HTML Exercise: Tables 2 Lab

Assignment Overview:

In this exercise, you will demonstrate the proper coding and use of the HTML table attributes align, valign, colspan and rowspan.

This web page will contain FIVE separate tables, which will demonstrate horizontal and vertical alignment in tables, and how to merge cells using `colspan` and `rowspan`.

* I highly recommended that you validate your code in stages, as you work, as many validation errors have to do with table structure. Don't wait to validate until you've built all 5 tables —you may regret it!

** Attention students who want to use colors: If you want to add colors, change fonts, or do any other "styling", then you must use proper CSS to do so! (No `<font>` or `bgcolor` or other non-CSS visual formatting!) This means that your CSS must validate with no errors or warnings!

In this Lab do the Following:

Create a new file:

1. Create a new web page, save it as "tables2-last.html" (where last is of course your last name).

2. The `<title>` and `<h1>` should both include your last name and "Lab 2: Tables".

3. Because you will be validating this web page, you need to include the `<!DOCTYPE...>` tag above the `<html>`, the "charset" `<meta>` tag in the head section, and a link to the validator at the bottom of the page.

4. Your page should have a "footer" section, which includes the following:
   - The validator links (HTML: https://validator.w3.org/#validate_by_input | CSS: https://jigsaw.w3.org/css-validator/validator) If code is
   - A "Last updated" statement (with accurate date!)

5. Include the ordered list with relative links back to other sites (CUNY, BMCC, etc.), and the unordered list with links to ... (your choice), just above or below your ordered list of links at the top of your page.

6. Copy the following paragraph onto the top of your page, just below your links:

```
<p>This lab exercise continues Lab #2: Tables. This lab exercise demonstrates how align, valign,
colspan and rowspan work in HTML tables. The first 3 tables demonstrate how content is aligned
horizontally (left, center, right) and vertically (top, middle, bottom) in table cells. Table 4
demonstrates the use of colspan and rowspan to merge cells. Table 5 demonstrates how tables can
be used to create a "skeleton" for a web page's layout. </p>
```

7. Once you have the beginnings of your web page, upload the new page to your folder at lab02_tables.

8. On your home page (index.html), make the phrase "Tables 2" on your ordered list an active link to this tables page.

9. Make sure your index.html page validates.

Table 1: A simple 5 x 5 table with width=500

10. Use your IDE to insert a simple 5 x 5 table, below the sentence that describes this exercise (step 6 above).

   At this point you should have a bunch of codes with lots of `<tr>`s and `<td>`s.

11. Type the numbers 1 – 25 into the table cells, in order, so that row 1 has numbers 1 – 5, row 2 has numbers 6 – 10, etc.

12. Just below the `<table>` tag (before the first <tr>), add a <caption> tag, like this:

```
<caption align="bottom"><strong> Table 2-1:</strong><br />A simple 5x5 table with
cellpadding=10 and width=500. Expanding the width of the table allows you to see the default
left alignment in the table cells. </caption>.
```

13. Run your page and validate it. Your table should now look like the one shown below.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Table 2-1:

A simple 5x5 table with cellpadding=10 and width=500. Expanding the width of the table allows you to see the default left alignment in the table cells.

Table 2: A table that shows default vertical alignment

14. Add an empty div below table 1: <div> </div>. (These empty divs force each table on to its own line.)

15. Copy table 1 and paste it below the empty div.

16. In order to see the default middle vertical alignment, at least 1 cell in a row needs to have content that will make it tall. There are several ways to do this. Follow these instructions to create tall rows:

- In the first cell, replace the 1 with the following text and code:
  1
2
3
4
5
6
7
8
9
10

- In cell 6, replace the 6 with the giraffe image from Lab 1: Tables 1:

  Notice now that in cells 2 – 5 and 7 – 10, the numbers are vertically aligned in the middle of the cells. This is the default vertical alignment.

17. Change the caption for this table to read:
     Table 2:
     Adding content to cells 1 and 6 allows you to see the default middle vertical alignment

18. Make sure your code is formatted and that it still validates. Run it on your browser. Your table should now look like the one shown below.

1 2 3 4 5 6 7 8 9 10	2	3	4	5
	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Table 2-2:
Adding content to cells 1 and 6 allows you to see the
default middle vertical alignment.

Table 3: A table that shows default vertical alignment

19. Add an empty div below table 2.

20. Copy table 2 and paste it below the empty div.

21. To create a wide cell, copy the following sentence into cell 2:

     Default vertical alignment = middle;
no valign attribute used in this cell.
     (The use of non-breaking spaces, coded with , forces the words to stay in a single line, which creates the width needed to demonstrate alignment.)

