# Cs352 — Homework #1

Due Time: 2/3/04 (9:00PM)

Turnin ID: *cs352_assg*1

Turnin files: Q1, Q2, Q3, Q4. Each of these files must contain one unix command, which is the answer to (respectively) question 1-4.

(PS: For example, you may turnin multiple files by UNIX command "turnin *cs352_assg*1 yourfile1 yourfile2 yourfile3". You may also turnin one file at a time by "turnin *cs352_assg*1 *file_you_want_to_turnin*". Later turnin file will overwrite the old file which has the same filename. So if you turnin the same file multiple times, we only receive the last version you turned in. To see a list of the files you turned in, you may use the command "turnin -ls *cs352_assg*1". For help information about turnin program, please use the command "turnin -h". If you still have questions about turnin, please either stop by TA's office hours or email TA's.

Your code should follow the instructions in the "C coding guidelines". In particular, pay attention to proper documentations )

1. Write a C-shell command that prints the names of all files in each of your directories (not only the home directory) that contains more than 2000 bytes, and were modified in the last 2 weeks. The results should be the same independent from which directory the commend is executed.

   Solution:
   ```
   find ~ -size +2000c -mtime -14 -type f
   ```

2. Write a C-shell command that changes the privilege of each of each file one of your directories (not only the home directory) that contains more than 2000 bytes, and were modified in the last 2 weeks. After this command is invoked, each such file must have executable privilege to each user in your group. The results should be the same independent from which directory the commend is executed.

   Solution:
   ```
   find ~ -size +2000c -mtime -14 -type f -exec chmod g+x {} \;
   ```

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3. Write a C-shell command that prints all files in your directory whose name contains the substring "aa", or the substring "bb" (or both). Hint — use the unix command "egrep".

Solution:
```
ls | egrep 'aa|bb' | sort
```

4. Write a C-shell command that append to the file `kuku.dat` (in your home directory) the names of the 5 files that contains the maximum number of lines, among the files in your home directory. Next to each such file, print the number of lines in the file. If there are less then 5 files, list all of them. Hint — use the commands "wc", "head" and "sort".

Solution:
```
wc -l ~/* | sort -n -r | head -6 | sed '1d' | awk '{print$2, $1}' >>
~/kuku.dat
```
Explanation:

```
wc -l ~/*             -- get the line number of each file in home directory
| sort -n -r          -- sort the files in reverse order (non-increasing)
                         based on the line nubmers
| head -6             -- extract the first six lines (file) since the first
                         line is size of total files
| sed '1d'            -- delete the first line (total)
| awk '{print $2, $1}' -- output the result in such a format that the first
                         column is file name followed by the second column
                         the number of lines of that file
>> ~/kuku.dat         -- append the result to the given file
```