Lab 7

Objectives

- Get more practice using JavaScript to interact with HTML
- Read and write JavaScript code with variables, if-statements, loops, and objects

References / Resources

- JavaScript objects
  - https://www.w3schools.com/js/js_objects.asp
- Using JavaScript to perform actions to HTML:
  - https://www.w3schools.com/js/js_htmldom_methods.asp
- Getting started with jQuery:
  - https://www.w3schools.com/jquery/jquery_get_started.asp
- Translation between JavaScript and jQuery:
  https://www.w3schools.com/js/js_jquery_selectors.asp

SETUP – Download the necessary files

1. Access the JSFiddle page at: https://jsfiddle.net/Aestey/k1ab6vp5/

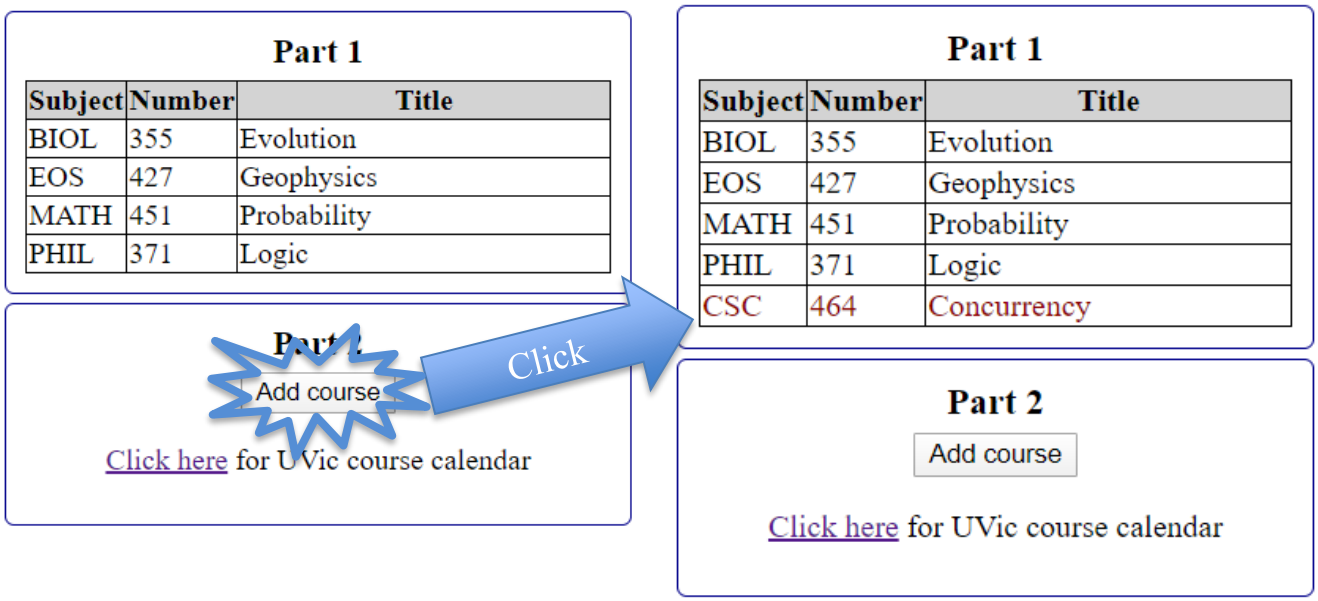
Part I – Interpreting JavaScript objects

1. For Part I, you will be reading JavaScript code, and writing HTML code.
2. At the beginning of the JavaScript section of the JSFiddle page, an array of course objects is created. Read through the array to determine the details of each course in the array.
3. Based on the array of course objects, fill in the HTML table so it displays the attributes for each item in the array (similar to how I created tables based off of JavaScript object code in the PowerPoint slides.
4. After you have filled in all of the table cells, click run to see if they show up on the resulting web-page.

