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1. Log on to lumen.

2. (10 points) Enter these commands at the prompt, and try to interpret the output. Ask questions and don't be afraid to experiment (as a normal user you cannot do much harm). Write down your interpretation of what happened after you execute each command in this document. When you are done, save this and submit it to Moodle - this is what you’ll turn in for grading.   
Hint One: if you start a command that you don’t want to continue executing, for example, changing your password again, <Ctrl>d will usually stop the command.   
Hint Two: the command “man” is for manual. If you don’t understand what a command is doing, you can type, for example, man ls, and you will get the manual documentation for that command.

1. echo hello world
2. date
3. hostname
4. arch
5. uptime
6. who am i
7. who
8. id
9. finger
10. w
11. top (you may need to press q to quit)
12. echo $SHELL
13. echo {con,pre}{sent,fer}{s,ed}
14. man ls (you may need to press q to quit)
15. clear
16. cal 2021
17. echo 5+4 | bc -l
18. yes please (you may need to press Ctrl-c to quit)
19. time sleep 5
20. history

3. (7 points) Try the following command sequence and write down what happened after each one:

1. cd
2. pwd
3. ls –al
4. cd .
5. pwd (where did that get you?)
6. cd ..
7. pwd
8. ls –al
9. cd ..
10. pwd
11. cd /etc
12. ls -al | more
13. cat passwd
14. sl (Thank Brandon for finding this one.)

For the following questions, answer the question and also list the command(s) you used to get the answers. (13 points total)

4. Explore /dev. Can you identify what devices are available? Which are character-oriented and which are block-oriented (No, you don’t need to list them all…)? Can you identify your tty (terminal) device (typing who am i might help); who is the owner of your tty (use ls -l)? (You may have to cd to the pts directory under /dev to see this.) What commands did you use, what results did you get?

5. Explore /proc. Display the contents of the files interrupts, devices, cpuinfo, meminfo and uptime using cat. Can you see why we say /proc is a pseudo-filesystem which allows access to kernel data structures?

6. Change to the home directory of another user directly, using cd ~username. What command did you use?

7. Change back into your home directory. What command did you use?

8. Make subdirectories called work and play. What commands did you type?

9. Delete the subdirectory called work. What command did you use?

10. Copy the file /etc/passwd into your home directory. What command did you use?

11. Move the passwd file into the subdirectory play. What command did you use?

12. Create a file called “hello.txt” that contains the word “hello”. Do this with the command echo hello > hello.txt. What shows up on the screen?

13. Now copy hello.txt to terminal. What happens? Use who am i to find out your terminal number. Copy hello.txt to /dev/pts/<your terminal number>. What commands did you type? What happens?

14. Change into a directory that does not belong to you and try to delete all the files (avoid /proc or /dev, just in case!) What commands did you use, and what response did you get?

15. Experiment with the options on the ls command. What do the d, i, R and F options do?

16. Don’t forget to logout! What did you type to log out?