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## Einstein - cweb

We will get a script called "cweb" working. This script goes through your web pages, changing one string to another string.

Usage like:

```
cweb oldstring newstring file.html
cweb oldstring newstring *html
```

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## Setup

You need to write and debug cweb on your Linux account first. When it is working you can upload it to Einstein.

1. You need some web pages to edit. I suggest you copy the play Macbeth from me.
2. To copy a directory on Linux:

```
cp -r sourcedir destinationdir
```

3. To copy Macbeth:

```
cp -r /users/tutors/mhumphrysdculab/share/shakespeare/macbeth
$HOME/macbeth
```

## See how "sed" works

To see how "sed" works:

1. "cd" into your macbeth directory.
2. Search for all occurrences of the string "Scotland":

```
grep Scotland *.html
```

3. Change "Scotland" to "Finland" in the output stream by **pip**ing the output of grep into **sed**:

```
grep Scotland *.html | sed -e "s|Scotland|Finland|g"
```

4. This changes the output stream on the command line. It does not change the files.

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## Modify this script

Copy the following into a file "cweb" in your bin directory.

```
# Read in the arguments:
OLDSTRING=$1
NEWSTRING=$2

# the following gets rid of the first two arguments
shift
shift

# from now on, "all arguments" means "all arguments from 3rd one on"
# go through all arguments one by one:

for file in $*
do
    echo "We need to change $OLDSTRING to $NEWSTRING in $file"
    ls -l $file
    echo
done
```

To test the above, "cd" into your macbeth directory.  
Test it with:

```
cweb Scotland Finland complete.html
cweb Scotland Finland *.html
```

It should just do an "ls" of the files in question, and say what string needs to be changed to what. But not actually change anything.

## How to actually change the files

Instead of doing an "ls" of the file \$file:

1. Print out the contents of the file with "cat".

2. Send that via a pipe to "sed" (like above).
3. Note that "sed" should change the old string to the new string, whatever they are. It should *not* just be hardwired to change Scotland to Finland.
4. **Redirect** the output to a temporary file.
5. So the line is:

```
cat ... | sed ... > tmpfile
```

You fill in the dots.

6. Use "cp" to copy the temporary file back to the original file.

## Test with one file first

1. Search for occurrences of the string "Scotland" in one file:

```
grep Scotland complete.html
```

2. Change all occurrences of "Scotland" to "Finland":

```
cweb Scotland Finland complete.html
```

3. Search for occurrences of "Scotland". There should now be none.
4. Search for occurrences of "Finland". There should be a few now.
5. Change all occurrences of "Finland" to "Scotland".
6. Search for occurrences of "Scotland". They should be back now.
7. Search for occurrences of "Finland". They should be gone now.

## Test with all files

When it is working with one file, test with multiple files.

1. Search for all occurrences of the string "Scotland" in all files:

```
grep Scotland *.html
```

2. Change all occurrences of "Scotland" to "Finland":

```
cweb Scotland Finland *.html
```

3. Search for all occurrences of "Scotland".
4. Search for all occurrences of "Finland".
5. Change all occurrences of "Finland" to "Scotland".
6. Search for all occurrences of "Scotland".
7. Search for all occurrences of "Finland".

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## Before upload to Einstein

1. Rename it to cweb.sh

# **This script is very useful**

Imagine using this script to change one string to another in 1,000 web pages without having to open any editors (or indeed do any work).