# CS 279 - Homework 1

## Deadline:

Due by 11:59 pm on **FRIDAY**, August 29.

## How to submit:

Submit your files using `~ah270/279submit` on nrs-labs, with a homework number of `1`, by the deadline shown above.

## Purpose

To read some UNIX and Linux history and a little bit about free software, and to practice some basic UNIX/Linux commands.

## Important notes:

- Remember that, in the world of UNIX/Linux, when you see a caret followed by a letter -- for example, `^D` -- that is a "shorthand" for saying that you should type the control/ctrl key and that letter key at the same time. That is, `^D` means to type the control/ctrl key and the letter d key at the same time.
- Note that your answers to these problems may be posted to course Moodle site.
- (I refer to the `nano` text editor below, because it is a friendlier first text editor. However, if you already know and prefer `vi` or `emacs`, please feel free to use one of those instead!)

## The Problems:

### *Problem 1:*

(adapted from David Tuttle's Assignment 1, CIS 480 - UNIX/Linux In Depth, Spring 2005)

Go to the website:

http://www.unix.org/what_is_unix/history_timeline.html

This is an excellent historical account of the development of UNIX, presented by the folks at the OPEN Group. Follow all the links on the left hand side -- it's a fascinating look at how today's UNIX/Linux phenomenon has been over 40 years in the making.

As you are reading, note something interesting that you learn along the way, and save the web address of that page.

Then:

- Use `ssh` to connect to nrs-labs, and create a directory named `279hw01`.

- We'll be discussing this soon, but in the meantime protect this homework directory by using the following command:

```
chmod 700 279hw01
```

- Then, go to directory `279hw01` (make it your current working directory), and use:

```
nano hw1-1.txt
```

...to start up the `nano` text editor.

  - You should be able to just start typing your desired contents.
  - Remember that you move the cursor within `nano` by moving the arrow keys -- you cannot use the mouse to move the cursor!

- Then, within `hw1-1.txt`:
  - Type your name on the first line.
  - Follow that with something interesting you learned about UNIX from reading the above.
  - End the file with the web address of the page on which you found the above interesting tidbit.
  - Note that you can save your file in `nano` by using `^O` (for write Out?!), and then typing the enter/return key to confirm the name you want to save the contents under.
  - Also note that you can exit `nano` by using the `^X` command.
- Submit your resulting file `hw1-1.txt`

## *Problem 2:*

The web page:

http://www.linux.org/article/view/what-is-linux

...has a briefer but still-interesting history of Linux. Read over this page, and as you are reading, note something interesting that you learn along the way.

Then:

- If you are not still connected to your nrs-labs account, use `ssh` to connect to it again, and go to your directory `279hw01` (make it your current working directory).
- Now use:

```
nano hw1-2.txt
```

...to start up the `nano` text editor on a new file, `hw1-2.txt`

- Then, within `hw1-2.txt`:
  - Type your name on the first line.
  - Follow that with something interesting you learned about Linux from reading the above.
- Submit your resulting file `hw1-2.txt`

## *Problem 3:*

(adapted from David Tuttle's Assignment 1, CIS 480 - UNIX/Linux In Depth, Spring 2005)

Finally, go to the web page:

http://www.gnu.org/philosophy/philosophy.html

The Free Software Foundation created the model for "Free Software" that is most commonly used to distribute Linux software. If you've ever heard of the "General Public License" or "copyleft", this is where they were invented. There are many misconceptions out there about the nature of "freeware" versus "free software" versus "public domain" – this site contains useful insights about the similarities and differences between these distribution paradigms. Explore to find out more.

You don't have to follow all the links -- follow those that look interesting to you until you indeed find something of interest to you, and save the web address of that page.

Then:

- If you are not still connected to your nrs-labs account, use `ssh` to connect to it again, and go to your directory `279hw01` (make it your current working directory).
- Now use:

```
nano hw1-3.txt
```

...to start up the `nano` text editor on a new file, `hw1-3.txt`

- Then, within `hw1-3.txt`:
  - Type your name on the first line.
  - Follow that with something interesting you learned from reading the above.
  - IF you would like, you may include whether you agree or disagree with what you found, and why. But, that is optional.
  - End the file with the web address of the page on which you found the above interesting tidbit.
- Submit your resulting file `hw1-3.txt`

## *Problem 4:*

- Consider the `man` command, and consider the commands we learned about and practiced a bit in class during Week 1:
  - `pwd`
  - `ls`
  - `cat`
  - `more`
  - `mkdir`
  - `cd`

  - `cp`
  - `rm`
  - `mv`
  - `grep`
  - `nano`
  - `rmdir`
- Which of these did you happen to use in the process of creating the files `hw1-1.txt`, `hw1-2.txt`, and `hw1-3.txt`? Write down those commands.
  - (Are you not sure? The `history` command lists your command history to the screen -- that might refresh your memory. But if that was in an earlier shell session, just try to remember.)
- Also use the `man` command to find out more about at least one of the above commands. Find something you consider interesting about at least one of the above commands.

Then...

- If you are not still connected to your nrs-labs account, use `ssh` to connect to it again, and go to your directory `279hw01` (make it your current working directory).
- Now use:

```
nano hw1-4.txt
```

...to start up the `nano` text editor on a new file, `hw1-4.txt`

- Then, within `hw1-4.txt`:
  - Type your name on the first line.
  - Which of the above commands did you happen to use in creating the files `hw1-1.txt`, `hw1-2.txt`, and `hw1-3.txt`? List those commands (just the names of those commands will be fine).
  - Give at least one command for which you learned something interesting using `man`, and what you learned about that command.
- Submit your resulting file `hw1-4.txt`