CHECKPOINT 1

Part II – Create a new course object

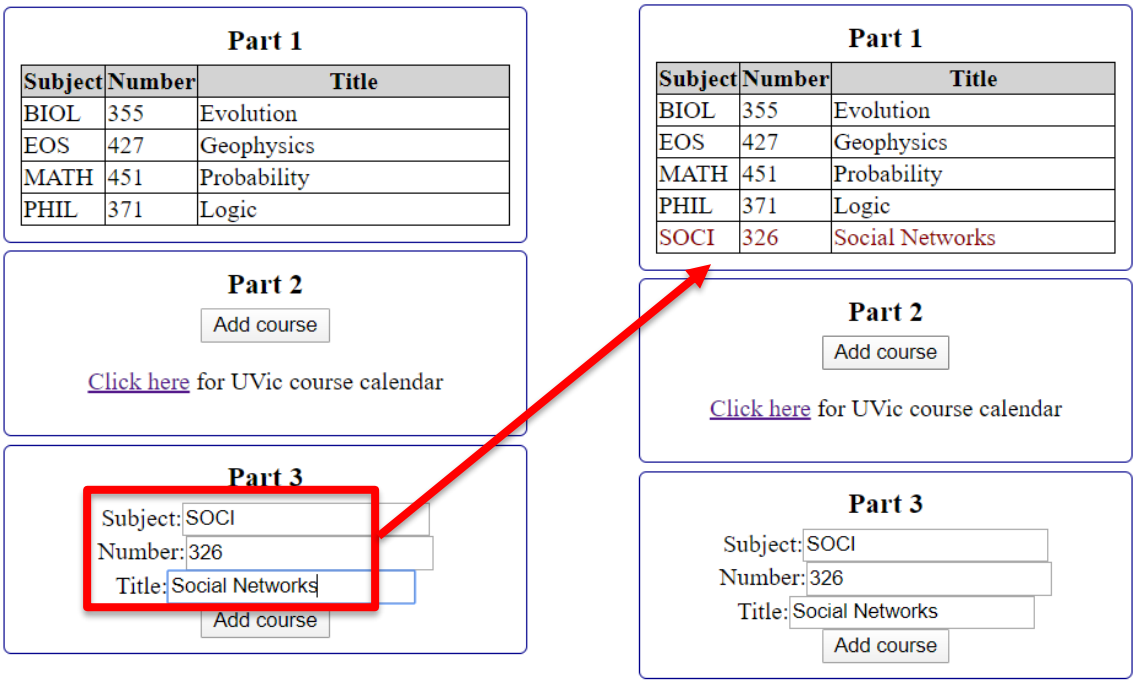
1. For Part II, you will be adding code to the JavaScript section.
2. In the HTML, scroll down to the section labeled <!--- PART 2 --->
3. In the HTML, there is a button created that calls a function when clicked. The function is called addCourse() and it should add a course to the array of courses.
4. In the JavaScript section, scroll down to the section labebeld /* Part 2 */
5. The addCourse function has been started for you. It creates a `newCourse` variable, but the value for the variable isn't set up correctly. Erase the "fix me - this isn't a course object"; and update the line of code so that the `newCourse` variables creates a new course object. On the website (in the bottom right section), you'll notice there is a link to all of the different courses at UVic. Feel free to choose any one you like. If you are out of ideas, you can use CSC 464: Concurrency.
6. If you have created the `newCourse` variable correctly so that it holds information about a course object, clicking the 'Add Course' button should add a new course with the information you entered to the array (and HTML table):



