NEW MEXICO STATE UNIVERSITY

Department of Computer Science

CS 209 | System Administration | Spring 2004

Midterm Exam - Part 1

Name: .....
Date: Saturday, Mar 6, 2004
Time: 8:30 a.m. - 9:30 a.m.

This test has two parts: part 1 is focused on the theory and concepts covered in the class and needs to be turned in before you start to work on part 2 that involves practical exercises on your computer in the lab.

All questions are of equal value. Answer them at the space provided. You can use reverse sides of each page or additional paper if you need extra space.

Question 1 - Booting a PC

Describe the process of bootstrapping of a PC with Linux operating systems (from powering the system on up to the login prompt). What are the stages involved? Is the PC's BIOS involved? How? What is the purpose of run levels and inittab? What is a boot loader? Which ones do you know?

Question 2 - Superuser

How does the superuser differs from other users on the Linux operating system. What are the rootly powers? How can a regular user become a superuser or execute a command with superuser privileges?

Question 3 - Processes

Define a process in Linux. What is it? What are some of its characteristics. What are the states a process can be in? What commands would you use to check which process consumes most of the resources on your computer? What is the command kill for?

Question 4 - File Types

Describe all file types we have in Linux. What are the commands listed below for?

cp

mv

ls

mkdir

rmdir

ln

socket

link

rm

mknod

File Types (describe them all below):

Question 5 - Syslog

Describe the syslog facility in Linux. What parts does it have? Consider the syslog.conf below. What will happen in this case?

```
auth.debug      @lhost
kern.debug;*.warning;auth.info /var/log/messages
user.debug      /var/log/user_messages
```

Question 6 - Kernel

What are the steps involved in building a linux kernel? What is it a module? What are some of the advantages and disadvantages of compiling many device drivers into a kernel as opposed to compiling them as modules?