Hashemite University

Department of Computer Engineering

Operating Systems

OS Lab Manual

Dr. Dheya Mustafa

Sep, 2016

1. Objectives

1. To practice identifying parts of a UNIX command.
2. To practice using file maintenance commands.
3. To build and manipulate simple file structures in your home directory.
4. To further examine man pages for file maintenance commands.
5. To practice using various utility commands for the beginner.

2. Lab Work

1. In the console or terminal window, type the following UNIX commands on the command line. Note and write down the results (The command line prompt is shown as a $, which may be different on your system):

    a. $ `ls`

    b. $ `pwd`

    c. $ `xy`

    d. $ `cd ..`

    e. $ `pwd`

    f. $ `cd`

    g. $ `pwd`

    h. $ `cd /usr/local`

    i. $ `ls`

    j. $ `cd`

2. In the exercises below, what you type-in at the UNIX command line is shown in Courier font. In the following commands, identify the parts of the single UNIX command presented by printing the letters C (for Command), O (for Option), OA (for Option Argument), and CA (for Command Argument) directly over the command line, such as-

	C	OOA	O	OA	CA	Answer
Sample - $	`lpr`	`-Pspr`	`-n`	`3`	`proposal.ps`	Command line

1. `$ ls -la convert.txt`

2. `$ more convert.txt`

3. `$ pwd`

4. `$ cat file1 file2 file3`

5. `$ rm  -r  temp`

6. `$ ping -c 3 cse.ogi.edu`

7. `$ telnet cs.berkeley.edu 13`

8. `$ cc -o short short.c -lbaked`

9. `$ chmodu+rw file1.c`

10. `$ uname -n`

3. In preparation for the following steps, create two (2) text files in your home directory on your UNIX system named 1st and 2nd, by using the `cat` command. You may type whatever text you want into these files, as long as it consists of printable characters that can be viewed on the UNIX command line.

4. Using the figures found below, and the file maintenance commands, create a directory and file structure under your home directory on your UNIX system exactly as shown in each figure. A directory is represented in the figures as a rectangle, and a file is represented as a circle. Then, write down a list of exactly what commands you used in sequence to create the structure for each figure. The directories and files that already exist in your home directory before you begin are irrelevant for our purposes in these exercises. In the event that directories that already exist in your home directory before you start any exercise have the same exact names as any of those shown in the figures below, then simply make up your own names for what is shown in the figures, and create

the structure using your own names. Hint: You can always use the pwd and ls commands at any point in the construction process to verify the fidelity of your structure.

