

# Working with UNIX: An easy assignment

Math (P)refresher 2006

September 4, 2006

This assignment will provide some practice in using UNIX from the command prompt. It will also configure some things in your FAS filespace that we will use later in the prefresher. It is designed to be used with the “Introduction to UNIX” handout posted on the prefresher website.

## Working with Directories

- Begin by finding the path to your working directory using `pwd`. What do you notice about the file structure?
- Play around with the `ls` command, using the options `-a`, `-F`, `-l`.
- List the contents of the parent directory by using `ls ..`. Does this make sense given what you saw in the file structure.
- Make new directories called `prefresh`, `test`, and `mail`. You should get an error on one of these; why?
- Now, remove the `test` directory that you just made.
- Change directories to the root of the file structure and take a look around. When you are done, change back to your login directory.
- Finally, change your working directory to `prefresh`. You should use this as your working directory for the rest of the prefresher.

## Working with Files

- Usually, you will work with existing files or create them using some program. Create a new text file using `pico`, a simple text editor. Use the command `pico test.txt` to open a buffer. Type something in the

buffer (but be careful; you are going to be sending this to the teaching staff!). Make sure that you use the word “elephant” somewhere in the file.

- Exit `pico` and save your modified buffer to `test.txt`.
- Using `grep`, find the word “elephant” in your file.
- Make a copy of your new file, calling the copy `<username>.txt`.
- Move the original version of the file to your login directory.
- Change directories to your login directory; is your file there?
- Delete the file from your login directory.
- Back in your `prefresh` directory, create a file called `<username>.tex`. In `pico`, add the following text to your file:

```
\documentclass[11pt]{article}
```

```
\begin{document}
```

```
<username>
```

```
\end{document}
```

Exit and save your buffer.

## Compressing and Combining Files

- It is often useful to archive your files to save space or to make it easier to transfer a set of files as one unit.
- Begin by creating a tarball containing the two files that you created in the previous section. (You should be able to use the wildcard character to get both files). Call the archive `<username>.tar`.
- Compress your new archive using `gzip`.

## File Transfer

- Often, the easiest way to transfer files to another person is via e-mail. Launch Pine and compose an e-mail to the instructors (kellerm@fas and enpowell@fas). Attach the tarred and zipped archive that you created in the previous section and send the e-mail.
- One of the most common file transfer utilities is SFTP (secure file transfer protocol). When used from the terminal, it allows you to move files between servers. It is also what you use when you connect via SecureFX to transfer files to your local computer.
- Another file transfer utility is `wget`. Find out what `wget` is by using `whatis`. Get more information by using `man`.
- Now, download an zipped and tarred archive from the prefresh website into your `prefresh` directory. The command is:

```
wget 'http://people.hmdc.harvard.edu/~mathpre/tex/tex.tar.gz'
```

Unzip and untar the archive; it should produce a new directory called `tex_example`.

## Using XEmacs

- Make sure that you are in your `prefresh` directory. From the prompt, launch XEmacs. Make sure that you include an `&` so that you can continue to use your terminal.
- Once XEmacs has started, launch the tutorial by typing `C-h t` (C-h means control-h; hold the control key down and type h, then release both keys and type t).
- For the rest of this afternoon's section, work your way through the tutorial. We will use XEmacs for the rest of the prefresh, so you will want to be familiar with it.