CS232L Operating Systems
Lab 01: Introduction to Bash - Part 1

CS Program
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1 Introduction

The Linux command line follows the Unix Philosophy [1]:

- Write programs that do one thing and do it well.
- Write programs to work together.
- Write programs to handle text streams, because that is a universal interface.

The first principle has resulted in many small programs that excel in doing what they do. These programs are available as binary executable files on your system. Every time you run a command, you are basically running one of these programs. The program will run and do its thing and the output will be displayed on the screen.

2 Resources

This is an introductory lab. We'll be using the following tutorials: Ryan's Linux Tutorials.

Tutorials 1-7 will be the subject of this lab.

3 Exercises

See if you can answer the following questions/commands in the command line:

1. What's a shell?
2. Which shell are you in?
3. What's a Home Directory?
4. What's your Home Directory?
5. What's a Working Directory?
6. Which directory are you in?
7. What's your user name?
8. What's a Path?
9. What's an Absolute Path?
10. What's a relative Path?
11. What's inside the directory `/usr/bin`?
12. What's the largest file inside the directory `/usr/bin`?
13. What's the most recently created file inside the directory `/usr/bin`?

14. Go to your home directory and list all the directories in it.
15. List all the hidden files and directories in your home directory.
16. What does the command `"file"` do?
17. What options does the `"ls"` command have?
18. Search for the `"-h"` option of `"ls"`. What does it do? Use it.
19. Make directories `dir1, dir2, and dir3` in your home directory using one command only.
20. Make the directory `dir9/subdir8/subsubdir7` using one command only, even if `dir9/subdir8` doesn't exist.
21. While staying in your home directory, create an empty file `dummy.txt` in `dir9/subdir8/subsubdir7`.
22. While staying in your home directory, copy the following files from `/usr/bin` to `dir9/subdir8/subsubdir7`: `zip, zipgrep, zipinfo` .
23. Move the file `zipgrep` from `dir9/subdir8/subsubdir7` to `dir9/subdir8`.
24. Rename it to `myzipgrep`.
25. Move all files from `dir9/subdir8/subsubdir7` to `dir9/subdir8`.
26. Delete the `dir9/subdir8` directory.
27. List all the files in `/usr/bin` that start with the letter **z**.
28. List all the files in `/etc` whose second letter is **c**.
29. Copy all of them to `/dir9/subdir8`.
30. Among them delete all those that contain a digit in their name.

References

[1] Eric Steven Raymond. *The Art of Unix Programming*. 2003. URL: `http://www.catb.org/esr/writings/taoup/html/`.