Homework #1

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Acknowledgement: Thanks for Prof. H-.T Lin's file template.

For question 1.1 and 1.2, please write your answers in the **PDF** *format files. For question 1.3, please submit your text file result. For question 1.4, please submit your codes.*

Suppose your ID is b97902018, then the file names should be b97902018.pdf, b97902018_3, b97902018_4_1.sh, b97902018_4_2.sh, respectively. Put all 4 files in the directory named by your ID (e.g. b97902018) and **compress** *it by the command* **tar**.

1.1 Experienced in UNIX Environments

(1) What is *shell*?

(2) What is your shell in R217? How do you know?

(3) Which file is for bash settings?

1.2 Experienced in UNIX Commands

Please only use pipe to combine several commands in **ONE** line for answering each question. Note that since there may be more than one answer for each question, any correct answer is acceptable.

(1) What is ">>" for redirection?

(2) How to find file named "NASA" in /tmp2?

(3) What is the difference between *top* and *ps aux*?

(4) Get the total memory from /proc/meminfo and output the number part only.

(5) List the line 6 to line 10 in /etc/passwd.

(6) List the line 1 to line 10 in /etc/passwd except for line 2 and line 9 (hint: sed).

(7) Use *ps aux* to get the information of the running process. List the top 5 longest running time processes with the format *(USER TIME PID COMMAND)*. Please use tab to split the columns. Here is the example output from linux16 (hint: awk).

d95002 10889:56 4773 java-Xmx4000m
d95002 10849:25 4801 java-Xmx4000m
d95002 10532:07 4755 java-Xmx4000m
42275 2852:36 5201 ./svm_latent_learn-e
42275 2849:42 5206 ./svm_latent_learn-e

1.3 Experienced in Vim

Please modify the file *file2* according to the following instructions.

(1) Copy from line 10 to line 50 and paste it to the end of the file.

(2) Delete from line 70 to line 90.

(3) Cut from line 30 to line 40 and paste it below the line 100.

(4) Replace "the" with "vegetable"

(5) Add "//" to the beginning from line 60 to line 120.

(6) Indent from line 200 to line 250 by 2 tab.

(7) Jump to the beginning of the file and search the term "for". Change the fourth one to "NASA".

(8) Cut the fifth and sixth characters(fifth and sixth columns) from line 130 to line 150 and paste it to the 41-42 columns between line 330 to line 350.

(9) Copy the fifth and sixth characters(fifth and sixth columns) from line 130 to line 150 and paste it to the 51-52 column between line 330 to line 350.

Here we provide the files *file1* and *ans1* for practicing. You can check your result by *diff* command. Note that you **only** need to submit the modified *file2* with renaming.

1.4 Experienced in Shell Script

(1) Write a script to rename all files under on same directory to capital letters.

(2) Write a script that can count the total size of the space the user(use whoami) use in /tmp2 and output the answer in byte level (hint: find).