Nyanshell part 4

File attributes allow the administrator to control what a file can do, and what can be done to the file. Attributes are applied by the file system for all users. The file permissions in the usual rwxrwxrwx control what different users can do with the file.

Answers to previous questions

What are the file attributes on /bin/nsh?

```
elf@c47543394dbe:~$ lsattr /bin/nsh
----i--------e---- /bin/nsh
elf@c47543394dbe:~$
```

What does the "i" stand for? From https://www.computerhope.com/unix/chattr.htm,

i	immutable	Files with this attribute cannot be deleted or renamed; hard links cannot be made to this file; most of its metadata cannot be changed; data cannot be written to the file. Modifying this attribute requires root, or a process with the CAP_LINUX_IMMUTABLE capability, as set with **setcap**.

That "i" needs to go away.

```
elf@c47543394dbe:~$ chattr -i /bin/nsh
chattr: Permission denied while setting flags on /bin/nsh
elf@c47543394dbe:~$ sudo chattr -i /bin/nsh
elf@c47543394dbe:~$
```

Try to overwrite the ugly shell again, and it works.

```
elf@7cf547f85bf2:~$ cp /bin/bash /bin/nsh
elf@7cf547f85bf2:~$
```

Success!

```
elf@c47543394dbe:~$ su - alabaster_snowball
Password:
Loading, please wait......


You did it! Congratulations!

alabaster_snowball@c47543394dbe:~$
```