IMY 220
Practical 4:
ES6

Due: Friday 26 August @ 09:30

The submission instructions are available on ClickUP. Any deviation from these instructions will cause a 10% deduction from your mark.

Instructions

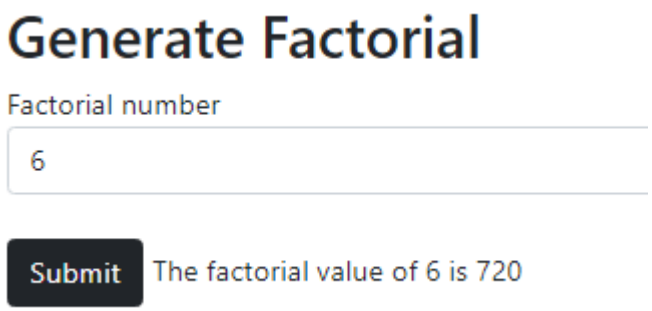
- For this practical, you will need to update the JavaScript from last week to use ES6 as well as add another function.
- Download *index.html* and *script.js* from ClickUP. These files contain the functionality for last week's practical. You are not allowed to edit index.html, except for putting your name and surname in the "author" meta tag. All your code for this practical must be written inside *script.js*. Don't just copy the functions and expect to receive marks, you will have to make the correct changes to convert the functions to ES6.

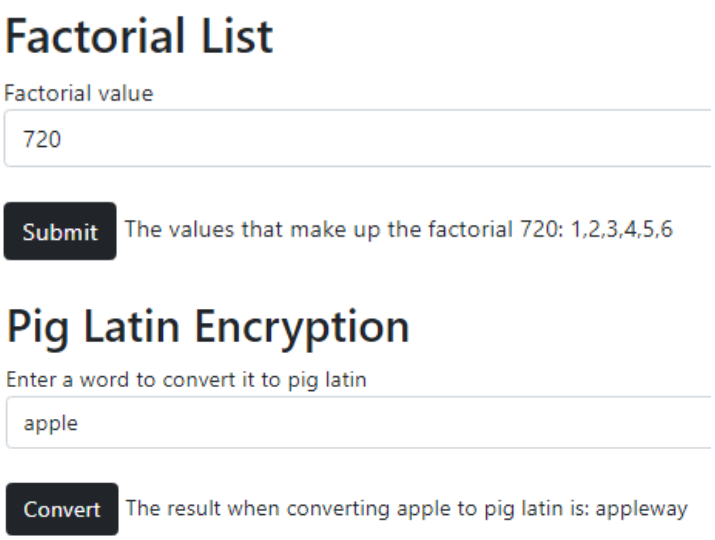
Section 1: ES6

Rewrite all the code inside script.js to use recommended ES6 syntax. This includes:

- Using an ES6 class to define *FactorialChecker*
- Using arrow functions
- Using appropriate variable declarations, i.e., changing it from the *var* keyword
- For the function *PigLatinEncrypt()* you are **not** allowed to write your own loops. You will have to make use of the correct array functions in order to get the functionality to work (you are **not** allowed to use the *forEach* array function for obvious reasons). You can still make use of the same methods (such as using regular expressions), but you will have to change them slightly so that they make use of array functions. If you do not make use of array functions, you will receive lower marks compared to what you would get if you made use of array functions.
  HINT: Look into array functions such as map, include and match. These are all discussed in the notes and will be helpful for this practical

Furthermore, you must redefine how the functionality is printed on the page. Each result must be printed in a descriptive string which must look as follows:





Note that you must print the results to the page using ES6 template strings.

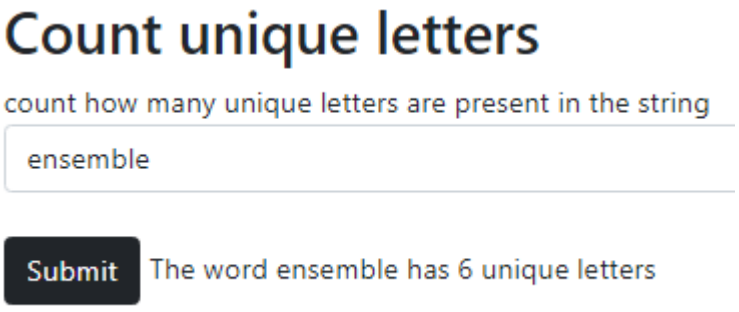
Section 2: Unique letters checker

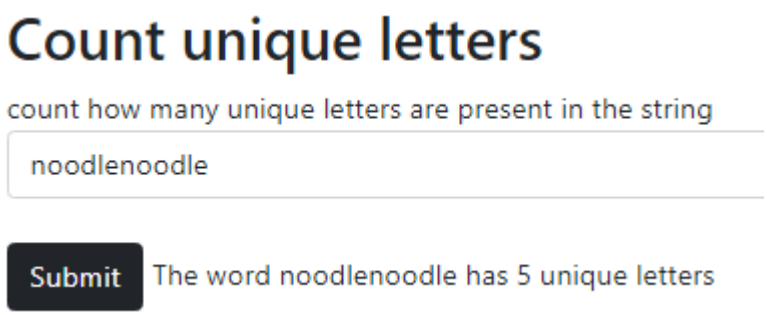
Write a function called *checkUniqueLetters* that counts unique letters in a word (i.e., only counts a letter once if it repeats) and returns that value. For example, the word "ensemble" contains 6 unique characters ("e" gets repeated 3 times so we only count it once). The trick with this is that you are **not allowed** to use loops (for loops etc.) and you must make use of **array functions** (you are **not** allowed to use the *forEach* array function for obvious reasons).

You must use the *Array.reduce* function to check for this. However, if you are unable to complete this functionality using *Array.reduce*, you should use another method but you will not receive the same marks that you would have if you used the *array.reduce* method.

HINT: the Array.includes() array function returns true if an array contains one/more of an element and will help you in this practical.

This section must also be done with ES6 syntax where appropriate and must also be printed to the page in a descriptive string, for example:





You do not have to cater for spaces, we will only test one word at a time.

Additional Information

- Refer to the slides as well as MDN website (https://developer.mozilla.org/en-US/) for help

Submit only the following file(s) according to the submission instructions.

- *index.html*
- *script.js*