CS80 Internet Programming Section 4109
Deadline April 19, 2019 by 23:59 PM PST

Assignment 4 (100 Points): Interactive Web Page With JavaScript

Description:

The fourth assignment will require JavaScript to control the order of the images that display in our responsive design from A3. This is our first JavaScript assignment and will have material from chapters 6-9 of our textbook. We will continue to use the CSS's flexbox property but we will use JavaScript to choose which images to place in each div tile. One structural change from A3 is to embedd your CSS style from the external CSS style sheet into the head element to avoid any issues (file not found, etc.) with external file sheets.

Where to do the assignment
You can do this assignment on your own computer, or in the SMC labs. In either case, ensure your file loads in a web browser (e.g. Safari, Firefox, Chrome, etc.). Use the filename **A04.html** when submitting the assignment.

Submitting the Assignment
Include your name, the assignment number, and the submission date in <**!- -HTML comments**- -> and *** CSS Comments *** at the top of your files. Submit the assignment on Canvas (`https://online.smc.edu`) by **uploading your .html file** to the Assignment 4 entry as an attachment. Do not cut-and-paste html into a text window, hand in a screenshot of a browser or submit a text file containing only the text of your web-page.

Saving your work
Save your work often on a flash-drive or to the cloud (e.g., GoogleDrive, Microsoft OneDrive, Canvas, etc.). Always save a personal copy of your files (e.g. .htm, .php, .html, etc.). Do not store files on the lab computers. Keep copies of all files stored on ciswebs which is a temporary location for the Fall semester.

HTML Assignment Details

This assignment will be similar to the example from Chapter 9 in the book. Take a look at the example and adapt the JavaScript to create a button that will randomly adjust the images in the columns. To create the random layout you will need to write several JavaScript functions and add some HTML elements in a file called **A04.html** as follows:

1. An HTML form in the header section of your html page with a button that posts back to the page by setting the action property to "#". The HTML input button will have an **id** that can be used to set an EventListener. For example, if there is a button called btnDoSomething, we can query the HTML element when the page loads to set a 'listener'. The 'listener' will be called when the button clicks. To have a JavaScript function run when a page loads, we must add a **windows** EventListener to be called for the **load** event of a web-page. The window method **addEventListener** also takes a second argument which is a function name that will be called when the page loads. The function name can be anything but is generally called something like **init**(the book calls the function **load**). The window listener that will call **functionName** would look like the following line in the **script** section.

```
window.addEventListener( "load", functionName);
```

2. After a page loads and event handlers are in place, when a user clicks the button embedded in the HTML form, we want to call a function to randomize the display of the images in each div tile. Look at the books example on how the images are displayed for the dice. Two functions can be constructed, one to get a random number and one to set the HTML **img src** attribute to the random image name. Below is an example of one of the six columns with the default image names that we will randomize and the fixed id's:

```
<div class="column">
  <img id="image0" src="images/0.jpg" >
  <img id="image1" src="images/1.jpg" >
  <img id="image2" src="images/2.jpg" >
</div>
```

3. Reference: Section 9.5 in book.

Figure 1: Button to be added to the responsive layout design.