

Unix Navigation

Exercise #0

Computational Physics Lab

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[Due by end of day January 18th]

UNIX Part 1

Starting in your home directory and create directories named *exercise0/* and *exercise0/part1/*. Change your working directory to *exercise0/part1/* and create three subdirectories with names *Dir1/*, *Dir2/* and *Dir3/*. Copy the file *~eugenio/public_html/cshrc* to the *exercise0/* directory as "cshrc" and copy cshrc to *~/.*cshrc. Place a copy of the cshrc file in *Dir1/*, call the copy *mycshrc*. Create a file named *myhomecontents* in *Dir2/* which contains a directory listing of the content, including hidden files, of your home directory. The file *myhomecontents* should have only one item listed per line(see *man ls*). Create a file in *Dir3/* which contains a listing of the contents in */usr/local/* (one item per line), call this file *locallist*. Using the *diff* command, create a file containing the differences between the file *~/.*cshrc and the one at */etc/csh.cshrc* and locate this file in *Dir2/*. Name that file *cshdiffs*. Create a copy of the manual pages for "diff" in a file named *myDiffMan* in *Dir3/*.

Try executing the "ps" command to see the processes you are running on your terminal. Run the same command with the "ax" options to view all processes(not just yours) including non-terminal controlling processes(See "man ps" for more information). Use the "sort" to sort the piped output of the "ps -ax" command and save the output to the file "psSorted.txt" located in your "exercise0/part1/" directory(note: all of this should be done with one command line entry, i.e. use pipes and redirects). Now resort the output of ps again but this time, numerically reverse sort based on the process id (i.e. large number to small number). Save the output of your resorting to psReSorted.txt in the same directory. See *man sort* for help.

When you feel that you have done this correctly run the command "history > ~/exercise0/part1/myhistory", and return to your exercise0/ directory.

UNIX Part 2

Now in your *exercise0/* directory create a shell script to automate the execution of the commands in part 1. Call this shell script "*unix_part2.sh*". DO NOT USE the directory name *part1/*, and do not hard code a directory name in your script. Rather have the shell script read the directory name *ex0-part2/* and the location for the initial cshrc file from the command line; for example "*./unix_part2.sh ex0-part2 ~eugenio/public_html/cshrc*". This shell script should also print out it's own name. Recall that in a shell script, variable "\$1" refers to the first command line argument, \$2 the second, ..., and \$0 refers to the script's own name. To make a text file an executable shell script, the first line of the script must contain "*#!/bin/sh*". Also the file must be given unix execute permission. The command to change permission is "*chmod +x unix_part2.sh*". Caution: be careful not to over write your work from *part 1*.

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Submission of Unix Exercise

Rename your exercise0/ directory to <last_name>-exercise0/ where <last_name> is your last name. Now create a compressed “tar” archive file of your <last_name>-exercise0/ directory. The *tar* command will create a .tgz file (gzipped tar archive file) containing all files, sub-files, directories, and subdirectories. Please check for correct content in archive file before submitting via email. The later *tar* command below will list all files in the archive. The mail command will set the subject line, set the cc line to your email, and use your .tgz file as an attachment. Once you enter the mail command, type a short message and then enter a single “.” on a newline to note end of the email text. See the man pages for tar and mail for further details.

When you are done with the above parts, copy the <last_name>-exercise0/cshrc file to your home directory and rename it as “.cshrc” (without the quotes).

Creating archive file:

```
tar -zcvf last_name-exercise0.tgz last_name-exercise0/
```

Checking archive contents:

```
tar -ztvf last_name-exercise0.tgz
```

Submit the exercise via email:

```
mail -s “exercise 0” -c <your-email> -a last_name-exercise0.tgz phz4151c@hadron.physics.fsu.edu
```