CS2003 Tutorial Week 10

1. Call backs

The code referred to below is in:

https://studres.cs.st-andrews.ac.uk/CS2003/Examples/web/node/web4/node-events-tute/

Run the following examples:

     I.   async_demo.js
    II.   event_demo.js

a. Discuss why or why the output is as it appears for each
b. In the lectures we looked at how asynchronous events are handled in node. Come to the tutorial ready to explain to your tutor how this works.
c. Write one of two small programs that further illustrate what is happening in these examples.

2. Promises

Consider this function:

```
function getImage(url){
      return new Promise( function(resolve, reject){
            var img = new Image()
            img.onload = function(){
                  resolve(url)
            }
            img.onerror = function(){
                  reject(url)
            }
            img.src = url
      } )
}
```

a. Explain what the getImage() function does.
b. Show how you would use this method and assign a fetched url – bob.jpg to an HTML element with the Id 'bobspicture'.
c. Suppose instead of one image you have an array of image URLs how might you assign these to slots in a web page – in a similar manner to the way SkyScanner paints in flight details.
d. Considering the Skyscanner example again, how might you use Promises when the server might take a long time to perform a lengthy query (like finding the cheapest flights to Newark via Dublin from Edinburgh on some day).

3. Cookies and Storage

The code referred to below is in:

https://studres.cs.st-andrews.ac.uk/CS2003/Examples/web/node/web4/cookie-tute/
and
https://studres.cs.st-andrews.ac.uk/CS2003/Examples/web/node/web4/localstorage-tute/

a. For the code in cookie-tute/ and localstorage-tute/, compare the two mechanisms in terms of API, and visibility of the cookie/state. Modify the textsize.js and textsize.html files so that the font

can be chosen (from a selection of 4 or 5 fonts of your choice), and text colour can also be chosen, and both can be 'saved', to be re-instated when the page is revisited after the browser has been closed. Also include a popup/dialogue that confirms the user's permission to save these preferences.