**Homework 0906: File Processing**

Due: 6 September, noon

**Homework Assignment**

This assignment must be completed in a Unix environment, either Linux or Mac OS.

Address the following questions. Where there is any ambiguity whatsoever, explain your reasoning or explain how the process would work. For every question that asks for a command, give both the command and a brief English explanation of the command.

1. Give a command that would let you easily identify the state file with the largest number of bytes.
2. Give a command that would let you easily identify the state file with the largest number of lines.
3. Explain in English what the following command does, and explain the full implications of the command for foo and for users of the system. Be sure to explain fully for the owner, a member of the file’s group who is not the owner, and for a user who is not in the file’s group.  
   $ chmod 504 foo
4. Consider the following set of commands:
5. $ ls -ld states
6. drwxrwxr-x 2 jbeck jbeck 4096 Aug 23 11:00 **states**
7. $ chmod 777 states
8. $ ls -ld states
9. drwxrwxrwx 2 jbeck jbeck 4096 Aug 23 11:00 states

Explain in English the implications of this command and why the shell is programmed to particularly highlight the directory name after the command has been issued.

1. Give a grep command that will find every city containing an uppercase C.
2. Give a grep command that will find every city beginning with uppercase C.
3. Give a grep command that will find every city in California that has an uppercase letter in a position that is not the beginning of the line.
4. Give a grep command that will find every city in California that has a maximum of 6 contiguous lowercase letters.

Create a plain ASCII text file, using a text editor on a Unix system, that contains these questions, and their answers. Use [this file](https://borax.truman.edu/250/0906/template.txt) as a template for completing your homework.

The file cannot contain any non-ASCII characters, and no line can exceed 78 characters in length.

Assuming your file is named “filename.txt”, I will print your file using the following sequence of commands:

$ a2ps -o filename.txt.ps filename.txt

$ ps2pdf filename.txt.ps

at this point, there will be a file named filename.txt.pdf which I will print. You can do this also in order to preview your submission.

By noon on Sunday, 30 August, submit your text file to the [homework submission](https://borax.truman.edu/250/submit.php) page.