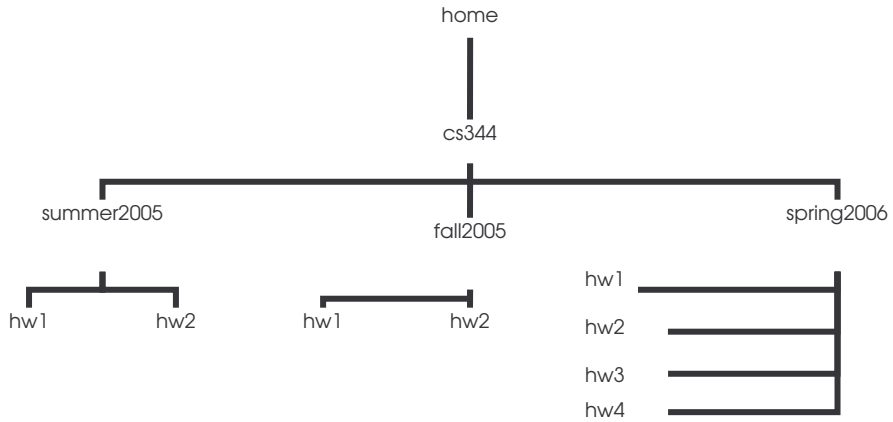
Spring 2006: CS 344 – UNIX Operating Systems Fundamentals
Homework – 1

100 points. Individual work only. Due February 1, 2006.

1. Login to one of the SUN workstations and create the following directory structure in your home directory. **[20 points]**



2. Change directory to ***~/cs344/spring2006/hw1*** and execute the following commands and explain what action is performed when each of these commands are executed: **[20 points (4 points each)]**
    1. ls –la /etc > file1
    2. ps –u $USER > file2
    3. cat file1 file2 | wc –l > file3
    4. cat file1 file2 | sort | more
    5. cat <file1 >file5; more <file5

3. Use the appropriate command to perform the following operations and for each item write down the command used: **[60 points (4 points each)]**
   When not specifically expressed, assume that you are in the ***~/cs344/spring2006/*** directory
    1. display the calendar for August, 1982
    2. display the on-line documentation for the command ***grep***
    3. list the number of users logged on to the system
    4. display the current directory

5. copy ***file2*** from the directory ***~/cs344/spring2006/hw1*** to the directory ***~/cs344/summer2005/hw2*** and rename it as ***file1.old***
6. assume that you are in ***~/cs344/spring2006/hw1***, rename ***file2*** to ***users***
7. copy all the files in the directory ***hw1*** to the directory ***~/cs344/fall2005/hw1***
8. list all the files, directories, and subdirectories starting from your home directory
9. create a new directory called ***tmp*** in your home directory
10. list all the files, directories, and subdirectories starting from your home directory and send the output to a file called ***myfiles*** in the directory ***tmp***
11. determine the number of lines in the file ***myfiles***
12. remove the directory ***tmp*** including all files in that directory using a single command
13. without using an editor (e.g., vi or pico) create a file "***months"*** with the name of the months (one per line)
14. sort ***months*** and send the output to a file called ***sorted_months***
15. working in the c Shell create an environment variable ***ME*** that holds your user name

NOTES:

1. Submit written or typed answers for questions 2 and 3 in class on the due date.
2. For question 1 compress and email me the file hw1.tar.gz. The subject of the e-mail should be ***CS344-HW1***. [10 points penalty if the subject of the email is not CS344-HW1]

Instructions to create hw1.tar.gz

This is a 2-step process:

1. Create one big file (a tape archive[1]) with the directory structure and files created for the homework:
    - move to your home directory
    - you should have a directory named ***cs344***
    - write the following command: ***tar -cvf hw1.tar cs344***
    - list the files in your home directory, you should see the file ***hw1.tar***
2. Compress the tar file using gzip[2].
    - In your home directory write the following command: ***gzip –v hw1.tar***
    - List the files in your home directory, you should not see the file ***hw1.tar***, instead you should see ***hw1.tar.gz***
3. email me the file hw1.tar.gz (the subject of the e-mail should be ***CS344-HW1***). You can either move the file to windows using the SSH Secure File Transfer utility and then use your favorite email client, or you can use ***pine***[3] to email the file within UNIX.

[1] Execute ***man tar*** to know more about tape archives
[2] Execute ***man gzip*** to know more about compressing files in UNIX
[3] Execute ***pine*** from UNIX and follow the instructions