

On all assignments, be sure to indicate the name of the machine you are assigned to administer.

This first question of this assignment emphasizes shell programming, the remaining questions have you examine the file system.

Make sure the user **bob** exists on your machine.

Simple shell script.

As bob, write a shell script that examines all the processes on the system and “reports” bash shell processes into a file called **bashlog**. First, this script should append to the **bashlog** the **date**. Then, it should do a **ps aux**, and all lines (use **grep**) containing the letters bash but not containing the letters cpeek should be appended to the **bashlog**. Your script file should be called **cpeek**

Test your shell script by running your command several times with various users logged in (for example root and your csa account) (i.e., just make sure it works).

1) Report: the exact contents of **cpeek**. (Do NOT report the contents of your bashlog.)

More advanced shell script.

As bob, write a shell script called **clock**. This shell script takes an argument that should be the name of the directory. If it is given the name of something that isn't a directory (or doesn't exist) it should print “Sorry”. If it is given the name of a directory it should print the names of any items in that directory that are files and are executable.

Test your shell script by running your command on **/etc/printcap** (it's a file and should print “Sorry”) and on **~djv** (do an **ls** to see confirm the names of the executables).

2) Report: the exact contents of **clock**.

On the **cheetah** examine and report the following:

3) What three hard drives are attached to the file tree and where (mount/df)? With the df command, Linux lists one hard drive as a virtual device called **/dev/root**. You can determine which hard drive this is by doing a **mount** command and looking for the entry for “/”.

4) On the root (/) file system, how much disk space is available (df)?

5) On the root (/) file system, what is the file system type and is the file system read only or read/write (mount)?

6) In your home directory, how much space have you used (not much yet) (du)?

7) Your home directory is on one of the hard drive partitions. Report the line in the **fstab** that causes that partition to be mounted.

On the system you administer, using the system administrator account; examine the superblock of the linux partition on your hard drive (**/dev/sda2**) using the **dumpe2fs** command.

8) Report: The file system state, the block size and the number of groups in that file system.

9) **fdisk -l**: For the disk you administer describe the partitions that are on the disk? For each partition *report*, what cylinder it starts at, what cylinder it ends at, and what kind of a partition it is (Linux, DOS, swap). Be very careful with this one, DO NOT MODIFY or WRITE anything with fdisk; you could erase your hard drive.

Submission: You will submit hw04.txt with “~grader/submit 04”. It must contain the contents of cpeek and clock as well as answers to the other questions.