Once you have finished building each structure, use the appropriate file maintenance commands to completely undo what you have done above. Then write down a list of exactly what commands you used in sequence to undo the structure for each figure. "Undo" means delete the directories and files created for that figure, except for files 1st and 2nd. The files 1st and 2nd must remain in your home directory after you have undone the directory and file structure for any particular figure, so that you can use them to create the structure for the next figure.
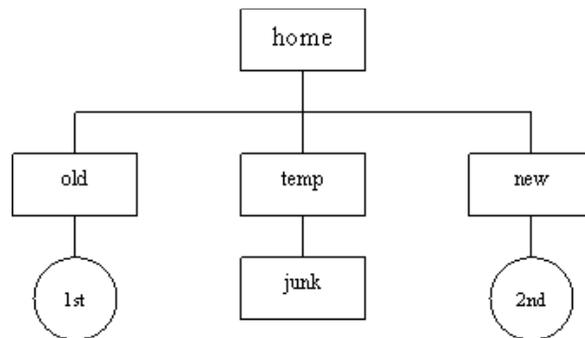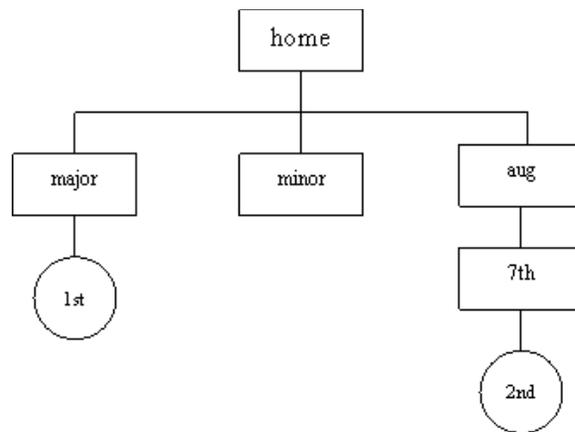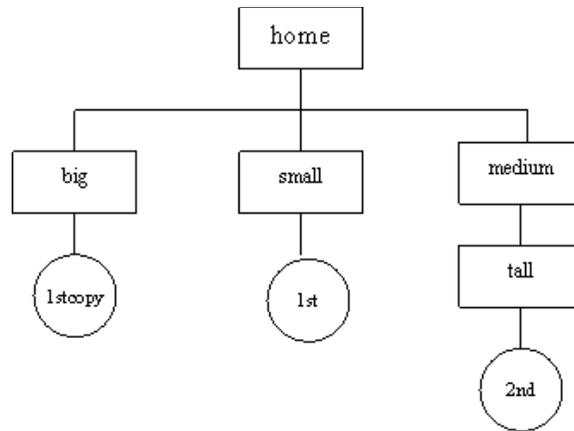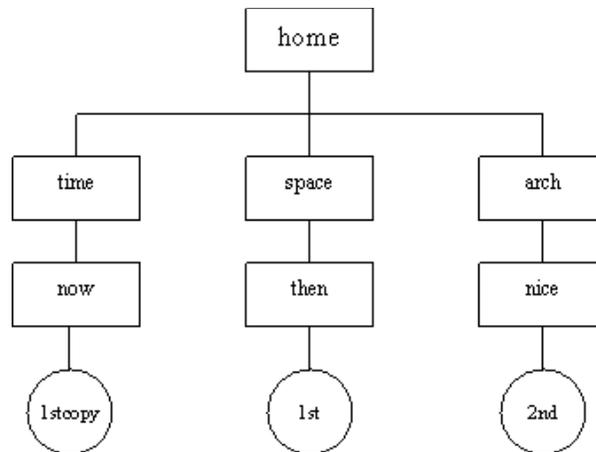

Figure 1

Figure 2

Figure 3

Figure 4

5. Use the man command on your UNIX system to construct a table of one sentence long descriptions for all ten (10) file maintenance commands. Put the Description part of the manual page that you see displayed on-screen into your own words in one-sentence format, being careful to include the most important aspect(s) of the command as you find them stated in the description.

6. After making the list of command descriptions from above, what changes would you make in the ways you constructed the file structures for the figures in the previous section?

7. Use the lpr or lp commands on your UNIX system to print the text files 1st and 2nd that you created with the cat command above.

8. Use the catcommand to create a new text file named "letter", and print this new file using the lpr or lp commands at your UNIX system line printer.

9. Create a text file named "manual_mkdir" of the contents of the man page for the command mkdir by typing the following command on the UNIX command line: man mkdir>manual_mkdir. This command is an example of output redirection; the > character redirects the output of the manual page from the man command to a file, which you have specified as manual_mkdir. Print this file to your UNIX system line printer using the lpr or lp command.

10. Use the *who* command to display the names of users currently using your UNIX system.

11. How many users are currently using your UNIX system? Show your session.

12. Who has been logged on for the longest period of time and for how long? Write down the time and date since when this user has been logged on.

13. Are any users logging on by using telnet? How could you tell? Write down the names of the computers from which these users are logged on.

14. Use the *date* command to display the current time. Show your session.

15. Use the *cal* command to display the calendar for the following years: 4, 52, 1752, 1952, 2004, and 2005.

16. Use the *pwd* command to display the name of your home directory. Show your session.

17. Use the following commands to display information about your computer system: uname (to display the name of the operating system), uname –n (to display the domain name of your system), and uname –p (to display the name of the CPU in your system). Show your sessions in your answers.

18. What is the name of your operating system?

19. What is the domain name of your computer system?

20. What CPU is in your computer system?