**Lab Chapter 7**

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**1. At the command prompt, type touch newfile and press Enter.**

**At the command prompt, type find / -name "newfile" and press Enter. Did the find command find the file? Why not?**

No. I cannot find this file because this command searches the root to find this file and this command search entire file system including mounted devices and network storage devices. It totally lost.

**At the command prompt, type find /home/aplustudent -name "newfile" and press Enter. Did the find command find the file? How quickly did it find it? Why? (NOTE - /home/aplustudent can be replaced with ~)**

Yes. It is very quickly to find it because this command offers the directory to find this file.

**2.** **At the command prompt, type which newfile and press Enter.**

**Did the which command find the file? Why or why not?**

No. The message shows "/usr/bin/which: no newfile in (/usr/local/bin:/usr/local/sbin:/usr/bin:/usr/sbin:/bin:/sbin:/home/aplustudent/ .local/bin:/home/aplustudent/bin)"

which locates a utility. newfile is created by the user and it is not a utility.

**Type echo $PATH at the command prompt and press Enter. Is the /home/aplustudent directory listed in the PATH variable?**

Yes. the /home/aplustudent directory is listed in the PATH variable. (No. the /home/aplustudent directory is not listed in the PATH variable. Is /home/aplustudent/.local/bin)

**Is the /bin directory listed in the PATH variable?**

Yes.

**3. At the command prompt, type which grep and press Enter. Did the which command find the file? Why?**

Yes, the path is "usr/bin/grep". Because grep is a utility, which command can find it through a system path.

**At the command prompt, type find /home/aplustudent -type l and press Enter. (Note that the last character in this command is the lowercase letter "l" and not the number one.) What files are listed? Why?**

The file is /home/aplustudent/ .local/share/systemd/user because "-type l" searches for symbolic links.

**At the command prompt, type find /home/aplustudent -size 0 and press Enter. What types of files are listed? Type find /home/aplustudent -size 0 | more to see all of the files listed.**

This command finds all files the size is 0. If we add the command more and we will see these files one screen at a time.

**4. At the command prompt, type cat /etc/sysconfig/network-scripts/ifcfg-p2p1 and press Enter to view the contents of the file hosts, which reside in the directory /etc.**

p2p1

**Next, type cat -n /etc/hosts and press Enter. How many lines does the file have?**

Two lines. It offers local DNS.

**At the command prompt, type tac /etc/sysconfig/network-scripts/ifcfg-eth0 and press Enter to view the same file in reverse order. The output of both commands should be visible on the same screen. Compare them.**

**To see the contents of the same file in octal format instead of ASCII text, type od /etc/hosts at the command prompt and press Enter.**

**At the command prompt, type cat /etc/services and press Enter.**

**At the command prompt, type head /etc/services and press Enter. What is displayed on the screen? How many lines are displayed, which ones are they, and why?**

It shows the beginning of the file. There are ten lines. Because we use head, this file of services just display the beginning which includes ten lines of context.

**At the command prompt, type head -5 /etc/services and press Enter. How many lines are displayed and why?**

Because we use -5 which present 5 lines, it shows the beginning of the file and only shows 5 lines.

**Next, type head -3 /etc/inittab and press Enter. How many lines are displayed and why?**

Because we use -3 which present 3 lines, it shows the beginning of the file and only shows 3 lines.

**At the command prompt, type tail /etc/services and press Enter. What is displayed on the screen? How many lines are displayed, which ones are they, and why?**

The utility, tail shows the end of a file. Hence, it shows the last ten lines for /ect/services.

**At the command prompt, type tail -5 /etc/services and press Enter. How many lines are displayed and why?**

Because we use -5 which present 5 lines, it shows the end of the file and only shows 5 lines.

**Type the cat -n /etc/services command at a command prompt and press Enter to justify your answer.**

**5. At the command prompt, type cd ~ and press Enter to ensure we are in the /home/aplustudent directory;**

**Connect to Blackboard and under the CONTENT section Lab Week 6 there is a file to download called lab6.tar.gz Lab-week-6.zip download them both into your virtualmachine**

**Unzip the contents of the zip file into a directory called lab6-zips (hint use -d option)**

**Extraxct the tar ball using -xvzf options as well**

**cd to Lab6 directory**

$ unzip Lab-week6.zip –d lab6-zips

**6. At the command prompt, type grep "http" itmo456-spring2014-syllabus.md and press Enter. What is displayed and why?**

The utility, grep will search for a pattern in files. This command searches the pattern “http” in the file of itmo456-spring2014-syllabus.md and displays them.

**At the command prompt, type grep -v "http" itmo456-spring2014-syllabus.md and press Enter. What is displayed and why? How does this compare with the results from previous step?**

-v option prints inverts the match. That means that it only displays those lines that do not contain the pattern “http”.

**At the command prompt, type grep "consecrate" gettysburgaddress.txt and press Enter. What is displayed and why?**

This command searches the pattern “consecrate” in the file of gettysburgaddress.txtand displays them.

**At the command prompt, type grep -i "consecrate" gettysburgaddress.txt and press Enter. What is displayed and why? How does this compare with the results from Steps 22 and 24?**

-i option will ignore word case i.e match consecrate, CONSECRATE or Consecrate.

**At the command prompt, type grep "W" gettysburgaddress.txt and press Enter. What is displayed and why?**

This command searches the pattern “W” in the file of gettysburgaddress.txtand displays them.

**At the command prompt, type grep "c..e" gettysburgaddress.txt and press Enter. What is displayed and why?**

This command searches the pattern “c..e” in the file of gettysburgaddress.txtand displays them.

By the way, the pattern “c..e” means the word includes “c”, “e” and between them are any two characters.

**At the command prompt, type grep " ^N" gettysburgaddress.txt and press Enter. What is displayed and why?**

There is nothing because this pattern starts a space.

**At the command prompt, type grep "^N" gettysburgaddress.txt and press Enter. What is displayed and why? How does this differ from the results in Step 29 and why?**

It displays a paragraph which starts with “N” because ^ will match at the start of a line. So “^N” matches at the beginning of a line followed by N. this question differ from last one because last one had a space before “^N”.

**At the command prompt, type grep ".$" gettysburgaddress.txt and press Enter. Is anything displayed? (Hint: Be certain to look closely!) Can you explain the output?**

In REGEX language, $ means EOL (end of line). “.$”matches any line ending in “.”. hence, there is nothing because in the file, there is nothing after “.”.

**7. What is the command to CUT the second column of IP Addresses from the file hosts.deny and then pipe "|" them to the sort command?**

$ cat hosts.deny

$ cut –d‘:’ –f2 hosts.deny | sort

**8. Using the diff command print out the difference between hosts.deny and hosts.deny.smaller files**

$ diff hosts.deny hosts.deny.smaller

**9. Using the file command - what type of file is Lab6.tar.gz**

It shows the type of this file is gzip.

**10. Use the date command to print out an America style date with formatting like this: mm/dd/yyyy hr:mn:ss then give the command to print a rest of the world style date dd/mm/yyyy hr:mn:ss**

America style date: date +“%m%d%y %T”

World style date : date +“%d%m%y %T”