ISC 250, Unit 3 Lab

JavaScript

The goal of this lab is to get a working understanding of how JavaScript can be used to interact with DOM elements.

Instructions

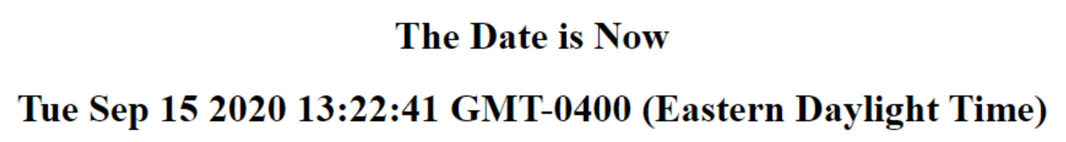
As with all assignments, **all lab documents must be accessible from your course webpage.**

To ensure this:

1. create a folder on your course website for this lab,
2. create and index.html file for the lab folder, and link to it from your primary course webpage's index,
3. create an HTML file for each lab task (e.g. task1.html, task2.html, task3.html, etc.), and link to them from this lab's index.html.
4. finally, to indicate you've completed the lab, submit a link to this lab folder's index on the associated blackboard assignment.

1. Create: A simple date display

JavaScript allows you to access a variety of types of information and use them on your webpages. For this exercise, create a page that displays the current date on loading and looks like the following:



The Date is Now

Tue Sep 15 2020 13:22:41 GMT-0400 (Eastern Daylight Time)

1. Set up the HTML to contain two H1 header tags. Give the second one an ID so that it's easily accessible by your javascript.
2. Center-align the headers using CSS (any method you prefer).
3. Create a script tag at the bottom of the page body. This script will need to make use of:
   - getElementById()
   - the Date() function*
   - and assigning a value to an innerHtml property

Don't worry about the word-wrapping of the date function's output.

Any javascript function you're not sure of, experiment with in the inspector's console. And as always, the w3schools reference will be very helpful.

* Note that "Date" is both an object (i.e., you can create a Date object), AND a simple function you can call. You'll use the latter.

2. Complete: A class-shifting function

You can use JavaScript to change an element's class on the fly. Every element has the property "className" that you can access using JavaScript. So "[someObject].className" will return whatever an element's current class names are, as well as allow you to assign something new to it.

This page features some familiar content about a cat. It also has four different classes defined: "day", "night", "sunset", and "sunrise". The content section (with the id "content") starts with the class "day".

Your task is to both write a javascript function to help shift between these classes as well as add buttons to allow the user to do so:

1. Write a single function that takes a single argument.
2. Use the function's argument to change the "content" element's class.
3. Create four buttons, one for each class defined (and appropriately labeled), that use your new function to allow the user to change the class by passing the class's name to the function in string form.

Work on the function first, using the console in the inspector to test if it's working. Once you're sure the function is working, create the buttons to present to the user.

3. Correct: Mover buttons

This page contains a little moving object with control arrows. In theory, this object should move whenever you mouse over the arrow buttons, in the correct direction. In practice, it's all screwed up!

1. Examine the "move" function to see how it works.
2. Then, fix the current buttons so that they move 10 pixels at a time in the appropriate direction.
3. Finally, add four new buttons that move diagonally. Make sure to place them carefully in the correct positions on the mover.

Grading Rubric

Labs are graded as follows.

Each task is worth four (4) points, for a total of twelve (12) for the entire lab.

1. **Submitted (1 pt).** You'd be surprised...
2. **Attempted (1 pt).** Demonstrated an effortful attempt at solving the problem.
3. **Completed (1 pt).** Successfully solved the problem.
4. **Style (1 pt).** Good formatting of both the code (white space, indentation, clarity, comments) and the webpage (white space, readability, not utterly offensive to the eyes).