**Overview**

The objective of this lab is to give you practice using:

* Creating an array
* Adding values to an array
* Getting values from an array
* Calling array methods to do special operations on the array

**Part 1: Array Exercises**

A web page, *ArrayExercises.html*, has been written for you that contains code to call functions that you will write in a file named *ArrayExercises.js*. The instructions for writing your functions and the code to test your functions are *ArrayExercises.html*, but all the code you write will go in *ArrayExercises.js.*

Here is a screenshot of the finished ArrayExercises:

A screenshot of a social media post

Description automatically generated

**Part 2: Web Apps**

You will create two web apps. The HTML page for each of these has already been written for you. You will just write the JavaScript file.

Web App I for Group A – Roman Numeral Converter

Write a function named *DecimalToRoman* that will convert a decimal number to a Roman numeral.

The function will:

* Have one parameter, a decimal whole number.
* Return one value, a Roman numeral.
* Work for numbers 1 through 10.
* Use an array containing hard-coded values and a loop to convert the decimal number to Roman numeral.

Here is a screenshot of the finished web app:

A picture containing bird

Description automatically generated

Web App II for Group C – ToDo List

This web app displays a list of tasks and allows a user to add tasks, set priories and mark tasks as finished.

Implementation:

1. Declare three one-dimensional arrays:
   1. *tasks*
   2. *priorities*
   3. *completions*
2. Write three functions:
   1. *addTask*
      * Has two parameters: an array index for a task, and a priority.
      * Returns true if the index was valid.
      * Add the task, priority, and completion to the appropriate arrays.
   2. *removeTask*
      * Has one parameter: the array index for a task.
      * Returns true if the index is valid.
      * Use the *splice* method to remove the element for this task from all three arrays.
   3. *changeDone*
      * Has two parameters: an array index, boolean value.
      * Returns true if the index was valid.
      * Sets the appropriate element of the completions array to true if the Done box was checked, otherwise false.

This is a screenshot of a working Grade Book web app:

A screenshot of a cell phone

Description automatically generated

**Submitting your lab work on Moodle**

Beta Version

Post the following in the *Lab Beta forum*:

1. The web pages you created for part 2.  
   (Zip the files for you web pages and attach them to the post.)
2. A code review of your lab partner’s web page for part 2.   
   (Review the part 2 web apps for one of your lab partners using the Code Review Form provided.)

Code Review

1. Submit a copy of the code review above to the *Lab Code Review assignment*.

Production Version  
You may revise your beta version before submitting the production version. On the code review form you received from your lab partner, complete the “Production” column to show what you did or did not revise.

Upload the following to the *Lab Production Version* assignment:

1. A zip file containing the two files (.html and .js) for part 1.
2. A zip file containing the four files for part 2.
3. The code review from your lab partner with the “Prod” column filled in by you.