"no matter where you are, everyone is always connected"

Files and File Permissions

What is a package manager?

Which package manager will we use in CyberPatriot?

How can we install packages?

How can we update packages?

How can we check which packages are installed already?

Remember These Files?
sources.list
Where is it in Linux Mint?

Files and Linux

Today we will be going over...
- How to find and remove unwanted files
- How to edit a file's permissions

07.1 Finding Unwanted Files

```
# find / -type f -name "*.mp3"
```

Remember the *find* command?

In CyberPatriot we want to clean the system of any "unrelated" files, whether it be music, videos, etc.

You should remove these files.

07.1 Finding Unwanted Files

```
# cd /
# fzf
```

Remember the *fzf* command?

When installed, you can use it to find files too, as you would in a search bar (this is its default behavior).

In Linux, you can grant read, write, and execution permissions to three entities:
- The user who owns the file
- The group who owns the file
- All others

The *numeric mode* is a representation of these permissions as a three or four digit number.
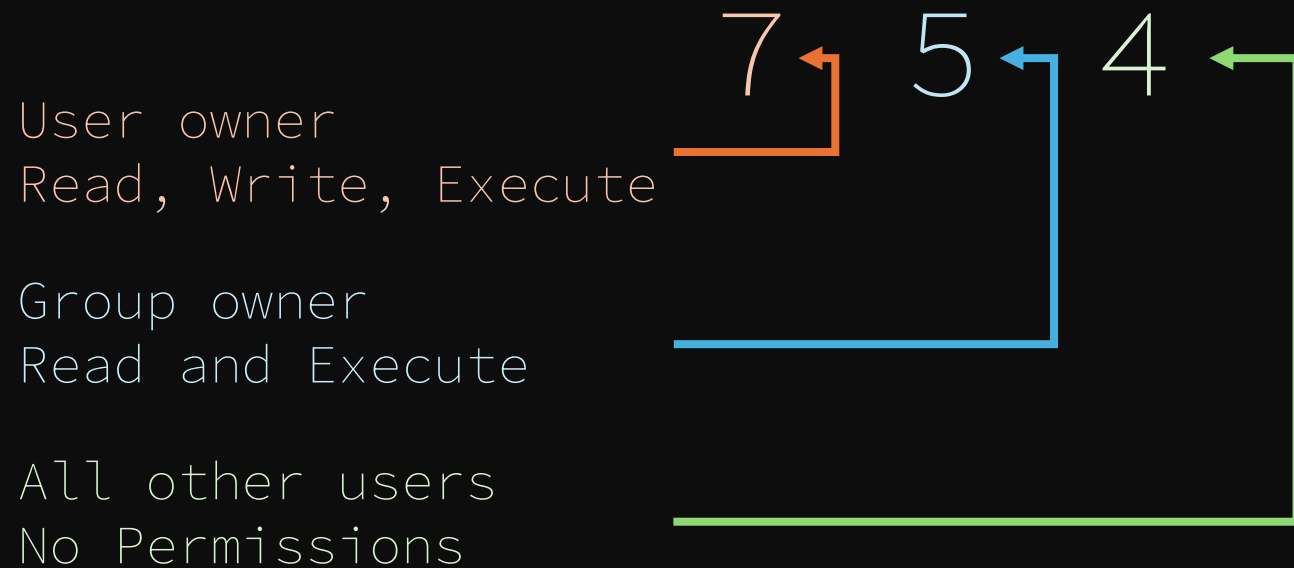
Each digit in the *numeric mode* is an octal value from 0 to 7.

Read + Write + Execute	7
Read + Write	6
Read + Execute	5
Read	4
Write + Execute	3
Write	2
Execute	1
No Permissions	0

Notice how combined permissions are the sum of their base permissions.

Each digit represents which entity that permission is granted to.

7 5 4

User owner
Read, Write, Execute

Group owner
Read and Execute

All other users
No Permissions

in terminal

```
# ls -l /etc/shadow
-rw------- 1 root shadow 924 Jul 10 10:

# stat -c "%a" /etc/shadow
600
```

File permissions can be viewed by *ls*-ing that file.

To view the permissions in numeric form, use *stat -c "%a"*

07.2 Setting File Permissions

```
# chmod 600 /etc/shadow
```

To change a file's permissions, use *chmod* (for "change mode")

Here, we set the correct permissions for the /etc/shadow file.

Listed below are the correct
numeric values for each file:

```
/etc/shadow      600
/etc/group       644
/etc/passwd      644
/tmp             1777
/var/tmp         1777
```