

HW 2

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1. (10 points) Consider the `ls -l` output below, label the output appropriately:

```
drwxr-xr-x 2 aviv scs 4096 2013-12-22 10:57 demo/
-rw-r--r-- 1 aviv scs 13454 2013-12-22 10:56 text.dat
```

2. (10 points) Describe the permission strings below in plain English? What permission does the owner have, group have, and other have?

(a) `rwxrw-rw-`

Owner has read, write, and execute permissions.
Group has read and write permissions.
Global has read and write permissions.

(b) `r-x--x--x`

Owner has read and execute permissions.
Group has execute permissions.
Global has execute permissions.

(c) `rw-rw-r-`

Owner has read and write permissions.
Group has read and write permissions.
Global has read permissions.

3. (20 points) Using the man page (or **trying it yourself in the terminal**) describe the resulting action of the following `chmod` commands.

(a) `chmod a+x file`

Global gains execute permissions.

(b) `chmod u+x file`

Owner/user gains execute permissions.

(c) `chmod a-w file`

Global loses write permissions.

(d) `chmod g+rw file`

Group gains read and write permissions.

4. (10 points) On a lab computer, type `groups` into the shell. What groups are you in?

```
mids 5001 domain users mi203goldstudent4 midn.all lel vbrick_midn papercut.all
co08.all vbrick_midn student.apps midn_2020.all m202430 cfy_cslinuxuser comp-
sci_zone_users lel
```

5. (10 points) In what configuration is the following information found?

(a) The list of all users on the systems?

`/etc/passwd`

(b) The default group of a user?

`/etc/passwd` and then `/etc/groups` to look up the ascii name.

(c) The list of all groups and members (perhaps not the default group?)

`/etc/group`

6. (20 points) On a lab computer, run `~aviv/bin/ic221-up` and change into the `hw/02` directory. There is a program called `runme`. Change the permission of this program such that it is executable and run it.

(a) What command did you use to run it?

`chmod 744 runme` and then `./runme`

(b) What is the output of running the command?

4 big ascii-art cats

7. (20 points) Use `ls` to list the directory `~aviv/ic221-hw/hw02/` where you'll find a secret file called `secret` that you **do not** have permission to execute.

(a) Explain how you could still execute this program despite not having group or global execute permissions?

I had read permissions, so I did the following:
`cat aviv/ic221-hw/hw02/secret > secret`
`chmod 700 secret`
`./secret`

(b) Do so, and what is the output?

Ascii-art of a submarine in the waves.