1.

2. What is Unicode

3. What is UTF-8

4. Do I need to I know about UTF-8 for the assignment.

5. Write a Perl program script `distance_from_unsw.pl` which lists the latitude, longitude and suburb (if provided) of all matelook users in a dataset it is given as argument.
   The users must be listed in increasing order of distance from UNSW.

   For example:

```
$ ./distance_from_unsw.pl dataset-small
z3413158 lives at -33.9229 151.2303 in University Of New South Wales
z3466413 lives at -33.9217 151.2247 in University Of New South Wales
z5076002 lives at -33.9103 151.2323 in University Of New South Wales
z5040176 lives at -33.9111 151.2342 in University Of New South Wales
z5059413 lives at -33.9049 151.2433 in Randwick
z5014861 lives at -33.9489 151.2105 in Banksmeadow
z5099187 lives at -33.9838 151.2374 in Little Bay
z3493921 lives at -33.8062 151.2003 in Willoughby
z5063045 lives at -33.9688 151.0567 in Peakhurst
z3462191 lives at -33.7393 150.9988 in Castle Hill
```

   Assume UNSW's (latitiude, longitude) is (-33.9172238,151.2302268).

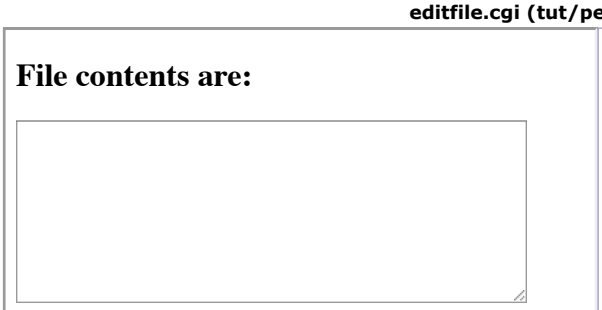
   Don't print users who don't provide their latitude/longitude.

   You can assume if a user provides either latitude or longitude they provide both.

6. Translate distance_from_unsw.pl to Python.

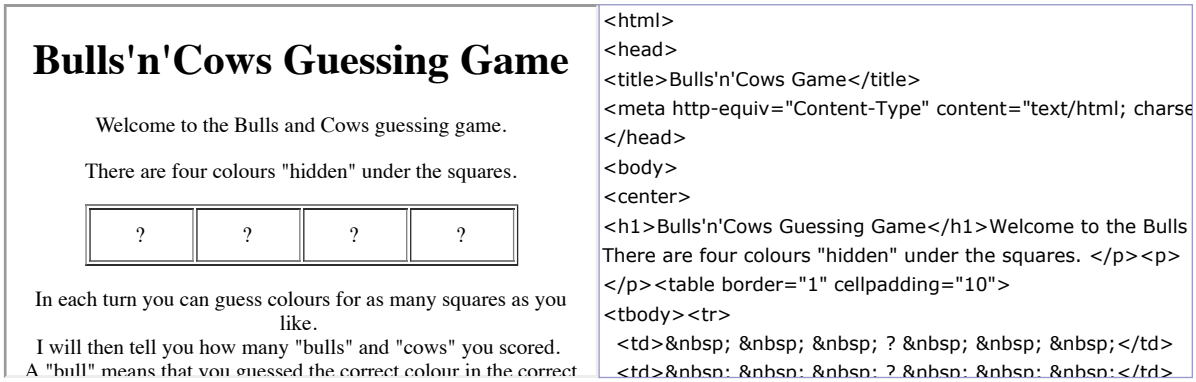
7. Write a CGI script which allow users to change what is stored in a file.
   Here is an example implementation:

editfile.cgi (tut/perlcgi/editfile.cgi)




```
<html>
<head>
<title>A Simple Example</title>
<meta http-equiv="Content-Type" content="text/html; charse
</head>
<body>
<h2>File contents are:</h2><form method="post" action="/
<textarea name="contents" rows="10" cols="60"></textarea
</body>
</html>
```

8. Write a CGI script to play the Bulls and Cows (http://en.wikipedia.org/wiki/Bulls_and_cows) guessing game.
   Here is an example implementation:



Bulls'n'Cows Guessing Game

Welcome to the Bulls and Cows guessing game.

There are four colours "hidden" under the squares.

?	?	?	?

In each turn you can guess colours for as many squares as you like.
I will then tell you how many "bulls" and "cows" you scored.
A "bull" means that you guessed the correct colour in the correct

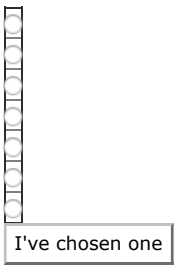
```
<html>
<head>
<title>Bulls'n'Cows Game</title>
<meta http-equiv="Content-Type" content="text/html; charse
</head>
<body>
<center>
<h1>Bulls'n'Cows Guessing Game</h1>Welcome to the Bulls
There are four colours "hidden" under the squares. </p><p>
</p><table border="1" cellpadding="10">
<tbody><tr>
 <td>&amp;nbsp; &amp;nbsp; &amp;nbsp; ? &amp;nbsp; &amp;nbsp; &amp;nbsp;</td>
 <td>&amp;nbsp; &amp;nbsp; &amp;nbsp; ? &amp;nbsp; &amp;nbsp; &amp;nbsp;</td>
```

9. Write Perl CGI scripts to perform the following two tasks:
   (1) Produce an HTML form that allows a user to choose their favourite colour by clicking on radio buttons in a colour table. Generate the colour table from the following list of colour names

```
@colours = ("red", "orange", "yellow",
     "green", "blue", "indigo", "violet");
```

   Assume that these are all valid names that can be used in e.g. the HTML/CSS attribute `style: "background-color: ColourName"` .

   The form should look like:



I've chosen one

   (This may not display well when printed).

   (2) Process the colour selection by printing a centered heading with the message:

Your favourite colour is *Colour*

   with the word ***Colour*** replaced by the appropriate colour name *and* with the text of that word in the appropriate colour. If the user selects no colour, the script should display:

You have no favourite colour

10. Combine the two scripts from the previous question into a single script. (Hint: you can check for the whether it's the form case or the processing case using the `param()` function with no arguments).

11. Modify the script from the previous question to use a checkbox group so that users can select more than one colour.
    The form should look like:

I've chosen

    The processing code should then print one of the following messages:

You have no favourite colour

Your favourite colour is *Colour*

Your favourite colours are $Colour_1$, $Colour_2$, ...