22. Into cell 7, add this phrase: Default alignment = left;
 no align attribute used in this cell.

23. Add the attribute-value pair align="center" to the <td> for cell 12. Now in cell 12, add the phrase: align="center"

24. Add the attribute-value pair align="right" to the <td> for cell 17. Now in cell 17, add the phrase: align="right"

25. Add the attribute-value pair valign="top" to the <td> for cell 3. Now in cell 3, add the phrase: valign="top"

26. Add the attribute-value pair valign="bottom" to the <td> for cell 4. Now in cell 4, add the phrase: valign="bottom"

27. Change the caption for this table to read:
    Table 3:
    Demonstrating the use of the align and valign attributes.

28. Make sure your code is formatted and that it still validates. Run it on your browser. Your table should now look like the one shown below.

1 2 3 4 5 6 7 8 9 10	Default vertical alignment = middle; no valign attribute used in this cell.	3 valign="top"		5
			4 valign="bottom"	
	7 Default alignment = left; no align attribute used in this cell.	8	9	10
11	12 align="center"	13	14	15
16	17 align="right"	18	19	20
21	22	23	24	25

Table 3-3:
Demonstrating the use of the align and valign attributes.

Table 4: Using colspan and rowspan to merge cells

29. Add an empty div below table 3.

30. Copy table 1 and paste it below the empty div.

31. Add the attribute-value pair colspan="3" to the <td> for cell 1. Now in cell 1, add the phrase: colspan="3"

32. Because cell 1 now spans three columns, cells 2 and 3 no longer exist, and must be deleted!
    Delete the code for these cells (<td>2</td> and <td>3</td>).

33. Add the attribute-value pair rowspan="4" to the <td> for cell 6. Now in cell 6, add the phrase: rowspan="4"

34. Because cell 6 now spans four rows, cells 11, 16 and 21 no longer exist, and must be deleted!
    Delete the code for these cells

35. Add the attribute-value pairs colspan="2" and rowspan="3" to the <td> for cell 9. Now in cell 9, add the phrase:
colspan=2 and rowspan="3" together
 merge cells in 2 directions.

36. Because cell 9 now spans two columns and three rows, cells 10, 14, 15, 19 and 20 no longer exist, and must be
deleted! Delete the code for these cells.

37. Change the caption for this table to read:
    Table 4:
    Demonstrating the use of the colspan and rowspan attributes.

38. Make sure your code is formatted and that it still validates. Run it on your browser. Your table should now look like
the one shown below.

1 colspan="3"			4	5
6 rowspan="4"	7	8	9 colspan=2 and rowspan="3" together merge cells in 2 directions.	
	12	13		
	17	18		
	22	23	24	25

Table 2-4:
Demonstrating the use of the colspan and rowspan attributes

Introduction to Table 5:
Using colspan and rowspan to create a web page layout structure

Table 5 is a "test" of sorts: For this table you need to look at the example below and figure out how to create it! It uses
many of the table elements and attributes you have practiced using in this and the previous web page exercise. This

table demonstrates how a table can be used to create a "skeleton" for the overall layout and structure of a web page. This is the predominant method used by web designers to create page layouts. Normally, the table would have no border, but for demonstration purposes, you will set your table to have border="1".

Note about using tables for page layout: The table method of web page layout is, strictly speaking, not proper, since tables are supposed to be used for tabular data, right? This method is indeed slowly being replaced with the more proper method: using CSS for page layout (which uses CSS properties such as position, float, z-index, margin, padding, clear, and other CSS properties and values). CSS layout is difficult for two reasons:

1. The CSS itself is somewhat complicated, and
2. Browser support for the CSS is incomplete, inconsistent, and "buggy."

For these reasons, many web designers choose to continue to use tables for layout. (For more information on CSS layout, try www.brainjar.com/css/positioning/)

If you view the source code of many web pages —especially those with really complicated or busy layouts— you will see "tons" of table code: many web pages nest tables inside tables inside tables... (This means having an entire table inside a cell (<td>) of a larger table.) This is not a good idea, and is almost never actually needed. Careful layout planning and design and "clean" coding will allow you to use a bare minimum of table structure to achieve the layouts you want.

Instructions for Table 2-5: Using colspan and rowspan to create a web page layout structure:

39. Add an empty div below table 4.

40. Create a new table below the empty div: it should contain code for 4 rows, 4 columns, center allined 95% width, border 1

41. Add colspan and rowspan in the appropriate <td>s as needed, to create the merged cells as shown below.

42. Add align="center" to the <td> for the header. Now add an <h1> that says "This is the Header".

43. Add valign="top" to the <td> for the left nav bar. Now add an <h2> that says "L Nav Bar". Now add an unordered list with 5 list items, as shown.

