

Lecture 7

Tables in HTML

1. Introduction

Tables are created to add tabular material as data arranged into rows and columns to a web page. Tables may be used to organize calendars, schedules, statistics, or other types of information. A table cell may contain any sort of information, including numbers, text elements, and even images and multimedia objects.

In visual browsers, the arrangement of data in rows and columns gives readers an instant understanding of the relationships between data cells and their respective header labels.

2. Adding Tables

The elements that identify the table is table as shown in Figure below which reveals the structure of table according to the HTML table model. All of the table's content goes into cells that are arranged into rows. Cells are the heart of the table, because that's where the actual content goes. The other elements just hold things together.

<table>...</table>
Tabular content (rows and columns)

<tr>...</tr>
Table row

<th>...</th>
Table header

<td>...</td>
Table cell data

- **A table element**

Start and end table tags (**<table>** and **</table>**) are used to identify the beginning and end of the tabular material. The table element contain some number of row elements.

- **A table rows**

The element tr is used to define the table row (tag **<tr>** and **</tr>**). The tr element contain number of cells.

- **A table cells**

Cells contain either header information (titles for the columns) or data which may be any content. The element th (<th> and </th>) is used as table header , it is displayed differently from the other cells in the table. Table headers are important because they provide information about the cells they precede. The element td (<td> and </td>) is used as cell data.

The number of columns in a table is determined by the number of cells in each row. This is one of the things that make HTML tables potentially tricky. Columns are implied with rows, for example, if a table has four columns then each row must contain four td or th elements.

Example 1: For create a simple table with three rows and three columns that lists Food Information

Menu Item	Calories	Fat (g)
Chicken noodle soup	120	2
Caesar salad	400	26

```
<html>
<title> This first table</title>
<table>|
  <tr>
    <th> Menu Item</th>
    <th> Calories</th>
    <th> Fat (g)</th>
  </tr>
  <tr>
    <td>Chicken noodle soup</td>
    <td>120</td>
    <td>2</td>
  </tr>
  <tr>
    <td>Carrot salad</td>
    <td>400</td>
    <td>26</td>
  </tr>
</table>
</html>
```

Note: There may be no text content within the table that meaning the tr element isn't contained text within a td or th.

Example 2:

```
<table border ="1">
  <tr>
    <th> </th>
    <th> </th>
  </tr>
  <tr>
    <td> </td>
    <td> </td>
  </tr>
</table>
```

- **Describing table content**

The **caption element** is used to give a table a title or brief description that displays next to the table. it can be describe the table's contents or provide hints on how it is structured. The caption element must be the first thing within the table element. The caption is displayed above the table by default.

Example3:

```
<table >
  <caption>Student Information </caption>
  <tr>
    <th> Name </th>
    <th> Class </th>
    <th> Id </th>
  </tr>
  <tr>
    <td> Student 1 </td>
    <td> Second </td>
    <td> 753 </td>
  </tr>
  <tr>
    <td> Student 2</td>
    <td> Third </td>
    <td> 951</td>
  </tr>
</table>
```

3. Spanning Cells

One fundamental feature of table structure is cell spanning, which is the stretching of a cell to cover several rows or columns. Spanning cells allows creating complex table structures, but it has the side effect of making the markup a little more difficult to keep track of.

- **Column spans**

Column spans are created with the **colspan** attribute in the **td** or **th** element, **stretch a cell to the right** to span over the subsequent columns as presented in example below where a column span is used to make a header apply to two columns.

Example 4:

```
<table>
  <tr>
    <th colspan="2">Fat</th>
  </tr>
  <tr>
    <td>Saturated Fat (g)</td>
    <td>Unsaturated Fat (g)</td>
  </tr>
</table>
```

Fat	
Saturated Fat (g)	Unsaturated Fat (g)

Note: Every row should have the same number of cells or equivalent colspan values. In example 4, the second row has two td elements, and in the first row there is only one th element but the colspan value is 2, so the implied number of columns in each row is equal.

Q Writing the markup for the following table?

7:00pm	7:30pm	8:00pm
The Sunday lectures		

lecture in remote sensing	lecture in AI	lecture in Web Design
lecture in Image processing	lecture in software engineering	

- **Row spans**

Row spans are created with the **rowspan** attribute, work just like column spans, but they cause the cell **to span downward** over several rows. In example 5, the first cell in the table spans down three rows

Example 5:

```

<table>
  <tr>
    <th rowspan="3">Serving Size</th>
    <td>Small (8oz.)</td>
  </tr>
  <tr>
    <td>Medium (16oz.)</td>
  </tr>
  <tr>
    <td>Large (24oz.)</td>
  </tr>
</table>

```

Serving Size	Small (8oz.)
	Medium (16oz.)
	Large (24oz.)

Again, notice that the td elements for the cells that were spanned over (the first cells in the remaining rows) do not appear in the source. The rowspan="3" implies cells for the subsequent two rows, so no td elements are needed.

Q Writing the markup for the following table?

apples		pears
bananas	oranges	pineapple
lychees		

Example 6: Table with spanning multiple rows or columns.

Poster name	Color	Sizes Available	
Digital Posters	Full Color	A2	A3
	Black and White	A1	A3
	Gray Color	A4	A5
Printed Posters	Full Color	A1	A3
	Gray Color	A2	A5

```
<!DOCTYPE html>
<Html>
<Head>
<Title> Table Spanning </Title>
</Head>
<Body>
<table border="1">
  <caption> Poster Availability </caption>
  <tr>
    <th> Poster name</th>
    <th> Color</th>
    <th colspan="2"> Sizes Available</th>
  </tr>
  <tr>
    <th rowspan="3"> Digital Posters</th>
    <td> Full Color</td>
    <td> A2</td>
    <td> A3</td>
  </tr>
  <tr>
    <td> Black and White</td>
    <td> A1</td>
    <td> A3</td>
  </tr>
  <tr>
    <td> Gray Color</td>
    <td> A4</td>
    <td> A5</td>
  </tr>
  <tr>
    <th rowspan="2"> Printed Posters</th>
    <td> Full Color</td>
    <td> A1</td>
    <td> A3</td>
  </tr>
  <tr>
    <td> Gray Color</td>
    <td> A2</td>
    <td> A5</td>
  </tr>
</table>
```

```
<td>A3</td>
</tr>
<tr>
  <td>Gray Color</td>
  <td>A4</td>
  <td>A5</td>
</tr>
<tr>
  <th rowspan="2" >Printed Posters</th>
  <td>Full Color</td>
  <td>A1</td>
  <td>A3</td>
</tr>
<tr>
  <td>Gray Color</td>
  <td>A2</td>
  <td>A5</td>
</tr>
```