**Lab-3 09-19-2020**

*Start a script session to record your activities*

Your umask is set when you first log into the system. By default, the system sets it in the **/etc/profile** file.The system checks your User/Group IDs to see if it's greater than 199. If so, it sets your umask to 002 otherwise it sets your umask to 022

1.) View your umask

$ umask

> Write the values and describe what you see.

0002

3. Go into your **~/homework/week-3/lec-3** directory.

4. Verify that you are in your lec-3 directory before you execute the following commands. Record the output of ls -ld dirx.

$ mkdir dirx

$ ls -ld dirx

> drwxr-xr-x

5. Create an empty file

$ touch xfile

$ ls -l xfile

> who owns xfile? cs45aa01

> What is the size of xfile?0

> What are the permissions of xfile? rw-rw-r--

> What are the owners' permission for xfile? rw-

> What are the permissions for the group owner of xfile? rw-

> If you are not the owner and not in the group, what permissions do you get?

6. Change your umask to 033

$ umask 033

7. Create another file called zfile

$ touch zfile

$ ls -l zfile

> What are the permissions of zfile?

> Why does zfile have those permissions?

8. Create a directory called 'zdir'

$ mkdir zdir

$ ls -ld zdir

> What are the permissions of zdir

> Why does zdir have those permissions

What does the 'x' permission allow on a directory?

What does the 'w' permission allow on a directory?

What does the 'r' permission allow on a directory?

9. What groups does mr-tester belong to?

$ groups mr-tester

Search for mr tester in the /etc/group file.

$ grep mr-tester /etc/group

$ id -a mr-tester

> Record the group ID for mr-tester: 1047

10. How can I change my current group id during this login session? What is the difference using the '-' and without the '-' . You will change your current real groupID to the new group or if no new group name is listed, you get the default in /etc/passwd file.

$ newgrp - cs45

$ ps

$ exit

$ ps

$ newgrp cs45

$ ps

$ exit

$ ps

The /etc/group file has group account information.

The /etc/gshadow file has the group password information

The /etc/passwd file has user account information

The /etc/shadow file has user encrypted password information

11. Use the chgrp command to assign your file to another group that you belong to.

$ touch gxfile

$ ls -l gxfile

> What is the group this file belong to?

$ chgrp wheel gxfile

> did this work?

$ exit

12. Try to give your group ownership to cs45.

$ touch mr-tfile

$ ls -l mr-tfile

> Record your output

$ chgrp cs45 mr-tfile

> Did this work?

> Why not?

13. Test to see if mr-tfile is a regular file. If the test is successful, you will get a return

or exit status of zero '0'. The test command is used to test file types and compare values.

$ test -f mr-tfile

$ echo $?

> What is your output?

$ mkdir mr-dir

$ ls -ld mr-dir

$ test -d mr-dir

$ echo $?

14. Let's have some fun with the test command.

{ lt = less than ; gt = greater than; ne = not equal; ge = greater or equal , && = logical AND . If the left side is true ...do the right side}. What is the purpose of the ‘**$?’**

$ test 4 -lt 5

$ echo $?

$ test 4 -lt 5 && echo "I got this!"

$ test 2 -ne 3 && echo "Rock on"

$ test -d mr-dir && echo "mr-dir is a directory"

## *Changing Permissions*

**> chmod [option] ... MODE,.... FILE**

**u = user/owner**

**g = group**

**o = others**

**a = all ( user/owner, group and others )**

**Permissions : read(r) octal value = 4**

**write(w) octal value = 2**

**execute(x) octal value = 1**

**set UID(SUID) 'u+s' octal value = 4**

**set GID(SGID) 'g+s' octal value = 2**

**set Sticky Bit 'o+t' octal value = 1**

***Usage***

15. Create a directory called permtest,

$ mkdir permtest

$ cd permtest

$ touch feedback1 feedback2 feedback3

$ ls -lh

> Record the permissions

16. vi feedback1 and add two lines and safe the file.

echo "I am : $0 "

echo "Practice harder!:)"

17. Give the file execute permissions

$ chmod +x feedback1

$ ls -lh

18. Use the symbolic options(u,g,o,a) to give feedback2 read,write for owner, read for group and nothing for others.

$ chmod u+rw,g+r feedback2

19. Use the symbolic options to subtract write from group and others on feedback2

$ chmod g-w,o-w feedback2

20 Use the Octal permissions to give read,write,execute to owner of feedback3, read and execute to group of feedback3 and read only for others.

$ chmod 754 feedback3

21. Make a directory called 'dir-tester'

$ mkdir dir-tester

22. Make another directory in dir-tester called dir-test2

23. Create 4 files in dir-test2 called 'tester-file{1..4}'

$ touch dir-tester/dir-test2/tester-file{1..4}

$ ls dir-tester/dir-test2/\*

24. Recursively do a long listing of dir-tester and all contents below

$ ls -lR dir-tester

> Record the permissions

25. Recursively change the permissions of all the content of dir-tester --all files and directory below to 600

$ chmod -R 600 dir-tester

> Verify the output by doing the ls -lR

> Record the permissions you see

## *Changing ownership - Must be super user*

chown [ new owner ] file\_name or Directory\_Name

$ chown hcampbell file\_name

Recursively change owner

$ chown -R <New Owner> Directory\_name