44. Repeat step 43 in the <td> for the right nav bar. (You can copy and paste the <h2> and unordered list, then change the content so that it matches the example.)

45. Add align="center" to the <td> for the footer. Now add a <p> that says This is the footer... (Match the example shown below).

46. Change the caption for this table to read:
    Table 2-5:
    Demonstrating the use of colspan and rowspan to create a web page layout structure.
    Normally, you'd have border=0; the border is made visible here for demonstration purposes only.

47. Make sure your code is formatted and that it still validates. Run it on your browser. Your table should now look like the one shown below.

This is the Header			
L Nav Bar • link 1 • link 2 • link 3 • link 4 • link 5	Main content cell 1	Main content cell 2	**R Nav Bar** • link 6 • link 7 • link 8 • link 9 • link 10
	Main content cell 3	Main content cell 4	
This is the footer, where you'd have your "Thanks, Cruzio" statement, links to the validators and your "Last updated" statement.			

Table 2-5:
Demonstrating the use of colspan and rowspan to create a web page layout structure.
Normally, you'd have border=0; the border is made visible here for demonstration purposes only.

Congratulations! You have completed Lab 2: Tables 2!

Here's a checklist you can use to make sure that you have included everything you need to include in your Lab 2 web page. The (step #) references refer to the steps listed above. REMEMBER: This checklist does not explain each step in detail. Read the instructions above for detailed instructions.

Lab 2 Requirements Checklist:

✓ Create file, links, etc.
  ☐ Create a new web page called tables2-lastname.html (step 1)
  ☐ Correct <title> and <h1>. (step 2)
  ☐ Include <!DOCTYPE ... >, <meta ... charset ... />, and links to the validators. (step 3)
  ☐ Include a footer (step 4), with:
  ☐ validator links
  ☐ date last updated
  ☐ Ordered and unordered lists with required links (step 5).
  ☐ Opening paragraph below your links lists. (step 6)
  ☐ Save the page to your lab folder. (step 7)
  ☐ Create link to new page on your home page (index.html). (step 8)
  ☐ Make sure that your home page code still validates. (step 9)
✓ Create Table 1:
  ☐ Create a 5x5 table with required attributes. (step 10)
  ☐ Add the numbers 1 – 25 in the table cells. (step 11)
  ☐ Add required caption. (step 12)
  ☐ Re-upload and validate page. (step 13)
✓ Create Table 2:
  ☐ Add empty div below table 2-1. (step 14)
  ☐ Copy and paste table 1. (step 15)
  ☐ Add required content to cells 1 and 6. (step 16)
  ☐ Correct caption. (step 17)
  ☐ Re-upload and validate page. (step 18)

- ✓ Create Table 3:
  - ☐ Add empty div below table 2-1. (step 19)
  - ☐ Copy and paste table 2. (step 20)
  - ☐ Add required content to cell 2. (step 21)
  - ☐ Add required content to cell 7. (step 22)
  - ☐ Add required attribute and content to cell 12. (step 23)
  - ☐ Add required attribute and content to cell 17. (step 24)
  - ☐ Add required attribute and content to cell 3. (step 25)
  - ☐ Correct caption. (step 27)
  - ☐ Re-upload and validate page. (step 28)
- ✓ Create Table 4:
  - ☐ Add empty div below table 2-1. (step 29)
  - ☐ Copy and paste table 1. (step 30)
  - ☐ Add required attribute and content to cell 1. (step 31)
  - ☐ Delete cells 2 and 3. (step 32)
  - ☐ Add required attribute and content to cell 6. (step 33)
  - ☐ Delete cells 11, 16 and 21. (step 34)
  - ☐ Add required attribute and content to cell 9. (step 35)
  - ☐ Delete cells 10, 14, 15, 19 and 20. (step 36)
  - ☐ Add required content to cells 1 and 6. (step 16)
  - ☐ Correct caption. (step 37)
  - ☐ Re-upload and validate page. (step 38)
- ✓ Create Table 5:
  - ☐ Add empty div below table 2-4. (step 39)
  - ☐ Create a new table with required attributes. (step 40)
  - ☐ Add required attributes to appropriate cells. (step 41)
  - ☐ Add required attribute and content to header cell. (step 42)
  - ☐ Add required attribute and content to L nav bar cell. (step 43)
  - ☐ Add required attribute and content to R nav bar cell. (step 44)
  - ☐ Add required attribute and content to footer cell. (step 45)
  - ☐ Add required caption. (step 46)
  - ☐ Re-upload and validate page. (step 47)

- ✓ All pages have the validation link!