**Operating System Responsibilities**

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The purpose of an operating system is to act as an intermediary

between users and the computing hardware. So the operating has the

following functions:

- File Management (ls,cp, mv, rm, ....type commands)

- User Management (useradd, userdel, chown ...)

- Process Management (ps, kill)

- Disk Management (quota, df, fsck)

- Security (login, ssh)

Process and Disk Management

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What is a process? A process is an executing program. Processes in Linux are identified by their PID (process ID)

Command to list process is

**ps**

Commonly used options with ps

**a** show all process by logged in user

**x** show all running processes

**u** show all processes include user id

Command to remove a process from memory is

**kill (pid)**

example

**kill 1234**

To force a process being killed use -9

**kill -9 (pid)**

example

**kill -9 1234**

To show all live-update of all running programs use

**top**

**Other commands used in class**

1. Show disk file system usage

**df -h**

2. Show disk usage of your own directory (human readable)

**du -chs ~** 3. Same thing as 2 (quota shows disk usage of logged in user)

**quota -s**

4. To put a command into the background use & for example to put eog

into the background use

**eog &**

5. To list all background jobs

**jobs**

6. To bring into the foreground use

**fg** (job number, NOTE this is different from PID)

7. To put into background use

**bg** (job number)

8. To suspend a job and put into the background use <CTRL>+Z on the

**job** as its running.

**Practice Question**

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Using

**ps axu**

Get a list of all unique users that are running programs in memory.

Hint: you will need to use several pipes; start with cut (with the

appropriate options to cut). The output in the end should be similar

to:

$ ps axu|cut [put your answer here]

68

500

dbus

gdm

root

rtkit

USER

(note, you will get different results than the one above but the last

line should be USER)