HW: File Permissions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

IC221, Spring AY24

110 points

1. (15 points) Describe in your own words the purpose of each of the following Unix/Linux 'devices':

|  |  |
| --- | --- |
| /dev/cdrom |  |
| /dev/sda\* |  |
| /dev/loop\* |  |

2. (15 points) Describe the permission strings below in plain language. What permission do *owner*, *group*, and *other* have, respectively?

|  |  |
| --- | --- |
| rwxrw-rw- |  |
| r-x--x--x |  |
| rw-rw-r-- |  |

3. (20 points) Using the man page (or by trying it yourself in the terminal), describe the result of the following chmod commands.

|  |  |
| --- | --- |
| chmod a+x file |  |
| chmod u+x file |  |
| chmod a-w file |  |
| chmod g+rw file |  |

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

|  |
| --- |
|  |

5. (20 points) Where is the following information found on a Unix/Linux system?

|  |  |
| --- | --- |
| The list of all users on the systems |  |
| The default group of each user |  |
| The list of all groups |  |
| Default location of users' (salted, hashed) passwords |  |

hint: man shadow, man passwd, man group

6. (10 points) Explain one way you could still execute a given program, despite not having group or global (Other) execute permissions for it. Assume you only have read access to the program file in its current location. You are not the owner, and you don't have sudo/root permissions, either.

|  |
| --- |
|  |

7. (20 points) Give equivalent octal versions of the following chmod commands. Assume there are no read/write/execute permissions at all on the file before the command is given.

|  |  |
| --- | --- |
| Shorthand | Octal |
| chmod ugo+rwx file1.txt |  |
| chmod ugo-rwx file1.txt |  |
| chmod u+rwx file1.txt; chmod go+rx file1.txt |  |
| chmod u+rw file1.txt; chmod go+r file1.txt |  |