McGumption Mansion: The Solution

For use on Unix 1 course

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Part 1

`ls -F` inserts a slash after the names of directories in a listing.

`ls -l` will also show directories.

```
cd case_notes
ls -F greek
```

This shows that the only subdirectory of `greek` is named `upsilon`.

```
cp greek/upsilon/piece3 map
```

Now to put the pieces together.

```
cd map
cat piece1 > newfile
cat piece2 >> newfile
cat piece3 >> newfile
cat piece4 >> newfile
```

The map should now be assembled in the file `newfile...`

```
more newfile
```

...and can be printed out.

```
enscript -Pprinter_name
```

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Part 2

```
cd facts
ls -a
```

This reveals a hidden file named `.decoding` with some search-and-replace instructions. The MicroEMACS editor can do search-and-replace.

```
ue facts1
```

`ESC-R` is the MicroEMACS command to do search-and-replace. This only works in a forward direction so we have to return to the top of the file between each operation. This yields the first fact file.

`facts2` gives a "Permission Denied" error when we try to read it, so we have to add read permission.

```
chmod u+r facts2
cat facts2
```

Now we have two files of facts. The third has an impractical, long filename. If running the bash file, we can type `facts3` then press TAB and the shell will complete the filename for us - but a wildcard will work just as well here.

```
cat facts3*
```

When we examine file four it tells us to execute it. Howerver we get another "Permission Denied" error when we try. We need to add execute permission.

```
chmod u+x facts4
./facts4
```

We now have the facts from all four files.

Part 3

```
cd statements
```

There are a few files in the directory `sidney` but Unix compressed files always have a `.Z` extension on their filename.

```
uncompress sidney/statement.z
cat sidney/statement
```

Extracting only files from a file which have a particular letter is easy using the `grep` command. In the case of Martin's statement we want only capital letters so we do not use the `-i` option.

```
grep I martin
```

Decoding Daphne's statement sounds complicated but in fact it can be done in a single line.

```
filter1 < daphne | filter2
```

Executing the file `maria` tells us to delete the directory `lock` first. There is an awkward file inside which is a space in its filename. We cannot type this directly to `rm` or it will be interpreted as two separate filenames. But `rm` has many useful options which allow us to get around this.

```
cd lock
rm -i *
cd ..
rmdir lock
```

or

```
rm lock/*
rmdir lock
```

or even

```
rm -r lock
```

Executing `maria` again provides the last statement.

Checking your solution

```
cd check
. go
```

We are told to examine the processes we are running, perhaps using the `-f` option.

```
ps -f
```

There we find a message instructing us to look at the environment variable named `SOLUTION`.

```
echo $SOLUTION
```

This tells us to look in the file `case_notes/aztec/.../end` for the final solution.

```
cd.. cat
aztec/.../end
```

....and all is revealed!