CSP 509 - PG SOFTWARE LAB
Lab Assignment 5
Total Weightage: 2.5%
Submission Deadline: Sept 14 2018 9:00am

General Instructions:

- All specifications must be strictly followed. Failure to do so may lead to substantial loss of points.
- **Shell commands for all the questions should be put in one file. This file should have your Name and Roll number. Upload this file on Moodle before the deadline.**
- **It is important to go through the prescribed reading material, there may be a lab test on linux commands in the near future.**
- The first two resources are specially suited for people who have very less to no-experience in Linux environments.

Resources:

- Tutorial on Linux commands, useful especially if you have very little background on Linux: https://ryanstutorials.net/linuxtutorial/
- Another good tutorial on Linux commands: http://www.ee.surrey.ac.uk/Teaching/Unix/
- Find command: http://www.folkstalk.com/2011/12/101-examples-of-using-find-command-in.html and https://explainshell.com/explain?cmd=find%20.%20-type%20f%20-print0
- Regular expressions: https://ryanstutorials.net/linuxtutorial/grep.php
- Xargs: http://www.linuxplanet.com/linuxplanet/tutorials/6522/1

Question 1 (20 points):

For each of the following tasks, write a "single command" which will perform the task. Note that you may need to pipe the output of command to another one to get things into a "single command"

1. Find the number of entries in the "/usr/include" directory of your system. Hint: you can use ls and wc command for this task
2. Print all the details (output of ls -l) of the top 5 largest files in the "/usr/include" directory (Hint: check the manual page of ls command)
3. Find the number of ".h" files in the "/usr/include" directory of your system. You **should not** search the directories inside "/usr/include" recursively. Hint: use Find command
4. Find the number of ".h" which have size greater 100 blocks in the "/usr/include" directory of your system. You **should** search the directories inside "/usr/include" recursively.

Question 2 (25 points):
Create a sample directory inside your home directory. In that directory create following files. No content is required, just empty files with the name convention as described. You can use touch commands to create the files.

(a) Few files with names like "CaseNew1.c" "CaseNew2.c" …. "CaseNew9.c"
(b) Few files with names like "Case1.c" "Case2.c" "Case3.c" .... "Case9.c"
(c) Few files with names like "Case1.php" "CaseM2.php" "CaseM3.php" ….. "CaseM9.php"
(d) Few files with names like "N1.php" "N2.php" "N3.php" … "N9.php"

1. Write command to copy all the files which start with "CaseNew" into another directory called "new" located on your desktop. You would first have to create this new directory on your Desktop using a separate command.
2. Write command to copy all the files which start with "Case" (i.e., Case1.c, Case2.c, Case3.c,..., Case9.c etc.) into another directory called "old" located on your desktop. You would first have to create this "old" directory on your Desktop using a separate command. Note that you should not copy the files in the series "CaseNew."
3. Write a command to copy all the files which have the ".php" extension into directory called "PhpFiles" located on your Desktop. You would first have to create this "PhpFiles" directory on your Desktop using a separate command.
4. Put some text in any three files you created for this question. Write a command to search for the word "cat" in all the files in the series "CaseNew". Your command should print the filenames in this series which have the word "cat" in them.
5. Change the solution of item 4 such that the output is written into a file.

Hint: For this question you would have to write regular expressions inside Find. Also for 1,2 and 3 you may need to use "-exec" option with find. Also explore the use of xargs (as an learning exercise) for parts 1, 2 and 3.