

COS 231 INTRODUCTION TO UNIX SUMMER 2004 HW #2

Due Date 5/24/04

Last Date 5/31/04

There are 7 parts to HW #2. You are to carry out the indicated actions and answer the indicated questions. You can find the information you need in the textbook, on the web, and in the various help files that come with Red Hat Linux. Your answer should be sent as 7 separate files. Use the tar command to put the 7 files into a single package. You can use Open Office or any of the other word/text processors that are available in your Linux installation.

Many of the questions below require you to find sources other than your textbook. This is the way most people use Linux. You are free to use resources from all over. As you work on this assignment, be sure to include the information sources that you used in various places unless it is obvious from the problem description which resource you used.

PART #1 INFORMATION SOURCES

Put all your answers and comments in a file labeled part 1.

- a. Go to www.redhat.com and find the various links to the Fedora project. Find the link on the redhat.com website that leads you to a website that has “Fedora Extras Home Page” on it. Identify the webpage at redhat.com that leads you to the “Fedora Extras Home Page”. Also identify the web address of this “Fedora Extras Home Page” website as well as the University that is hosting this site.
- b. Go to TLDP.org and find *Linux System Administration Made Easy*. Tell how many chapters it has. You might find it handy to download a copy of this work.
- c. On the homepage of TLDP.org you will find a link to an article about Linux Documentation. It is a good article for you to read. Write down the complete name of the article and the name of the author. Also read through the article so you can answer the following question. What is the goal of minimalist documentation?
- d. TLDP.org has links to several magazines from its homepage. Identify those magazines. Look at the links briefly and tell what is curious about one of these magazines.
- e. Do a Google search for “fatal io error 104”. Tell what this error seems to be.
- f. Find the Google groups and trace down through comp, os, and then linux. Tell how many subgroups are under the comp.os.linux subheading. What is the most appropriate subgroup for Red Hat users?
- g. Use Google to find out what Linux is and give a two sentence description of it.
- h. Go to www.linuxjournal.com and describe the cover of the current issue.
- i. Go to www.linuxmagazine.com and describe the lead feature article.

PAR #2 KDE DESKTOP

When you login, click on sessions and select the KDE desktop. Describe briefly how it differs from GNOME. Which do you prefer? Why? Do the following experiment. Find a PDF file of any type and save it to your computer. Double-click on it in the GNOME

desktop. What program reads the PDF file? Do the same in the KDE desktop. What program reads the PDF file there? How would you compare the two programs that read PDF files?

Figure out how to run a terminal session. The process requires searching through some of the options. Once you find the correct place, you can put a copy of the terminal session on your desktop so it will be easy to run in the future. The terminal session is often called a shell and corresponds to the DOS Window or CMD window in Windows. This is a handy item to have since you can give it all sorts of commands. You will see this in action below. Put all your comments and answers in a file you should label part 2 of your homework.

PART #3 BASH

Using Open Office write a short composition about the bash shell. In particular, make sure that you answer the following questions. Put your answers in a file that you should label as part 3 of your homework.

- a. What is a shell? Does linux have more than one shell available?
- b. How did you access the bash shell?
- c. What does bash stand for?
- d. Describe what the grep command does? Illustrate its use with an original example.
- e. What are filters? Give some examples of commands that can be used as filters.
- f. How can you tell where certain files are located on your linux system?
- g. What are shellscripts?
- h. Write a short description of the tar command and of the bunzip2, bzip2, gunzip and gzip commands. Be sure to explain the ways in which they differ. How do these commands relate to the WinZip utility widely used in the Windows world?
- i. Find and use the ssh command -- explain where you found it and how you ran it. Explain what it does.

PART #4 PICO

Find and execute the pico command. Carry out the tasks listed below and write whatever answers you are asked to write. Put the results in a file and include the file as part #4 of your homework.

PROBLEM 4.1. Run pico and produce a file that contains all of the pico commands that you find listed on the first screen. Explain what each command does. Read the help and summarize the information contained in it.

PROBLEM 4.2. Using redirection compare the output displays of the "who", "finger" and "w" commands. Try to get George Bush's e-mail address by using

```
finger bush@whitehouse.gov
```

Report the outcome of your attempt. Also try to find information about my ID on the UNET mainframe by using

```
finger markov@maine.maine.edu
```

Also, try

```
finger markov@umcs.maine.edu
```

to get information about my ID on gandalf. Compare the amount of information that each command presents about the user. Figure out which options on finger permit you to see the target's ".plan". Finally, create a .plan file for yourself listing any information that you don't people knowing, such as perhaps your major. Describe the results of your efforts in the file. In this file, include a copy of your .plan file.

PROBLEM 4.3. Figure out what the ps -l command does. Use the appropriate command to produce a list of ALL processes running on your UNIX CPU.

Run the command man man. When you get to the end, you will notice that man does not automatically exit. One good way to exit, is to hit the q key, but don't do this. Instead, hit ^C.

Produce a file showing the processes that are active on your machine. You should see man being still listed.

Kill this process using the kill command. Now produce another file listing all the active processes. Again, figure out how to use redirection to capture the text that you are seeing on the screen.

Figure out how to use the history command to document the commands that you have given in order to complete this exercise. (Just enter the command history to see what it does.)

Finally, answer the following question: what does it mean when a process keeps reappearing with a new PID even after it has been killed?

Finally, figure out how to solve the following problem using the find and other filters.

Search through a file and output only those lines that contain at least one occurrence of each of the five vowels: a, e, i, o and u.

Test your solution on the file /usr/dict/words by producing a list of such words along with the count of the number of such words. If you do not have the file “words” on your system, then you can download a copy of it from my website <http://www.cs.umaine.edu/~markov>.

Your file should include the solutions to the problems posed above.

Part #5 vi

Find and execute the vintutor command. When you complete running vintutor, you should have a file which will be part #5 of your homework.

Part #6 emacs

What is emacs? Figure out how to run it, and how to run the emacs tutorial. Be sure to include the output of the emacs tutorial in a file. This will be part #6 of your homework.

Part #7

Write a short essay on configuring the keyboard for use with X Windows. Give all the details on how you would be able to change the action of the keyboard so that the key labeled Caps Lock would act as a control key, the left key labeled Ctrl would act like an Alt key and the left key labeled Alt would act like a Caps Lock key. Include this essay as part #7 of your homework.