**Student Name: Weight: 15 %**

**Student ID:** **Marks:** **/100**

# Assignment: Advanced JavaScript and Tailwind CSS

## Scenario

In this assignment, you’ll build a responsive static website to convert between metric units and imperial units (i.e., between kilograms and pounds, kilometres and miles, and Celsius and Fahrenheit).

## Equipment and Materials

For this assignment, you will need:

* Visual Studio Code
* Tailwind CSS Play CDN
* Internet browser

## Instructions

1. Before you start, review the *Scenario* and *Marking Criteria* sections, and then read all the instructions.
2. Working in groups, as indicated by your instructor, review the mathematical equations required to perform the following unit conversions:

* Pounds (lb.) to kilograms (kg), and vice versa
* Miles to kilometres (km), and vice versa
* Celsius (°C) to Fahrenheit (°F), and vice versa

1. Create a higher-order JavaScript function that takes in two parameters:

* The unit of measurement to convert from
* The unit of measurement to convert to

The function should return a conversion function that uses arrow notation to perform the conversion. The conversion function should take in a single value or an array of values and return the converted value or array of converted values.

1. Develop a basic static website that uses the JavaScript conversion functions you created.

Website requirements:

* The website must be made responsive using Tailwind CSS.
* Create three tabs within the navbar of the website: Weight, Distance and Temperature.
  + Each tab must have a form to convert from the metric unit to the imperial unit, and vice versa.
  + The form must contain the functionality to convert a single value and an array list of values.
* Use Tailwind CSS for all the components on the website (e.g., navbar, tabs, forms)

1. Deploy the website.
2. Submit the following to Brightspace by the posted due date:

* A link to your GitHub repository
* A link to your deployed website

**Note:** Because this is a group assignment, only one submission per group is required.

## Marking Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criteria** | **Missing** | **Needs Improvement** | **Good** | **Excellent** | **Marks** |
| **Working Code** | * Failed to submit. * Failed to create any JavaScript functions. * Failed to create any HTML and CSS code.   (0 marks) | * Failed to create most of the JavaScript functions. * Failed to create most of the HTML and CSS code.   (10 marks) | * Most functions are implemented. * JavaScript functions are triggered and work for most cases. * Bugs exist in the code. * Some forms don’t convert between units or don’t convert correctly.   (30 marks) | * All functions are implemented correctly. * Very minor bugs in the code. * User can convert a single value or a list of values for all units.   (40 marks) | /40 |
| **Style** | * Failed to submit.   (0 marks) | * Indentation: is inconsistent. * Readability: poor variable names. * Documentation: * No comments are included at the top. * No comments indicating major code sections or what they do.   (5 marks) | * Indentation: somewhat consistent. * Readability: some variable names are not ideal. * Documentation: * Comments at the top are incomplete. * Comments indicating major code sections and what they do are incomplete.   (15 marks) | * Indentation: is consistent. * Readability: good variable names. * Documentation: * Comments at the top are complete and include name, date, program description, including details on inputs, processing and outputs  (4–5 sentences minimum). * Comments indicate major code sections and what they do   (20 marks) | /20 |
| **Testing** | * Failed to submit   (0 marks) | * Most converters fail when tested with test data.   (5 marks) | * Some converters convert the test data correctly.   (15 marks) | * At least 90% of the test data convert correctly using the forms.   (20 marks) | /20 |
| **Version Control (Group Work)** | * Failed to submit * No GitHub repository is created.   (0 marks) | * Group member/members doesn’t commit any codes to GitHub   (5 marks) | * GitHub repository is incomplete. * Git commit messages are incomplete.   (15 marks) | * GitHub repository is created. * All group members committed at least once.   (20 marks) | /20 |
| **Total** | | | | | **/100** |