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title: The Unix Shell  
subtitle: Shell Scripts  
ANSWERS

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## 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
```

Watch out for single and double quotes!

### 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
rm *.txt
touch example.sh

# Script a
nano example.sh
***** ADD CODE *****
bash example.sh > ../challenge_2a.txt

# Script b
nano example.sh
***** ADD CODE *****
bash example.sh ../challenge_2b.txt

# Script c
nano example.sh
***** ADD CODE *****
bash example.sh > ../challenge_2c.txt
```

### Challenge 3

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

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