sbin/init is the process with PID = 1