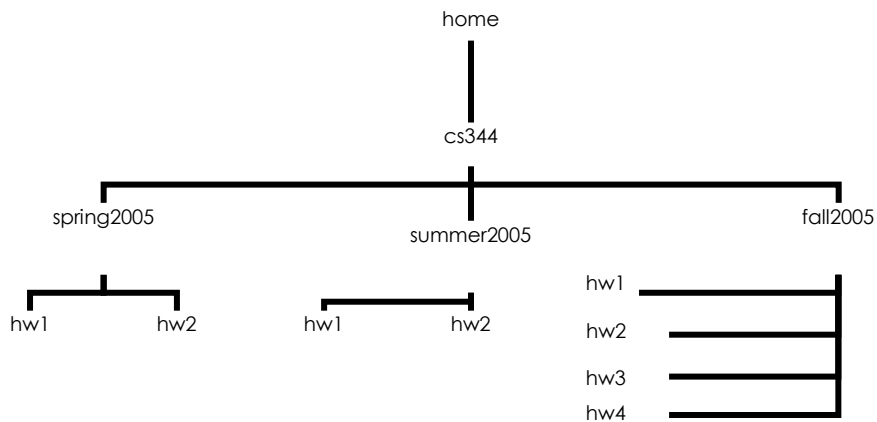


Fall 2005: CS 344 - UNIX Operating Systems Fundamentals

Homework - 1

100 points. Individual work only. Due September 9, 2005.

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/fall2005/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/fall2005/` 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/fall2005/hw1` to the directory `~/cs344/spring2005/hw2` and rename it as **file1.old**
6. assume that you are in `~/cs344/fall2005/hw1`, rename **file2** to **users**
7. copy all the files in the directory **hw1** to the directory `~/cs344/summer2005/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 email 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 archive¹) 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 gzip².
 - 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