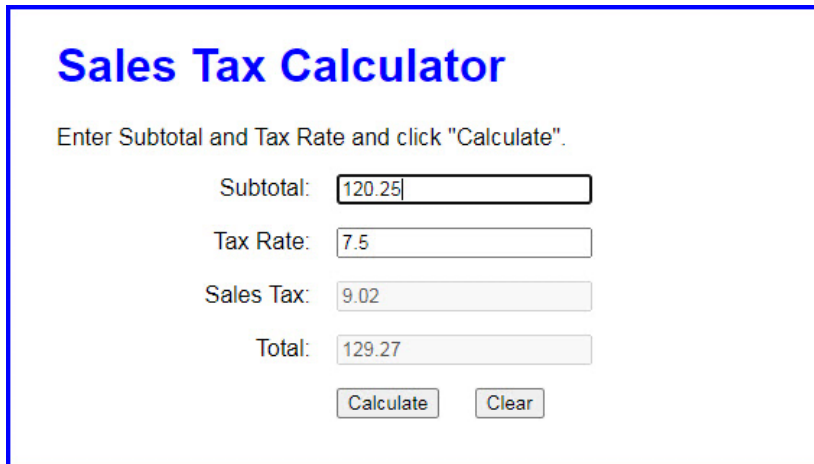


Guidelines for doing the extra exercises

- For all the extra exercises, you will start with the HTML and CSS for the user interface. Then, you supply the JavaScript or jQuery that's required to get the desired results.
- Unless an exercise specifies that you need to modify the HTML or CSS, you won't have to do that.
- Make sure every application is coded in strict mode.
- If you are doing an exercise in class with a time limit set by your instructor, do as much as you can in the time limit.
- Feel free to copy and paste code from the book applications or exercises that you've already done.
- Use your book as a guide to coding.

Extra 4-1 Develop the Sales Tax Calculator

In this exercise, you'll develop an application that calculates the sales tax and invoice total after the user enters the subtotal and tax rate.



The screenshot shows a web form titled "Sales Tax Calculator" in blue text. Below the title is a prompt: "Enter Subtotal and Tax Rate and click 'Calculate'." The form contains four input fields: "Subtotal:" with the value "120.25", "Tax Rate:" with the value "7.5", "Sales Tax:" with the value "9.02", and "Total:" with the value "129.27". At the bottom of the form are two buttons: "Calculate" and "Clear".

1. Download the zip file on canvas. It will contain an html file already linked to a css file and js file that are also provided. Make sure to save them all in the same folder.

Then, run the application to see the user interface shown above, although that interface won't do anything until you develop the JavaScript for it.
2. In the JavaScript file, note that the `$()` function has been coded for you. It gets the object for the HTML element that's specified by the CSS selector.
3. Code an event handler function named `processEntries()` that gets the user entries, calculates the sales tax and total, and displays those results in the text boxes.
4. Code a `DOMContentLoaded` event handler that attaches the `processEntries()` function to the click event of the Calculate button. Then, test what you have so far.
5. Add data validation to the `processEntries()` function. The subtotal entry should be a valid, positive number that's less than 10,000. The tax rate should be a valid, positive number that's less than 12. The error messages should be displayed in alert dialog boxes, and the error messages should be:

Subtotal must be > 0 and < 10000
Tax Rate must be > 0 and < 12
6. Add JavaScript that moves the cursor to the Subtotal field when the application starts and when the user clicks on the Calculate button.
7. Add the event handler for the click event of the Clear button. This event handler should clear all text boxes and move the cursor to the Subtotal field.
8. Add event handlers for the click events of the Subtotal and Tax Rate text boxes. Each handler should clear the data from the text box. Update the event handler for the Clear button to call these functions as well (to reduce code duplication).
9. Once all your files are completed you will upload them to a Github Pages repository and submit a link to your index page so I can test your application. Make sure you test it before submitting the link.