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Mission Name: Users and Permissions

* In order to protect the integrity of the computer and to protect users from each other, the concept of users are use.

* Every user has their own set of permissions.

* Commands to see, which user we are currently working in:

  i) whoami
  ii) id -un

  Both command gives same output.

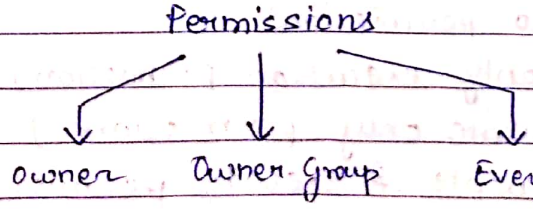
* Groups are a mechanism used to facilitate granting and revoking permissions from the user.

* Command to check group's associated with the user:- "groups"

* When a user creates a file or directory ownership is attributed to the user who created it.

* By default, the group ownership is given to the primary group of the users who created the file

  A primary group is simply a group that is associated with a user. It will typically have the same name & group number as that of the user.



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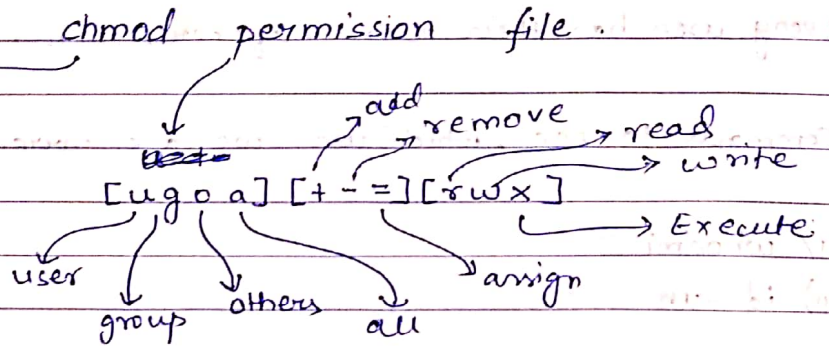
* Sometimes we need to change permissions of the existing files.

* To do so, we use the following command:-



Eg:-

Before Command	Command	After Command
Doesn't matter	chmod g=rx, u=rwx, o=r	rwxr-xr--
r-xr-----	chmod g+x, o+r	r-xr-xr--
r-xr-xr--	chmod u+w, g-x, o-r	rwxr-----
Doesn't matter	chmod g=xrw, o=rwx, u=rwx	rwxrwxrwx
Doesn't matter	chmod a=rwx	rwxrwxrwx

* "stat" command can be used to know the stats of a file.

Stats includes permissions, uid and gid.

* Octal Notation:-

- --- : 0 (no permission)
- --x : 1 (only execution permission)
- -w- : 2 (write only permissions)
- -wx : 3 (write & execute permissions)
- r-- : 4 (read only permissions)
- r-x : 5 (read & execute permissions)
- rw- : 6 (read & write permissions)
- rwx : 7 (read, write & execute permissions)

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Eg:-

Symbolic Notation	Octal Notation
rw-rw-r--	664
rwxrw-r--	764
--x--x--x	111
rwxr-x-wx	753

* A user that has full access to all files and commands is called a root user.

* root is the administrator / super user.

* To run a program/command with root priveledge, "sudo" <command> can be used.

* Eg:- sudo mkdir oop

* sudo can only be used by users who are part of sudo group.

* Ownership of a file can be changed by :-

chown [new_owner][:new_group] file

optional i.e any one can also be given.
Not a mandate to give both.