title: The Unix Shell
subtitle: Shell Scripts
ANSWERS

Exercises

Challenge 1

Write a shell script called `longest.sh` in `my_files/` that takes the name of a directory and a filename extension as its parameters, and prints out the number of lines and name of the file with the most lines in that directory with that extension. For example:

```
> bash my_files/longest.sh /tmp/data pdb
```

would print the name of the `.pdb` file in `/tmp/data` that has the most lines.

```
cd myfiles
echo "wc -l "$1"/*."$2" | sort -n | tail -2 | head -1" > longest.sh
```

Challenge 2

Joel's `data` directory contains three files: `fructose.dat`, `glucose.dat`, and `sucrose.dat`. Each of the `.dat` files contains only the word `sugar`. Explain what a script called `example.sh` (also in the directory!) would do when run as `bash example.sh *.dat` if it contained the following lines:

```
# Script a
echo *.*
```

```
# Script b
for filename in $1 $2 $3
do
    cat $filename
done
```

```
# Script c
echo $@.dat
```

Now test your theory and redirect the output to `my_files/challenge_2a.txt`, `my_files/challenge_2b.txt`, and `my_files/challenge_2c.txt` respectively.

```
cd my_files/sugar

# Script a
echo *.* > challenge_2a.txt

# Script b
for filename in $1 $2 $3
do
    cat $filename
done > challenge_2b.txt

# Script c
echo $@.dat > challenge_2c.txt
```

Challenge 3

What happens if you rename `example.sh` to `example.R`?

It still runs because your claiming it as a bash script when you type `bash` before the name of the file.