

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

Question 1

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

Question 2

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

Question 3

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

Question 4

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 live in-person demonstration of your code is part of this assignment. You will need to show your code to the instructor in class on the due date while going through an evaluation of your code's functionality. 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.**
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](#)

[NSCC ACADEMIC INTEGRITY REPORTING POLICY](#)

PROG2700: Assignment One - Video Submission Checklist

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