Assignment 1: Introduction to Web Programming

OBJECTIVE

In this assignment, you are required to code a set of JavaScript functions and objects. You can use any editor to write the functions.

TASKS

1. Create a personal profile page with any kind of style. (20 marks)

This page must include, at least:

- 1 picture that appears after 10 seconds. (10 marks)
- 2 paragraphs of text. (2.5 marks)
- A header with navigation bar (with links to the pages you will create for the other questions). (2.5 marks)
- A footer with copyright information and the current date (check item 5). (5 marks)

2. Build a Mark to Grade converter page (20 marks)

• The MarkToGrade function scrapes the student mark out of the mark-input-box element and verifies it is realistic. (5 marks)

• A mark must be numerical, nonnegative, and less or equal to 100. (2.5 marks)

• If an invalid mark is entered, it displays a message back to the user in the validation-message element. (5 marks)

• Messages should be informative. Return as many different messages as you can to guide the user what kind of erroneous value was entered. (2.5 marks)

The correct grade is displayed. Use these values to convert grades: (5 marks)

- A: grade ≥ 90
- B: 80 ≤ grade < 90
- C: 70 ≤ grade < 80
- D: 60 ≤ grade < 70
- E: 50 ≤ grade < 60
- F: grade < 50

Hints: You can use the global parseInt function to try and convert a string to a number. You can use exception handling to handle invalid values.

3. Create a staff page (20 marks)

Create a page that displays the staff information with sorting capability by name and salary. Sample staff data will be provided to you. Do not add or remove entries from the list.

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You can implement different solutions. All working attempts will be considered right.

- Staff data is correctly displayed. (5 marks)
- CSS is properly applied and there's clear distinction between items. (5 marks)
- Sorting by name works and can be toggled ascending or descending. (5 marks)
- Sorting by salary works and can be toggled ascending or descending. (5 marks)

4. Create a temperature converter page (20 marks)

Create a page that converts temperature between Fahrenheit, Celsius, and Kelvin. The user selects an input, and it converts to the other two automatically.

- User can select the input temperature. (5 marks)
- Conversion from Fahrenheit to Celsius and Kelvin (5 marks)
- Conversion from Celsius to Fahrenheit and Kelvin. (5 marks)
- Conversion from Kelvin to Fahrenheit and Celsius. (5 marks)

5. Create a stylesheet and add style to your pages (10 marks).

All pages should have CSS style applied to them, a footer that details your name, copyright ©, and year, and a header with a navigation bar with links to the other pages.

Submission Directions (5 marks)

• For this assignment, you can have multiple html files.
• It is highly recommended for you to create your own CSS file instead of embedding others style like Bootstrap or Tailwind.
• Push your code to your GitHub and **deploy your page to GitHub pages**. Create an empty text document and paste your GitHub repository link into your document. Remember to push your latest changes!

Code Quality (5 points)

This is a coding assignment, so all the rules about best coding practice apply. Your code is evaluated for correctness (does it achieve the task it is supposed to?) and for hygiene (is it clear, well-commented, and easy to follow?). There is no point in writing accurate code that nobody else can understand.

- Add intelligent comments before expressions, methods, functions and classes to outline what they do.
- Use descriptive variable names that match the purpose of a variable.
- Use whitespace between functions and code blocks and indent consistently.