

## Homework #1

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RELEASE DATE: 02/28/2013

DUE DATE: 03/06/2013

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

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

Suppose your ID is b97902018, then the file names should be b97902018\_1.pdf, b97902018\_2, b97902018\_3\_1.sh, b97902018\_3\_2.sh, respectively. Put all 4 files in the directory named by your ID(ex: b97902018) and compress it by the command **tar**.

### 1.1 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) Get the total memory from `/proc/meminfo` and output the number part only.
- (2) List the line 6 to line 10 in `/etc/passwd`.
- (3) List the line 1 to line 10 in `/etc/passwd` except for line 2 and line 9 (hint: `sed`).
- (4) 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
```

### 1.2 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.

### 1.3 Experienced in Shell Script

- (1) The exercise in the last page of the slide.
- (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).