CHECKPOINT 2

Part III – Add a course based on textbox input information

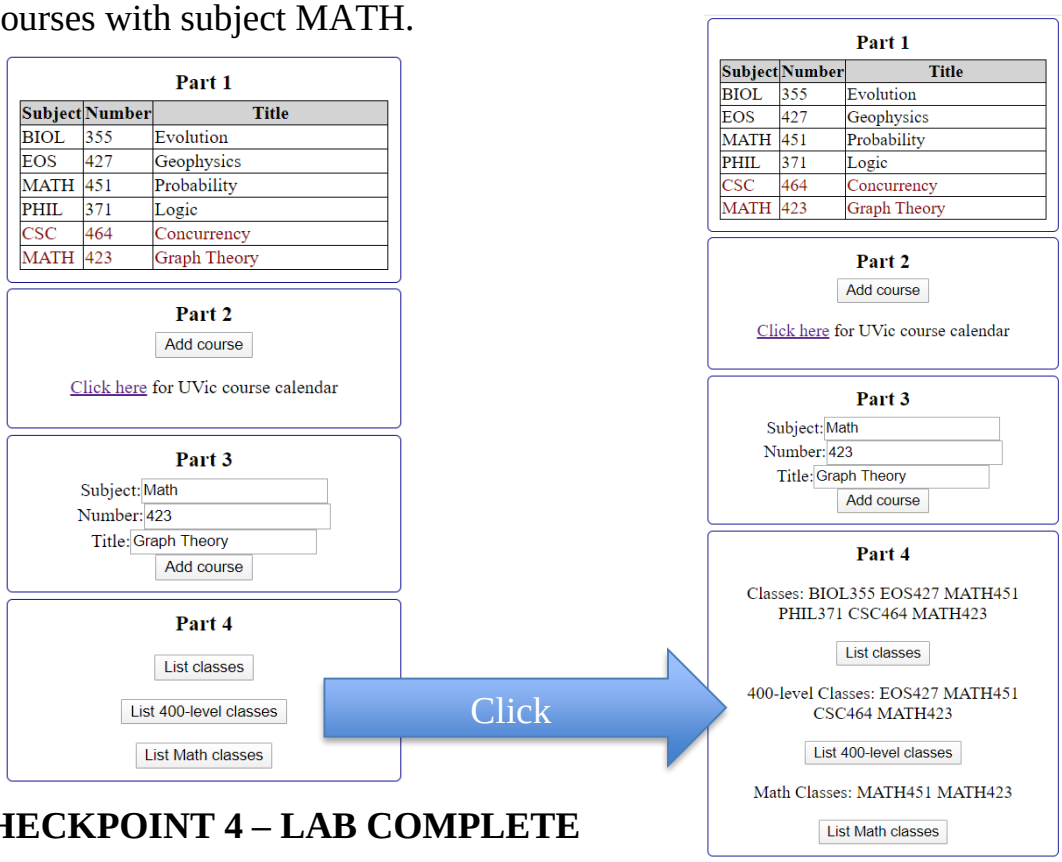
1. For Part III, you will be adding code to the JavaScript section.
2. In the HTML, scroll down to the section labeled <!--- PART 3 --->
3. In the HTML, there is a button created that calls a function when clicked. The function is called addCourse2() and it should add a course to the array of courses.
4. The difference between this and Part II is that the course information should be added in the text input boxes on the webpage, and that information should be used to add a new course to the course array.
5. In the JavaScript section, scroll down to the section labeled /* Part 3 */
6. The addCourse2 function has been started for you. It creates a **`newCourse`** variable, but the value for the variable isn't set up correctly. Erase the "fix me - this isn't a course object"; and update the line of code so that the **`newCourse`** variables creates a new course object. The values for the course's subject, number, and title should be read in from the text boxes in the HTML. You will need to remember how to get the value entered into the text box (based on its id) in JavaScript.
7. If you have created the **`newCourse`** variable correctly so that it holds information about a course object, clicking the 'Add Course' button in the Part 3 section should add a new course with the information you entered to the array (and HTML table):



CHECKPOINT 3

Part IV – Loop through array of courses and display a result

1. For Part IV, you will be adding code to the JavaScript section.
2. In the HTML, scroll down to the section labeled <!--- PART 4 --->
3. In the HTML, there are three buttons created that call functions when clicked. The functions should display information in the Part 4 section of the webpage.
4. In the JavaScript section, scroll down to the section labeled /* Part 4 */
5. The first button calls the function allClasses(). The allClasses() function creates a variable named **`allClasses`** and adds information about each class to the end of it in the for-loop when it visits each course in the array. Read through the different pieces of this code, as you will be writing similar code for the next two functions.
6. Add code to the fourthYearClasses() function so that it adds information about fourth year classes to the variable valled fourthYear. Look to the allClasses function above to recall the syntax for looping through an array and adding text to the end of a variable. The main difference is for this function only want to add course information for 400-level courses. You will need to use an if-statement to determine whether a course is a 4th year course or not. After completing the functions, clicking the button should display information for 4th year courses.
7. Similar to step 6, the mathClasses() function should only display information for courses with subject MATH.



CHECKPOINT 4 – LAB COMPLETE