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CS 35L

First, I want to install Coreutils 7.6.

I use wget and the link:

```
$ wget ftp://ftp.gnu.org/gnu/coreutils/coreutils-7.6.tar.gz
```

This downloads the tarball into my directory.

Next I want to untar and unzip:

```
$ tar -xzf coreutils-7.6.tar.gz
```

Which outputs all the files that are unzipped.

Next, I make a directory for coreutils:

```
$ mkdir coreutilsInstall
```

Next, I go into the coreutils-7.6 directory:

```
$ cd coreutils-7.6
```

I use ls to see all the contents.

To look at the INSTALL file, I use:

```
$ emacs INSTALL
```

Here, I read about configure, make and make install.

So coreutils is installed in the directory I made, I use the --prefix flag.

```
$ ./configure --prefix=/u/cs/ugrad/jeanne/coreutilsInstall
```

I then use make and make install to put the contents in my new directory:

```
$ make
```

```
$ make install
```

All 3 of these commands give long outputs, which are updates on the process.

I then enter the directory to make sure things have installed:

```
$ cd ~/coreutilsInstall
```

```
$ ls
```

I see that bin, lib, and share are in the directory

The install was successful.

I then want to reproduce the bug by using ls.

I need to call the version of ls in bin for it to work correctly:

```
$ ./bin/ls -l
```

This outputs a lot of files, for example:

```
-rwxr-xr-x 1 jeanne csugrad 127248 2017-10-20 11:04 [
```

Which is the incorrect version because it uses:

```
yyyy-mm-dd tt:tt
```

We want:

Month day year

I then go back to the original folder:
\$ cd ~/cs35l/lab3/coreutils-7.6
I want to create a patch file with vim:
\$ vim patch_file
I copy and paste Brady's patch into this file.

To run the patch, I use:
\$ patch -p1 < patch_file

After the patch was successfully added, I run make again:
\$ make
To test, I run the ls command in src:
\$./src/ls -l
And I see that all the files are displaying the correct format.
For example:
-rwxr-xr-x 1 jeanne csugrad 127248 Oct 20 11:03 [
So the patch worked.

To test, I create a new file:
\$ touch new_file
I also create a file that is a year old:
\$ touch -t 201401210959.30 test_file

I then test ls in both folders:
In our old, unmodified coreutilsInstall:
-rw-r--r-- 1 jeanne csugrad 0 2017-10-20 12:34 new_file
-rw-r--r-- 1 jeanne csugrad 0 2014-01-21 09:59 test_file

In the new, modified coreutils-7.6
-rw-r--r-- 1 jeanne csugrad 0 Oct 20 12:40 new_file
-rw-r--r-- 1 jeanne csugrad 0 Jan 21 2014 test_file

So the patch was successful!