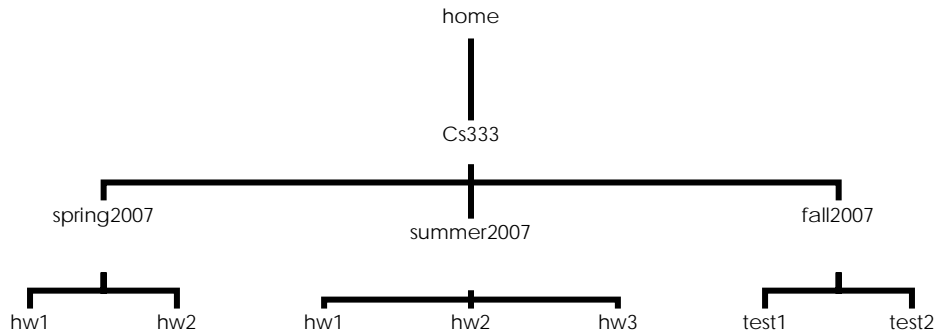


# Fall 2007: CS 333 – UNIX Operating Systems Fundamentals

## Homework – 1

100 points. Individual work only. Due September 21, 2007.

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



2. Change directory to `~/cs333/spring2007/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)]
  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 `~/cs333/spring2007/hw1` to the directory `~/cs333/spring2007/hw2` and rename it as ***file1.old***
  6. rename ***file2*** to ***users***

7. copy all the files in the directory **hw1** to the directory  
**~/cs333/fall2007/test1**
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 **CS333-HW1**.

## Instructions to create **hw1.tar.gz**

This is a 2-step process:

1. Create one big file (a tape archive<sup>1</sup>) with the directory structure and files created for the homework:
  - move to your home directory
  - you should have a directory named **cs333**
  - write the following command: ***tar -cvf hw1.tar cs333***
  - list the files in your home directory, you should see the file ***hw1.tar***
2. Compress the tar file using gzip<sup>2</sup>.
  - 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 ***CS333-HW1***).  
You can either move the file to windows using the SSH Secure File Transfer utility and then use your favorite email client to email the file within UNIX.

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<sup>1</sup> Execute ***man tar*** to know more about tape archives

<sup>2</sup> Execute ***man gzip*** to know more about compressing files in UNIX