Physics 129AL: Problem Set 1

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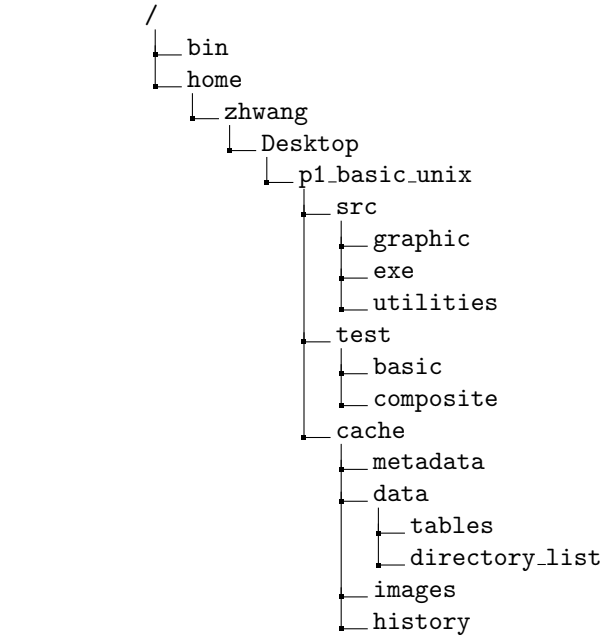
Problem 1: Basic UNIX file management

In most projects, a directory tree is an essential tool for file management. In here, we will construct a directory tree and explore basic Linux commands. Below is an example of a complete directory three, starting from the root "/". Please submit **all** your commands (including errors) in a text file name "P1_cmd_history.txt" by using the "history" command (so. For example, if you want to select those last 10 commands you entered and append to a file, you can use the following history command, " history | tail -n 10 >> P1_cmd_history.txt". Please note, by doing this, the last command in the text file is **guaranteed** to be the history command above.



A

1. Construct the directory tree in your VM on terminal. Hint: you do not need to start from the root.
2. Move to "/p1_basic_unix", and add 3 empty ".txt" files named after, test_1.txt, test_2.txt, test_3.txt.
3. Stay in "/p1_basic_unix", and print your name and today's date to the test_1.txt with **echo** command.
4. Stay in "/p1_basic_unix", print test_1.txt to the terminal with **cat** command.
5. Stay in "/p1_basic_unix", print test_1.txt to test_2.txt with **ls -l** command.
6. Stay in "/p1_basic_unix", make test_1.txt file executable with **chmod +x**, and **append** the result of **ls -l** to test_2.txt.

B

1. Download the compressed tar file "P1_B.tar.gz" from the course website under Problem Sets, Downloads. Extract the tar file to the directory "/p1_basic_unix". Hint: use the "wget ..." command. **Please check the sha256sum!**
2. Stay in "/p1_basic_unix", move example.sh from "P1_B" to "/p1_basic_unix".
3. Stay in "/p1_basic_unix", rename two existing files in the directory "P1_B" from example_1.txt and example_2.txt to demo_1.txt and demo_2.txt.
4. Stay in "/p1_basic_unix", move those two newly named files to "/p1_basic_unix/src/exe" and "/p1_basic_unix/cache/data/tables".
5. Stay in "/p1_basic_unix", remove the directory "P1_B".
6. Stay in "/p1_basic_unix", create a symbolic link for the file demo_1.txt with name demo_link.
7. Set an alias "ll" that defines the operation "ls -l".

C

1. Stay in "/p1_basic_unix", grep the keyword "statistics" from demo_1.txt, and using pipelines, print the result to a new file with the name "grep_stat_demo1.txt" and place it in to the directory "/p1_basic_unix/src/utilities".
2. Stay in "/p1_basic_unix", grep the keyword "statistics" from all directories, and using pipelines, print the result to a new file with the name "grep_stat_demo1.txt" and place it in to the directory "/p1_basic_unix/cache/images".

3. Stay in "/p1_basic_unix", use "find" command to locate all files with ".txt" ending and print it to test_3.txt file.

4. Stay in "/p1_basic_unix", using both find and grep command to locate the keyword "statistics" from files with ".txt" format.

Submission

1. Using tar command, compress the directory "/p1_basic_unix" to a **single** ".tar.gz" file, named "p1_basic_unix.tar.gz".

2. Obtain the sha256sum by running "sha256sum p1_basic_unix.tar.gz".

3. upload "p1_basic_unix.tar.gz" to canvas and in the comment section, copy the sha256sum.