
PROG 2700 ASSIGNMENT 2 (PARTS A, B, & C) – BASIC JAVASCRIPT Client-Side Programming

- **Due: Submitted before the date and time specified on the Brightspace Assignment 2C Dropbox object**

Part A: FreeCodeCamp

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

Sign up with your Github account.

Complete the Tutorial Steps in the 'Debugging', 'Basic Data Structures', and 'Object Oriented Programming' Portions under 'JavaScript Algorithms and Data Structures Certification'.

Part B: Make an API Call

Using the list of publicly available APIs listed at <https://github.com/toddmotto/public-apis>, write a script that retrieves some data from one of the listed public APIs of your choosing and displays it on an html page using the **document.write** command which writes to the Browser's DOM.

Things to consider:

- Restrict your API choice to ones whose Auth type is listed as either 'No' or 'apiKey'. Refrain from selecting an API requiring an OAuth authentication.
 - If you choose one that uses an api Key, it is likely that you'll have to register with the api provider in order to get a key to use. If this proves difficult to figure out, choose an API with 'No' as the Auth Type value.
- Restrict your API choice to ones whose CORS value is not 'No'.
- Be sure that the data that is returned contains the following
 - At least two levels of data, and within the second level of data there should be either another JSON object or an array. Be sure to display data from all levels of data returned from the API call. You'll have to research and read up on the available documentation for the APIs you choose to see if it will meet that requirement.
- You cannot choose the Deck of Cards API that is used in Part C of this assignment.

Part C: Poker Hands

Summary

Using the publicly available Deck of Cards API, you will create a small JavaScript application that uses the API to provide data so that you can do the following.

- Retrieve a Deck of shuffled cards from the API.
- Initially pull 5 cards from the deck and display them in a web page.
- Write/research a function that takes the cards and shows the highest poker hand that can be calculated based on the 5 cards.

Submission

Submit either a **video file** or **link to a video** (with proper permissions for the instructor to view it) to this Assignment Dropbox before the due date indicated. A video file checklist is included at the end of this assignment document that outlines what you must show.

Requirements (40 points)

Question 1 RETRIEVE AND PERSIST A DECK OF CARDS FROM THE API (10 PTS)

Using the Deck of Cards API (<https://deckofcardsapi.com/>), use a demonstrated method of AJAX data retrieval to retrieve a deck of cards that can be used by the application. Be sure to store the returned data in an appropriate way.

Question 2 REQUEST FIVE CARDS FROM THE DECK (10 PTS)

Using the deck that was retrieved in REQ-001, ask the API for a hand of five cards from the deck. Store the given cards in an appropriate manner in your code so that you can evaluate its contents.

Question 3 DISPLAY THE HAND IN A WEB PAGE (10 PTS)

Display the cards in some manner that can be seen in the browser. This can be done by either

- 1) Displaying the cards names in some manner using *document.write* to the web page
- 2) Displaying the images of the cards on the web page by modifying the DOM. (ie Manipulate img tags defined on the page)

Question 4 WRITE A FUNCTION THAT WILL DETERMINE THE HIGHEST POKER HAND FOR THE DISPLAYED CARDS (10 PTS)

Write a function that will determine and output the highest poker hand based on the given five cards:

Hand rankings can be found here: <https://www.cardplayer.com/rules-of-poker/hand-rankings>
or here: <https://www.unibet.com/poker/guides/poker-hand-rankings-with-cheat-sheet-1.784253>

Question 5 WRAP THE ENTIRE APPLICATION IN AN INDEPENDENTLY INVOKED FUNCTION EXPRESSION (IIFE) (OR EQUIVALENT) (5 PTS)

In order for the entire application to be contained within its own scope and to not pollute the global scope, wrap the entire contents of the file in an Independently Invoked Function Expression (IIFE) or Equivalent routine and be prepared to demonstrate how your script's data is contained within its own local scope and not within the browser's global scope (window).

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](#)
[NSCC ACADEMIC INTEGRITY REPORTING POLICY](#)

PROG2700: Assignment Two - Video Submission Checklist

Part A: FreeCodeCamp	<p>Show the following, <u>if not already given credit for Part A</u>:</p> <ul style="list-style-type: none"> <input type="checkbox"/> in the Browser log into Code Academy and show completion of tasks
Part B: Make an API Call	<p>Show the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> the program running and displaying data retrieved from the API <input type="checkbox"/> show the code to retrieve data from your chosen API
Part C: Poker Hands	<p>Show the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> the program running and working with the royal flush testing link <input type="checkbox"/> the program running and working with the straight flush testing link <input type="checkbox"/> the program running and working with the four of a kind testing link <input type="checkbox"/> the program running and working with the full house testing link <input type="checkbox"/> the program running and working with the flush testing link <input type="checkbox"/> the program running and working with the straight testing link <input type="checkbox"/> the program running and working with the three of a kind testing link <input type="checkbox"/> the program running and working with the two pair testing link <input type="checkbox"/> the program running and working with the one pair testing link <input type="checkbox"/> the program running and working with the high card testing link <input type="checkbox"/> the program running and working with a random hand from the API at least three times <input type="checkbox"/> show that the code is not in global scope (e.g. IIFE usage) <input type="checkbox"/> show the code to retrieve data from the Deck of Cards API <input type="checkbox"/> citations for any code samples used
Code Review: <u>Mandatory</u>	<p>Show the following:</p> <ul style="list-style-type: none"> <input type="checkbox"/> explain the code in detail for <u>at least two</u> of the functions/routines to check for the following: <u>royal flush</u>, <u>straight flush</u>, <u>four of a kind</u>, <u>full house</u>, <u>flush</u>, or <u>straight</u> (needs audio)