**Background**

This assignment focuses on JavaScript, and the development of several features/web pages using JavaScript to demonstrate your understanding of that language and its usage in web development.

**Learning outcomes**

The purpose of this assignment is for you to demonstrate the following learning outcomes and for me to assess your achievement of them.

Students should:

1. Have an understanding of the range of programming techniques and languages available to organizations and businesses and be able to choose an appropriate architecture for a web application.
2. Be able to demonstrate abilities to design and implement maintainable web sites.
3. Be able to make informed and critical decisions regarding client development using HTML and JavaScript.
4. Have the knowledge to critically analyze and evaluate web applications.

**Description of the task**

**Note:** The specific look and feel of the pages described below is left intentionally vague, allowing considerable design freedom on your part. However, for full points the pages should have a nice look and its code should satisfy common standards (meaning, for example, that it would be easy for someone else to read your HTML, CSS, and JavaScript code and understand what the intention of the pages is, how the JavaScript code is supposed to operate, and it should be relatively straightforward to maintain).

Important note:    It is assumed as part of this assignment that the HTML code you write will satisfy the HTML5 standards!! (Include an appropriate [Document Type Declaration](http://cgi.csc.liv.ac.uk/~martin/teaching/comp519/HANDOUTS/Document-types.pdf) and consider using the [W3C online validator](http://validator.w3.org/).) Failure to satisfy the HTML5 standards will result in losing marks from your grade.

**Part 1 (30 points)**

Add a random "fortune generator" to your home page. That is, your page should contain a list of fortunes (stored as an array of strings), and should randomly select one of those fortunes to display each time the page is loaded. The fortune should be displayed just above the page footer, centered and enclosed in a box. Here's an example given below.

|  |
| --- |
| True wisdom comes not from knowledge, but from understanding. |

Please put your JavaScript in an external file, link to it in the <head> element of your page, and just put an appropriate function call on your homepage to display the fortune.

**Part 2 (35 points)**

You can find the (not-so) current exchange rates amongst several currencies in the table given below.

Note that conversions are given by reading down the table. For example, 1 USD = 0.49246 GBP, and 1 CAD = 1.01941 USD.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | https://lh6.googleusercontent.com/xpP1XVdqHO8Lktmq-xAuM9eaiRSSOVajuE5t6HAwTACiTbXkCt0REciMbuQPgj8hnd5Y4JI7iu38OqeYO6ORsnLdl726bYw-TWdT1ZCrZWiwL1cRmny288KZSZhGGGuR5IVbagNk USD | https://lh6.googleusercontent.com/qCSeoBpwO9hjiwt9QwdswnqmBcHitXXL2bplIqi0smj6V6jn_9-RFiJfIENXh8UgIH2sEc4BnBrPuEHqQbML1EnWZfmy4yP79w_nDB965mIKSk2Lz4URK_5M5-lBOY8E8eMo07L0 GBP | https://lh5.googleusercontent.com/LdGEh1gJBpXaPWG5fpEsfAEEPFtklnxrD8OMqkvLQy64-VULqQyaWzZBzTM-uiUXmqkL1esD2YgwR8UBr53uJzNiY4g2wKAqS3TGGdc5Xhh2IhH1KqPNSuCG4ZjQbgH4VktDIDCR CAD | https://lh4.googleusercontent.com/zAVBW2tVXPliTnUx-J9OPYK2OLDVhGX4e8kHtjIokRJCzzx-VCnIGnztx8NvmSRJIw3PF4BjEut0uiS6PunmDNW0D0vpaCJrxvReSKMP_u_PqNeD2dzxdYDFJFXqc4h7ndQxfxnM EUR | https://lh4.googleusercontent.com/uTzTPIWlbLbGBahPjMnGF3ZuP19clBDIjlKq0jtJi-SNMrj0BcIeV0ysZ-_dirz0trmMnpdGGw8UH-yUy1GaD0qW20X1GIMgAvw_dXKGNCHgIQMfCJwHwgc5Ly_cEbhw443JM2Zs AUD |
| USD | 1 | 2.03032 | 1.01941 | 1.41544 | 0.88297 |
| GBP | 0.49246 | 1 | 0.50221 | 0.69714 | 0.43497 |
| CAD | 0.98054 | 1.99169 | 1 | 1.38814 | 0.86613 |
| EUR | 0.70641 | 1.43448 | 0.72037 | 1 | 0.62382 |
| AUD | 1.13262 | 2.29964 | 1.15498 | 1.60329 | 1 |

Create a Web page named convert.html that can be used to convert some value in one currency to the respective values of the other currencies. That is, your page should include a form which consists of five currency fields, and on inserting a number in one of the fields, this number, taken as the respective value of the currency, be converted to the values of the other currencies. For example, a page of USD, EUR and GBP converter might look like this (the converted values don't match the values in the table above):