

# Homework #1

## Computer Science for bioinformatics (140.636)

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### Reading

The following readings will be helpful for the homework:

- Learning Perl, Schwartz & Phoenix, Chapters 1-2
- Getting started with HTML, Dave Raggett (<http://www.w3.org/MarkUp/Guide/>),
- This HTML cheat sheet may be helpful:

<http://web.stanford.edu/group/csp/cs21/htmlcheatsheet.pdf>

- Finally, if you are wondering what the markup for an HTML page looks like, most browsers have a “view source” menu that will allow you to view the source code for a web page.

### Objective

The objective of this assignment is to learn how to turn in an assignment. In the process you will reinforce the skills needed to navigate the file system, to edit text files and to modify HTML web pages. We will also make sure that you can write your first perl script.

### Part 1.

#### Create a homework directory for the 1st assignment

Navigate to your homework directory on the JHPCE cluster

```
cd /users/sph140636/homework/$USER
```

Create a sub directory for your first homework assignment

```
mkdir hw1
```

Navigate into the home directory

```
cd hw1
```

Verify that you are in your home directory with the `pwd` command. You should see the path to your `hw1` directory.

### Part 2. Prepare the assignment submission template file

Each assignment must be accompanied by a web page that describes the assignment and your solution to it. Fortunately, you don't have to write a web page from scratch. We

have prepared a template that you can edit. The grader (usually the instructor) will read your description of the homework assignment when grading your assignment.

Copy the two files in the `/users/sph140636/shared/hw1` directory into your `hw1` directory

```
cp /users/sph140636/shared/hw1/index.html index.html
cp /users/sph140636/shared/hw1/figure.jpg figure.jpg
```

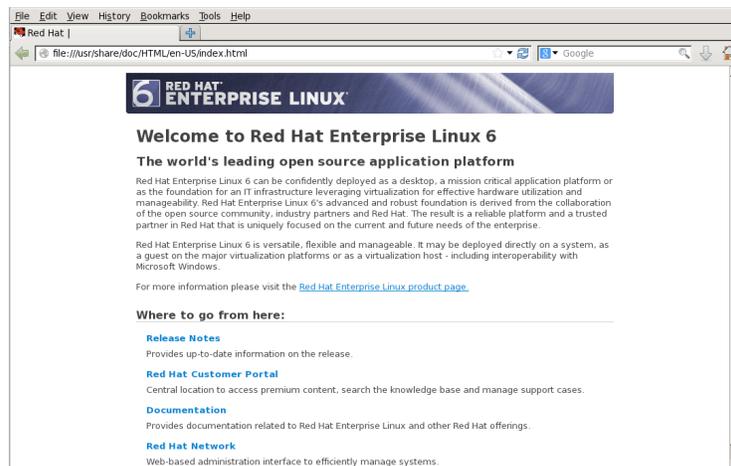
Note that you can do this in one command as follows:

```
cp /users/sph140636/shared/hw1/* .
```

Now let's see if you can view this page in a browser. Note if you are on a mac you have to first install xquartz on your mac before any of this will work. Install from here: <https://www.xquartz.org>. Once you have xquartz install you can launch firefox on the login server.

```
firefox &
```

Note that the `&` after the `firefox` command puts the `firefox` process in the background, so you can continue entering commands at the command line. It may take a few seconds for the X11 server to launch on your laptop and then it will take a few seconds for you to see a `firefox` window that will look something like this:



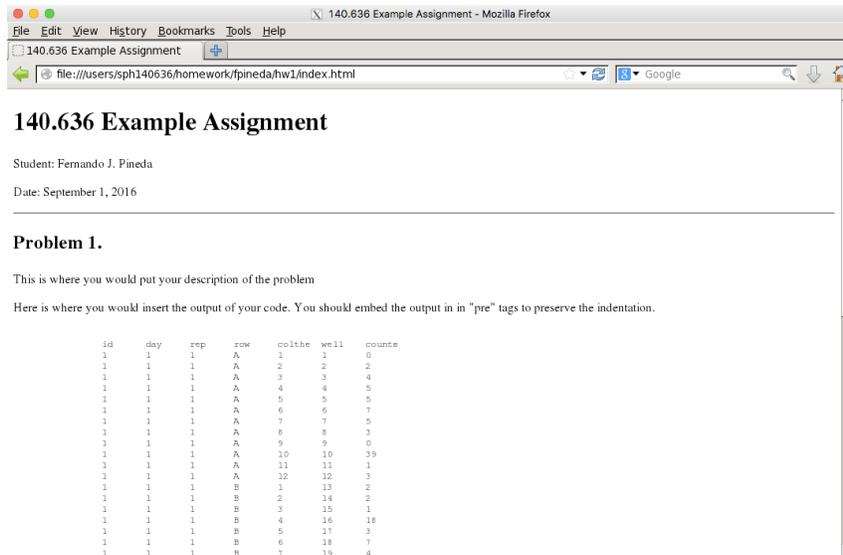
The page you are viewing in `firefox` is located on the cluster file system at:

```
/usr/share/doc/HTML/en-US/index.html
```

To view *your* `index.html` file, you want to replace the path to the default `index.html` with the path to the `index.html` that you just copied into your `hw1` directory. For example I can view mine by entering the following line:

```
file:///users/sph140636/homework/fpineda/hw1/index.html
```

You should be able to see the example homework template file. It will look like this:



## Editing your index.html

Use your favorite text editor to replace my name “Fernando Pineda” with your name. Also update the assignment number. If you work on the cluster, then nano is a simple editor, on a mac I recommend ‘textwrangler’, if you work on a windows machine, then I recommend Notepad.

## Part 3. Create your first perl script

Write and execute a perl script that outputs the text string ‘hello world’.  
Work in your homework directory. The perl script should be named `helloworld.pl`. It has just two lines. Don’t forget to make it executable.

```
#!/usr/bin/env perl
print "hello world\n";
```

Like all assignments, the grader (usually the instructor) will run your code to verify that it works.

## Part 4. Write up your homework

To you `index.html` file add description of the assignment and a description of your `helloworld.pl` script.

To you `index.html`, add a description of a potential final project that you would like to undertake for this course. Don’t worry -- you will have time to change this or fine-tune it as the course proceeds.