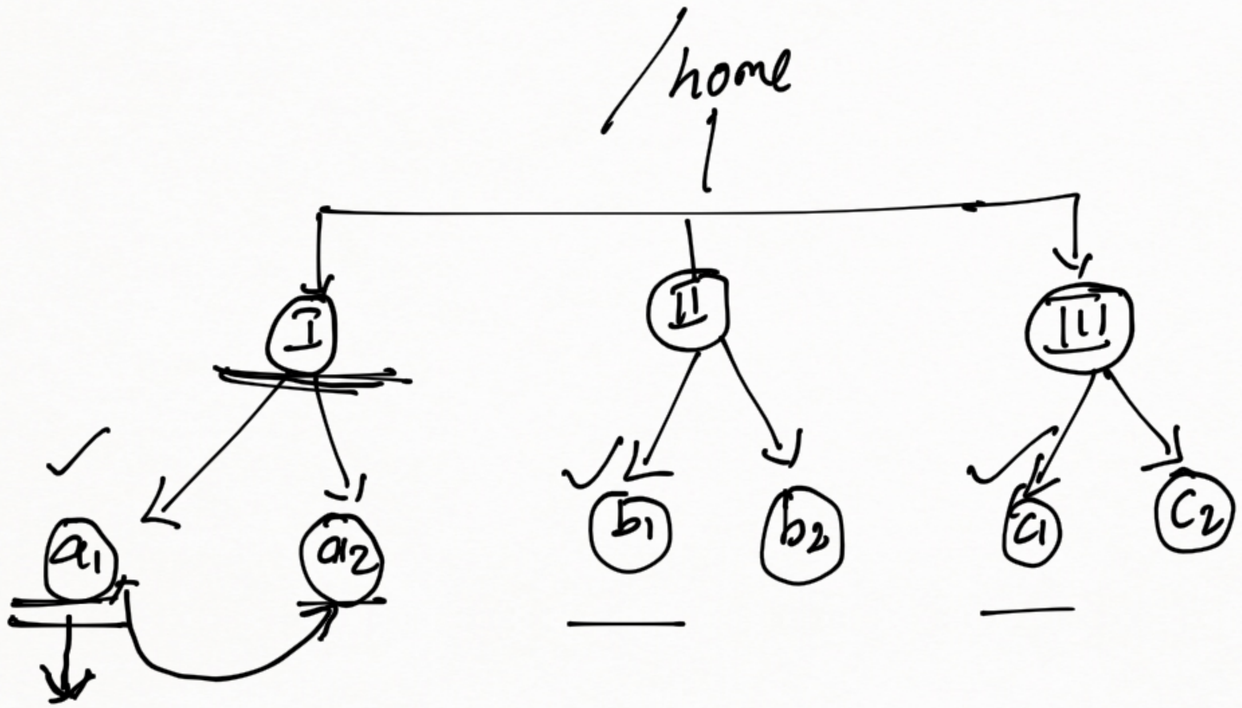
Date 28-10-21

file permission

User: permissions granted to the owner of the file.

group: permissions granted to users who are members of the files group.

others: permissions granted to everyone



U g o

r w x r w x r w x

a_1 → user

a_1 & a_2 → belongs to same group

any one can access the file if others permissions provided

→ When a file is created permissions are alloted based on umask value

$ umask
0022

0 → octal number system

0 2 2

0 0 2 0 2 0

~ umask do the bitwise and operation with 777

~ 0 0 0 0 1 0 0 1 0

1 1 1 1 0 1 1 0 1

& 1 1 1 1 0 1 1 0 1

1 1 1 1 0 1 1 0 1 → 7 5 5

⇒ 7 5 5

1 1 1 | 1 0 1 | 1 0 1

user | group | others

r w x | r - x | r - x

Q ⇒ can we change umask value?

A) yes using umask command

$ umask 0077

$ umask

077

000 111 111

(111 000 000)

&

1 1 1 | 1 1 1 | 1 1 1

1 1 1 | 0 0 0 | 0 0 0

1 1 1 | 0 0 0 | 0 0 0

r w x | - - - | - - -

~

⇒ once umask value changed later on whatever the files created they are effected with new umask value, already created files not effected

⇒ If terminal is closed and open umask value reset back to default value.

⇒ How to change all ready created file permissions

sol/ Chmod

✓ ① using chmod we can change all the permissions at a time (user & group & other)

✓ ② possible to change particular permission

Ex1: $ chmod g+w Test.c

$ chmod g-w Test.c

$ chmod ugo-w Temp.c

u → user
g → group
o → others

Link file

Hard link

using ln command
Hard link file possible to
create

soft link (symbolic link)

using ln -s it is possible to
create soft link file

⇒ using cp command once source file content copied to destination
then no link b/w source and destination files

⟹ using ln command files created after fact modification of one file effected to other file.

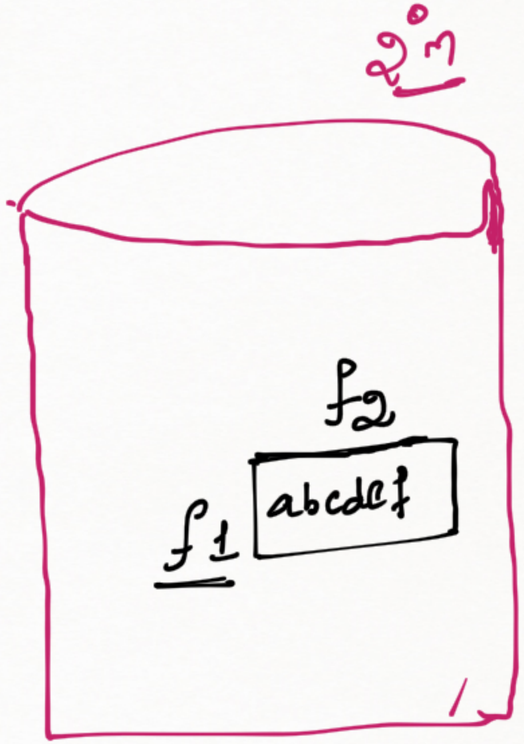
⟹ $ cat > f1 ✓

abcdef ↵

$ ln f1 f2

↳ using ln command aliasnames are created

↳ link count is updated



→ If two files are Hard link files their inode numbers are same

→ Hard link files sizes are same.

→ Hard link files type is regular file

→ when one of the Hard link files are removed content is not deleted only Hard link count is decreased If link count is 1 if file is removed then data is lossed

→ $ ln f1 f2 ⇒ If orginal file is removed still it is possible To collect the data from another Hard link file

⇒ Hard link file Inode numbers are same.

In general every file having unique Inode number but only one case that is if file are hard link file Inode numbers are same