

Administrivia

- Reminder: Information about projects on Web. Proposals due April 17.
Projects due May 5.

Slide 1

“Programming” Problems Revisited — Mass File Rename

- Some solutions from last time used shell `for` loops. What's the difference between

```
for file in *.cc
```

and

```
for file in `ls *.cc`?
```
- No solution from last time (except `rename`) worked quite right if filenames contain spaces. How to fix?
(Continued on next slide.)

Slide 2

Mass File Rename, Continued

- One way is to use a while loop rather than a for:

```
ls *.cc | while read file
do
  mv "$file" "`basename \"$file\" .cc`.cpp"
done
```

Slide 3

“Programming” Problems Revisited — Finding Broken Links

- No solution from last time (except `symlinks`) worked quite right. How to fix?
- (Continued on next slide.)

Slide 4

Finding Broken Links, Continued

- The following seems to work for Linux

```
find . -type l | while read link
do
    target=`readlink -f "$link"`
    if [ -z "$target" ]
    then
        echo broken link $link
    fi
done
```

Slide 5

but not for OS X (because readlink behaves differently).

Finding Broken Links, Continued

- The following seems to work for both Linux and OS X:

```
find . -type l | while read link
do
    dir=`dirname $link`
    name=`basename $link`
    here=`pwd`
    cd $dir
    target=`readlink $name`
    if [ ! -e $target ]
    then
        echo "broken link $dir/$name"
    fi
    cd $here
done
```

Slide 6

Minute Essay

- Do you have preliminary thoughts about a project you might be interested in doing?

Slide 7