

Solution – Lab 1

Step 4: UNIX Commands:

1. What do the following commands do?

Command	Does What?
date	print or set the system date and time.
ls -ltr	lists all the files in the directory from which you are running the command - with all details such as file permissions, owner, file size, last modified time etc., in the reverse order of timestamp. (oldest file to newest file) l – long listing t- timestamp r- reverse order
cd	change directory, Example: cd csci3308 will change your current working directory to csci3308.
pwd	shows the fully qualified path to your present working directory.
who	gives the list of users logged on the system?
whoami	gives the name of current user.
env	display or set a list of environment variables.
man man	displays an online reference manual.

2. How would you do the following?

Command	Goal
mkdir cs3308; cd cs3308 directory.	Make a directory named cs3308 and move into that directory.
mv cs3308 csci3308; cd /	Rename your directory cs3308 to csci3308. Change to root directory.
cp <source> <destination>	Make a copy of a file.
rm <filename>	Delete the copy of your file (Careful!)
mkdir <directory>; rmdir <directory>	Make a directory named tmp. Then delete that directory.
rm -rf <directory_name>	(if you want to delete a directory which is not empty) -r = Recursive, -f = force
cat <filename>	View the contents of a file.

more <filename>	2nd way to view the contents of a file.
head <filename>	View just the beginning of a file. (Default: first 10 lines will be printed)
tail <filename> printed)	View just the end of a file. (Default: last 10 lines will be printed)
grep "the" * -lR recursively	List all files that contain the word the in the file. l = to print the file name and not the occurrence, R = recursively
find `pwd` -name books.txt path)	List full path to all files names books.txt -name – base file name. (pwd is used to print the full file path)
zip -r dir.zip;	Zip the contents in your directory into a file named dir.zip r = travel the directory structure recursively.
unzip dir.zip -d tmp named tmp.	Unzip your zipped file dir.zip into a new directory d = directory to which you want to unzip.
tar -cvf dir.tar * dir.tar current directory.	Tar the contents in your directory into a file named dir.tar c = create, v = verbose, f = file, * - everything in the current directory.
tar -xvf dir.tar.gz -C tmp named tmp.	Untar your zipped file dir.tar into a new directory named tmp. x = extract, C = change to the directory before extracting. (Directory should be created before extracting)
peek/touch <filename>	Modify a file's last modified timestamp to now. This also creates a new file if it doesn't currently exist.

Step 5: Fancy Unix Commands

- Using the above mentioned file as input, please figure out the commands for the following tasks:

Command	Does what?
sort -t: <filename> field)	Sort the file based on the userid (first field)
default delimiter is a space or multiple spaces.	t flag is used to specify a delimiter; the

sort -t: -k 3 -n <filename> Sort the file based on the UID. Since it is a number, be sure to specify that it is a number so it sorts the numbers correctly. (-n – to specify that the field is a number), -k – to specify by which field it should be sorted.

sort -t: -k 4,3 -n <filename> Sort first based on GID, then on UID.

grep “Marx” <filename> Show all the lines in the file with `Marx` in it.

wc -l <filename> Get the number of lines in the file (from a Unix command); l – newline counts

wc -l <filename> > tmp.txt Use your answer from the previous question and now redirect the output to a file named tmp

Now store your answer to the previous question in a separate file with an extension of .sh for example getUniqueGID.sh. Try to run your program. You should get command not found. Try to run ./getUniqueGID.sh You should get Permission denied. Change the permissions on the file to allow users to execute the file. Now, which method runs your program? And why doesn't the other one execute? And what is a second way to have changed the permissions? And do you know a third way?

Answer: getUniqueGID.sh file should have the command to print the number of lines in a file, i.e., wc -l <filename>

chmod 754 getUniqueGID.sh,
to run the script file : ./getUniqueGID.sh

Alternate ways of changing permissions of a file:

chmod 777 getUniqueGID.sh,
chown "user" getUniqueGID.sh,
chmod a+wx getUniqueGID.sh