## Midterm Exam (W2025)

## Programming Dynamic Websites (PROG1935)

## **30 marks (30%)**

*Please read over the entire exam carefully before starting!*

## Introduction

1. The Midterm Exam is scheduled for 2 hours in class.
   1. Late submissions will ***not*** be accepted.
   2. The exam duration will be extended as appropriate if you have an accommodation on file and you have requested the right to exercise that accommodation.
   3. Bundle and upload your solution to the assignment dropbox in the midterm folder as ***a single zip file***.
      1. You may submit multiple zip files but...
      2. Only your latest submission will be looked at and marked.
2. Also, in the Midterm folder you will find a zip file containing a project folder that represents your starting point for the exam.
   1. Please start by **adding your name and student number to the end of the title text of the index.html document. [*like “Midterm Examination – Alan Smith”, if you are Alan Smith*].**
   2. Also, write your name and student number in “midterm.js” script file.
   3. Do note that script file is not already attached with index.html, therefore you need to link to it before starting anything. [***In case, you are NOT able to link your script, you might get a “0” grade***]
3. Read **EVERYTHING** from here and you need to answer in the **GIVEN FILES** in the mid term folder. [*So,* ***NO*** *answers here in word document].*
4. All answers MUST be in your own words. [***Anyhow it’s a closed book exam, and any copy and pasting will disqualify your exam]***
5. The exam has 4 questions, note that question#01 and question #4 are of 10 marks each and questions#02 and 03 are of 5 marks each.

## 

### Question 1 (10 marks)

### [GO TO QUIZZES SECTION AND FIND QUESTION 1 THERE AS A QUIZ – SOLVE THAT FIRST AS IT WILL BE CLOSED AFTER 30 MINUTES OF START TIME].

### Question 2 (5 marks) [Short answers – Just write a one-line answer or even a word answer if that represents the concept] [ALL ANSWERS SHOULD BE IN HTML]

* 1. A client is trying to access a web resource and getting back “500” response code, what can be wrong here??
  2. Can I define a variable that is available function wide? How?
  3. What problem does “===” solve that inherently comes with “==” in JavaScript.
  4. Which method is used in DOM programming to “Only” find elements with a particular id?
  5. Are there any methods/apis that we can use to bring data from other websites asynchronously??Name any two:

### Question 3 (5 marks) [Short codes] [ALL ANSWERS ARE NEEDED TO BE IN SCRIPT ATTACHED]

1. By using ternary operator write a statement that returns “I am doing ok in Midterm exam” in following code:

let time = 100;

let message;

// use ternary operator to save “I am doing ok in Midterm exam” if time is above 80 minutes and otherwise save “I am panicked already”.

1. Use XMLHttpRequest to make a GET request to <https://jsonplaceholder.typicode.com/posts/1> and log the response to the output area of the html area for this question.
2. Write a Promise that rejects after 3 seconds with an error message “Time out of your exam” and handle the error.
3. Write code to define a variable/value “marks” in JavaScript that we cannot change later. The initial value can be 30 (that cannot be changed).

### Question 4 (10 marks) [Descriptive answer]

**[All required code is already written for you that needs button accessing and attaching events, you need to just write function code to produce the output – You might would want to convert the given functions into async functions (if preferred).]**

You are required to fetch country data from the following API endpoint and carefully read it to find the required values that you need to retrieve:  
**URL:** <https://restcountries.com/v3.1/all>

Using the retrieved data, you will display information for each country, including:

* **Official Name**
* **Capital Name**
* **Flag Image**

**Requirements:**

1. Observe an HTML page with two buttons:
   * **"STARTING WITH I"**
   * **"STARTING WITH C"**
2. When a user clicks on:
   * **"STARTING WITH I"** → Display only countries whose **official name** starts with the letter **"I"**. See this screen shot. Just for your reference there are **10** countries starting with “I”. So, all 10 should be displayed

A screenshot of a computer

AI-generated content may be incorrect.

* + **"STARTING WITH C"** → Display only countries whose **official name** starts with the letter **"C"**. See this screen shot. Just for your reference there are **13** countries starting with “C” including our beloved Canada 😊. So, all 13 should be displayed here.

A screenshot of a computer

AI-generated content may be incorrect.

1. The data should be presented in a structured format, as shown in the provided screenshots above.
2. You may use **any method** to fetch data from the API, such as:
   * XMLHttpRequest
   * Fetch API with .then()
   * Async/Await
3. You can make use of .box and .pic classes to produce the exact output as given in the screenshots. The class .box for “div” and class “.pic” for image.