Lab 3 – Simple JavaScript added to Lab 1

Introduction

In this lab you will be adding some simple JavaScript behaviors to your HTML/CSS file from Lab 1. This will enable the buttons to work and calculate the tax and total for you.

Requirements

- Use Lab 1 as a starting point for this lab.
- Add a <script> tag section at the end of body section in your HTML page for your JavaScript. In this assignment I want embedded JavaScript in the HTML file. All the JavaScript for this lab should be in that one script section.
- In this lab you will need to create three event handlers (functions). One will be for the calculate button, one will be for the clear button, and one will setup everything and connect the event handlers to the buttons when the page loads.
- Define an event handler function that will be connected to the calculate button. This is where you should do all your calculations and then put the results in the sales tax and total fields. You will also need to do some basic validation on the data in the subtotal and tax rate fields, see bullet below. Calculate tax as a percent of subtotal and then add the tax to the subtotal to get the total. In the tax rate box the user should enter a number between 0 and 20 and then you should covert that number into a percentage to use in the calculation.
- Define an event handler function that will be connected to the clear button. In this function you should clear out all the fields and then put the cursor back in the subtotal field so it is ready for new input. Look into how to set focus on a form element.
- Define an event handler function that will be used to initialize or setup the app. This event handler will only need the code to bind the other two event listeners to the buttons. In this function add event listeners, for click events, to the two buttons and call the correct event handler function for each.
- Add an event listener to listen for **DOMContentLoaded** event as discussed in class and call you initialize/setup event handler function when the event fires. This way when the page loads that will trigger JavaScript to setup the other two buttons click handlers. Use the addEventListener method.
- Add basic validation to the input from the subtotal and tax rate field. Display any errors with validation in an alert box. Make sure the message in the alert box is clear and tells the user what is wrong with their input. If you want to go further you may do in page error messages with text/css changes to tell the user what their error is instead of an alert box.
- Basic validation
  - The subtotal value needs to be a valid positive number.
    $x > 0$

- o   The tax rate value must be a number greater than 0 and less than or equal to 20. 0 < x <= 20
- **Test** your calculation to make sure the values make sense. Use a simple number like 100 subtotal and 10 for tax at first. So, tax would be 10 and total would be 110.
- Your file should be named **YourIITUsername_lab3.html**
- **Make sure to submit all files in your zip (html, css, img, etc) that are needed to run the app.**

Graduate Additional Requirements

If you are involved in **any section of 565** you need to complete the additional requirements listed here.

No additional requirements.

README File

Not Required for this Lab

Due Date / Late Policy

This assignment is due by **Sunday October 17, 2021 11:59 PM Chicago Time**. **No Extensions or Exceptions**.

Submission Guidelines

You must upload your submission, to the blackboard assignment by the due date. The submission must be in the following format and structure. If you do not submit your assignment exactly as specified, you will receive an immediate 10% deduction.

Submission Format Specification:

YourIITUsername_lab3.zip
Zip your .html file and any other assets before submitting to blackboard. Blackboard will not allow you to upload certain file types. Your zip should be named YourIITUsername_lab3.zip and the file inside it should be named YourIITUsername_lab3.html and any other assets needed. All files needed to open the assignment should be included in the zip and referenced using relative paths.