PROG 2700 ASSIGNMENT 1 (Parts A & B) – Basic JavaScripT

**Client-Side Programming**

* **Due: Submitted before the date and time specified on the Brightspace Assignment 1B Dropbox object**

# Part A:

<https://learn.freecodecamp.org/>

Sign up with your Github account.

Complete the Tutorial Steps in the **'Basic JavaScript**' Portion under **'JavaScript Algorithms and Data Structures Certification**’

# Part B:

# Summary

Write a collection of mini-javascript programs that perform a number of small computations. You will use the console of the browser to display your results. (ie. Console.log). Each requirement should reside in it’s own javascript file. It is suggested that you make a folder for each requirement that contains it’s own index.html file along with an accompanying main.js file as has been done in class demonstrations.

# General Requirements



Write a function in JavaScript that will receive a string as a parameter and then perform the following:

* You don’t have to prompt for a string. Simply assign a string to a variable in your code as your starting point to use as an argument for your function.
* If the first and last characters of the string are the same (ignoring case), the function will return the string in reverse order. Otherwise, the function will return the string with the first and last letters removed.
* Example: “Triscuit” returns “tiucsirT” but “Cracker” returns “racke”.

Resources:

W3Schools: <https://www.w3schools.com/js/js_string_methods.asp>

MDN: <https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String>

Write a function in JavaScript that will return the sum of the longest streak of consecutive increasing numbers within an array.

* If there are no consecutive numbers in the array, the function will return zero.
* If there are multiple instances of the same number of consecutive numbers (increasing by 1) in the array, the function will return the largest sum calculated between all instances.
* Examples:
  + [1, 2, 3, 6, 9, 34, 2, 6] would return 6 *(1+2+3)*
  + [3, 2, 7, 5, 6, 7, 3, 8, 9, 10, 23, 2, 1, 2, 3] would return 27 *(8+9+10)*
  + [100, 101, 102, 3, 4, 5, 6, 9] would return 18 *(3+4+5+6)*

Resources:

W3Schools: <https://www.w3schools.com/js/js_arrays.asp>

MDN: <https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array>

Write a JavaScript program to calculate the number of weeks, days, hours, minutes and seconds left until midnight on your birthday.

* The script does not have to prompt for your birthdate. Simply assign it to a variable and start from there.
  + Ex: var myNextBirthday = *…your code here*
* Expected sample output (console.log()):
  + There are 35 weeks, 3 days, 13 hours, 25 minutes, and 12 seconds until my next birthday!

Resources:

MDN: <https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date>

W3Schools: <https://www.w3schools.com/js/js_dates.asp>

Write a JavaScript program to iterate through an array of ten(10) positive randomly generated numbers. Each number will then be checked to see if it’s a prime number.

* Sample Expected output (console.log()).

23-yes, 15-no, 22-no, 124-no, 11-yes, 9-no, 2-yes, 13-yes, 5-yes, 1-no

# Instructions

1. **Don’t forget that a Code Review demonstration of your code is a necessary part of this assignment. You MUST complete the code explanation/code review part of the video submission checklist to get credit for the assignment. Part of the assessment will include your ability to speak about the code you wrote, even if it doesn’t completely work or do what you expect. You do not need audio or to speak during the rest of the video, but it is required for the code review section as indicated in the checklist.**
2. **Late submissions will be subject to the late penalties laid out in the course outline.**

# Academic Integrity and Plagiarism

**Code sharing by any means is considered plagiarism and is strictly forbidden under the NSCC Academic Integrity policy.**

[NSCC ACADEMIC INTEGRITY GUIDELINES](https://www.nscc.ca/docs/about-nscc/policies-procedures/policy-academicintegrity.pdf)

[NSCC ACADEMIC INTEGRITY REPORTING POLICY](https://www.nscc.ca/docs/about-nscc/policies-procedures/procedures-academicintegritystudent.pdf)

# PROG2700: Assignment One - Video Submission Checklist

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| Part A | Show the following, if not already given credit for Part A:  in the Browser log into Code Academy and show completion of tasks |
| Question 1 (Strings) | Show the following:  the program running and working with provided example strings  run the program with two additional string values  show the function in code  **explain in detail how your function works (needs audio)**  citations for any code samples used |
| Question 2 (Arrays and Numbers) | Show the following:  the program running and working with provided example arrays  run the program with at least one additional set of array values  show the code to process the array  citations for any code samples used |
| Question 3 (Dates and Math) | Show the following:  the program running and working  show the code to process the dates  citations for any code samples used |
| Question 4 (Random and Prime) | Show the following:  the program running and working: at least two sets of random values  show the code to check for primes  citations for any code samples used |
| **Code Review:**  **Mandatory** | Show the following:  **explain the code in detail for one of Questions 2, 3, or 4 (needs audio)** |