

HW 12

a)

1. - : file

r - read
w - write
x - execute

rwx : owner can r w x

rwx : owner group can r w

r-- : others can read (r)

2. some logic

3. some logic, but runs with privileges of the file owner (but only for owner)

4. some logic, but

it is a directory and

~~others~~ can rename/delete its files
only owner

inside this directory

5. some logic, but new files, created in this directory will inherit the group of the parent directory

b)

Can not ~~create~~ ^{read} but can create a file
because of ~~rwx~~ ^{no read}
write & execute

c)

rwx-r--r-- (Bob's umask)

owner: root, (because of creating using sudo)

2)

a) ~~inode 1: {("a", 0), ("b", 0), ("c", 1)}~~

~~a) ~~inode 1: { }~~~~



a) inode 1: { 8 } mkdir / a
 inode 8: { ("a", 0), ("b", 0), ("c", 1) }
 inode 9: { ("a", 1), ("b", 0) }

b) inode 2: { 10 } mkdir / b
 inode 8: { ("a", 0), ("b", 0), ("c", 1), ("b", 2) }
 inode 10: { ("a", 2), ("b", 0) }

c) inode 3: { 11 } mkdir / c
 inode 9: { ("a", 1), ("b", 0), ("c", 3) }
 inode 11: { ("a", 3), ("b", 1) }

d) inode 4: { 12 } echo "hello" > /a/h
 inode 9: { ("a", 1), ("b", 0), ("c", 3), ("h", 4) }
 inode 12: "hello"

e) inode 8: { ("a", 0), ("b", 0), ("c", 1) } mv /a/c /
 inode 9: { ("a", 1), ("b", 0), ("c", 4) }

Conditional

PP17 5th April

f) dnode 10: { ("", 2), ("..", 0), ("h", 4) } ^{in the 16th}

~~g) innode 5: { 13 }
~~dnode 13: { ("", 5), ("..", 0), ("n", 4) }
~~dnode 8: { ("b", 0), ("a", 1), ("", 1) }~~~~~~

g) innode 5: { 12 }

dnode 11: { ("", 3), ("..", 1), ("n", 4) }

h) dnode 9: { ("", 1), ("..", 0) } ~~and~~

(3)

a) $F_0(p, n) = 1 - (1-p)^n$ ^{probab of}
 p - failure of 1 disk

~~$F_2(p, n) = 1 - (1-p)^n$ ^{probab of}
 ~~p - failure of 2 disks~~~~

$F_1(p, n) = 1 - (1-p)^n$ ^{but if only 1 fails}

the data will still be on the second one (because of mirroring)

b)

$$F_{10} = 1 - (1 - (1-p)^2)^{\frac{n}{2}}$$

$$F_{01} = 1 - (1 - (1-p)^2)^2$$

c) performance (RAID 10)
 capacity utilization (RAID 01)