INFO 2300 Homework 1 - Javascript

Due Tuesday, March 1, at 5:00pm

Introduction

As we've seen in class, JavaScript and jQuery are useful for allowing you to alter webpages in response to user input without needing to run PHP on the server. Remember, JavaScript is the **language** used to write scripts in HTML, and jQuery is a JavaScript **library** that helps to simplify scripting syntax. In this homework, you will get a chance to exercise these skills.

What your site will contain

In this homework, you will alter the appearance of the page via JavaScript/jQuery in response to user actions and input. You are given eight tasks and **you will only be modifying the javascript file to complete these tasks.**

The files for this assignment are in your server account in the hw1 folder. This folder consists of the following:

- index.html
- partials/quotes_partial0.html (a piece of html for later)
- partials/quotes_partial1.html (and several more)
- js/script.js (a file for your JavaScript/jQuery

This site also makes use of some shared folders for

- css/style.css
- a folder with images used by the index.html

Again, you **must not** modify the index.html file or any other file besides script.js.

Caution: If you download the files and work locally, at some point you may find that the stylesheet and images don't load correctly. If this happens, just view the assignment again on the course server to refresh your Cornell Netid login. Then your localhost will again have access to the shared files.

Requirements

1. You should modify the script.js file according to the 8 problems (some with multiple parts) in the comments. The only file you should change is scripts.js.
2. Upload an "**evaluation.pdf**" file to **CMS**, and briefly describe the following 3 points in the file, in around 200 to 300 words:

    a. What difficulties you encountered when doing this assignment?
    b. How did you solve them?
    c. What did you learn from this assignment?
3. Your code should be well formatted and readable. Use proper nested indentation. Keep your code **efficient, neat, and organized** so that the TAs can easily read it and understand it. **Up to 5 points can be deducted for inefficient code. See example below. Values should use variables when possible rather than be hard-coded. Redundant code should be moved into a function.** Be sure to comment your JavaScript code.

Coding Guidelines

Example of inefficient code:

```
var numbers = [3, ... ,8];
var biggerThanFive = 0;
if (numbers[0] > 5) {
        biggerThanFive = biggerThanFive + 1
};
if (numbers[1] > 5) {
        biggerThanFive = biggerThanFive + 1
};
if (numbers[2] > 5) {
        biggerThanFive = biggerThanFive + 1
};
...
```

Efficient code:

```
var numbers = [3, ... , 8];
var biggerThanFive = 0;
for (var i=0; i < numbers.length ; i++) {
        if (numbers[i] > 5) {
                biggerThanFive++;
        }
}
```

Grading

Your grade for the assignment will be calculated as follows:

I. Functionality (80 points)

- Event Listener (10 - always works, 5 - usually works, 1 - sometimes works) __/10
- Styling (10 - always works, 5 - usually works, 1 - sometimes works) __/10
- Toggle (10 - always works, 5 - usually works, 1 - sometimes works) __/10
- Load Text (10 points)
  - Successfully loads partial __/5
  - Partial loading is randomized __/5
- Helper Functions (10 points)
  - Given movie index i, runningTime(i) successfully returns the correct running time. __/5
  - Given movie index i and a string, rewrite(i, string) will replace the current running time with given string. __/5
- Apply Helper Function (10 points)
  - Check invalid input, e.g., HTML tags __/5
  - Running time is replaced to be in the hour:minute format __/5
- jQuery addClass (10 - always works, 6 - usually works, 3 - sometimes works) __/10
- Implement ReplaceAll (10 points)
  - Validate inputs __/5
  - Original text is successfully replaced by new text. (Even if new text is an empty string) __/5

II. Uploaded “evaluation.pdf” on CMS (10 points)

III. Code Clarity (10 points)

- Is the code well formatted, readable, and commented? __/5
- Is the code efficient (no hard-coding or redundant code)? __/5

IV. Bonus (+5 points, but total grade will not exceed 100)

- Bonus Challenge Problem (5 - always works, 3 - usually works, 1 - sometimes works) __/5
  - Please note that you cannot go over 100 points. (i.e. if you are currently at 97 points, you can only earn +3 at most).

Advice for Getting Started

We recommend you review Lectures 5 and 6 and recent session activities before starting this assignment. Post on Piazza if anything is unclear or go to office hours for additional help. As always, please start early.

If you are unsure how to access a specific HTML element, it’s a good idea to browse the jQuery selector functions available to you as well as the list of CSS selectors. It's also a good idea to review the HTML DOM (Document Object Model):

Helpful Links

jQuery Selectors

jQuery Tree Traversals (accessing nodes/elements of the DOM from other nodes)

CSS Selectors

HTML DOM