COMPX222 Assignment 2 (25%)

For this assignment you will create an interactive website using HTML, CSS and Javascript. The aim is to code everything yourself so you understand how it works. Therefore, you are not permitted to use any tools like Dreamweaver or similar that automatically generate HTML, or to use external libraries. You should ensure all code that you do create is formatted tidily and is easily readable with comments and appropriate indentation.

In this assignment, the aim is to practice Javascript and DOM programming by constructing a useful web application. Unlike the previous assignment where you created several static web pages, this will be a *single page website* in which all the content display will be controlled using Javascript. As such, **you must use DOM methods to hide, change and reveal parts of the webpage as they are needed.**

To get started, please study this Wikipedia page:
https://en.wikipedia.org/wiki/Framingham_Risk_Score
The Framingham Risk Score is an equation for estimating the risk of coronary heart disease for a person over the next 10 years. The input is a series of questions about lifestyle and the results of blood tests, and the output is a percentage risk of heart disease. To complicate matters, the calculations are different for males vs. females.

The section "Scoring" of the Wikipedia page explains how to calculate the output of the calculator from the inputs. Essentially, the answer to each input question gives a score that is then added to a sum over all scores, and finally converted to a percentage. For example, let's take a 47 year old female (3 points) with total cholesterol 250 mg/dl (8 points) and HDL cholesterol 57 mg/dl (0 points) who is not a smoker (0 points), with treated blood pressure of 145 mm Hg (5 points). The total score for this individual is 3+8+0+0+5=16, which gives a 10 year risk of 4%.

You task is to implement a single page website enabling people to enter their details and then presenting the results of the Framingham Risk Score calculation. The website should comprise a folder with a single HTML page called `index.html`, a style file, and external Javascript file. There are a few catches in the requirements though.

Requirements:

- The calculator should operate exactly as the "Scoring" section of the Wikipedia page describes it; this means different calculations for male and female.
- Devise a nice style for the calculator; marks will be given for a professional looking presentation.
- Even though you are implementing only a single web page, to the user it should appear to be a website with *multiple pages*. You should appear to have a separate page for (i) age/gender input, (ii) cholesterol inputs, (iii) smoking status input, (iv) blood pressure input, and (v) the final risk score output. The pages can be connected with previous/restart/next buttons. Technically, this illusion of multiple pages can be created using javascript and DOM. There are several ways to achieve this functionality; figure these out for yourself.

- Explore different controls for getting user inputs. For example, when inputting age, a slider is much more sensible and usable than a text box. A mixture of sensible controls is required. Marks will be deducted for controls that don't make sense.
- For the output page, don't just print out the percentage risk. Instead, draw a pie or bar chart to show the risk graphically. You can use an HTML canvas for this.

Marking

Marks will be allocated as follows: 12 marks for the use of DOM to implement the site as a single HTML page; 5 marks for using javascript to implement the calculator properly; 3 marks for professional CSS design; 5 marks for sensible use of controls and displaying the result using a canvas and javascript.

Submission

Please zip your website up into a single file and submit it via moodle before the due date.