

NE 24 - Homework #1  
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**Section 1: Shell Files and Directories**

1. If *pwd* displays */Users/thing*, what will *ls ../backup* display?

Answer: *../backup*: No such file or directory

2. For a hypothetical filesystem location of */home/amanda/data/*, select each of the below commands that Amanda could use to navigate to her home directory, which is */home/amanda*

Answer: *cd ~* or *cd ..* or *cd*

3. If *pwd* displays */Users/backup*, and *-r* tells *ls* to display things in reverse order, what command will display:  
*pnas-sub/ pnas-finals/ original/*

Answer: Either *ls -r -F* or *ls -r -F /users/backup* but not *ls pwd*

4. What does the command *cd* without a directory name do?

Answer: It changes the working directory to the user's home directory.

5. What does the command *ls* do when used with the *-s* and *-h* arguments?

Answer: When *s* is used with *ls*, it shows the sizes of the files in blocks and when *h* is used with *ls*, it turns the sizes in a human readable format.

**Section 2: Creating Things**

1. Suppose that you created a *.txt* file in your current directory to contain a list of the statistical tests you will need to do to analyze your data, and named it: *statstics.txt*

After creating and saving this file you realize you misspelled the filename! You want to correct the mistake, which of the following commands could you use to do so?

Answer: `cp statstics.txt statistics.txt`

2. What is the output of the closing *ls* command in the sequence shown below?

```
$ pwd
/Users/jamie/data
$ ls
proteins.dat
$ mkdir recombine
$ mv proteins.dat recombine
$ cp recombine/proteins.dat ../proteins-saved.dat
$ ls
```

Answer: `recombine`

3. Jamie is working on a project and she sees that her files aren't very well organized:

```
$ ls -F
analyzed/ fructose.dat raw/ sucrose.dat
```

The *fructose.dat* and *sucrose.dat* files contain output from her data analysis. What command(s) covered in this lesson does she need to run so that the commands below will produce the output shown?

```
$ ls -F
analyzed/ raw/
$ ls analyzed
fructose.dat sucrose.dat
```

Answer: mv fructose.dat /analyzed  
mv sucrose.dat /analyzed

4. What does *cp* do when given several filenames and a directory name, as in:

```
$ mkdir backup
$ cp thesis/citations.txt thesis/quotations.txt backup
```

What does *cp* do when given three or more filenames, as in:

```
$ ls -F
intro.txt methods.txt survey.txt
$ cp intro.txt methods.txt survey.txt
```

Answer: When given multiple filenames, it will copy and move those multiple files into the chosen directory.

5. The command *ls -R* lists the contents of directories recursively, i.e., lists their sub-directories, sub-sub-directories, and so on in alphabetical order at each level. The command *ls -t* lists things by time of last change, with most recently changed files or directories first. In what order does *ls -R -t* display things?

Answer: Typing *ls -R -t* will give the full directories in order alphabetically and in order of most recently edited.

### Section 3: Pipes and Filters