Introduction to
HTML

Max Design - Hands-on CSS

Lesson
FOUR

Max Design - Hands-on CSS

What will we cover in this lesson?

Lesson 4: Table markup

What are tables?

<table> element

<tr> element

<td> element

<th> element

SUMMARY attribute

<caption> element

<thead> element

<tfoot> element

<tbody> element

<col> element

<colgroup> element

What is needed?

Open the
exercise folder

Open the folder called "start" and then open the file called **"lesson04.htm"** using some sort of HTML editor.

Note:

What are tables?

The HTML table allows authors to **arrange data into rows and columns of cells**. This is often referred to as "tabular data".

If the information would make sense **laid out in a spreadsheet**, it is almost certainly tabular data.

The HTML table **should not be used** to help authors control the layout of web documents.

We can create data tables **using a range of elements** including tables (<table>), table rows (<tr>) and table cells (<td>).

Step 1:
<table> element

The **<table> element** represents the table itself. The element requires a start and end tag.

```
<table>
</table>
```

Exercise

Let's add the table element...

```
<table>
Col1 header
Col2 header
Row 1 - Cell 1
Row 1 - Cell 2
Row 2 - Cell 1
Row 2 - Cell 2
</table>
```

Step 2:
`<tr>` element

The **<tr> element** represents a table row.

```
<table>
   <tr>
   <tr>
   </tr>
</table>
```

Exercise

Let's add some table rows...

```
<table>
    <tr>
Col1 header
Col2 header
    </tr>
    <tr>
Row 1 - Cell 1
Row 1 - Cell 2
    </tr>
    <tr>
Row 2 - Cell 1
Row 2 - Cell 2
    </tr>
</table>
```

Step 3:
<td> element

The **<td> element** represents a table cell - used to contain table data.

```
<table>
  <tr>
    <td></td>
    <td></td>
  </tr>
</table>
```

Exercise

Let's add some table cells...

```
<table>
    <tr>
Col1 header
Col2 header
    </tr>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
    <tr>
        <td>Row 2 - Cell 1</td>
        <td>Row 2 - Cell 2</td>
    </tr>
</table>
```

Step 4:
<th> element

The **<th> element** represent a header cell - used to container header information that describes column and row information.

```
<th>Col1 header</th>
```

	June	July
Sydney	row 1 cell 2	row 1 cell 3
Melbourne	row 2 cell 2	row 2 cell 3
Brisbane	row 3 cell 2	row 3 cell 3
Perth	row 4 cell 2	row 4 cell 3

These header cells are also **used by assistive devices** to describe the contents of the table.

```
<th>Col1 header</th>
```

Exercise

Let's add some table headers…

```html
<table>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
    <tr>
        <td>Row 2 - Cell 1</td>
        <td>Row 2 - Cell 2</td>
    </tr>
</table>
```

Note: SUMMARY attribute

The **SUMMARY attribute** provides a summary of the contents of the table for assistive technologies.

```
<table summary="Summary of table">
```

The SUMMARY attribute is now **considered obsolete** (should not be used) in HTML5.

There are a range of solutions for providing a summary of the table. One solution would be to provide the summary as a **simple paragraph of text associated with the table.**

Step 5:
<caption> element

The **<caption> element** provides a caption, or a short description for the table.

```
<caption>Table caption here</caption>
```

The <caption> element must be inserted **immediately after** the <table> start tag.

```
<table>
    <caption>Table caption here</caption>
```

Exercise

Let's add a caption...

```html
<table>
    <caption>Table caption here</caption>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
    <tr>
        <td>Row 2 - Cell 1</td>
        <td>Row 2 - Cell 2</td>
    </tr>
</table>
```

Step 6:
`<thead>` element

The contents of a data table can be **broken into three separate areas**: The table header (<thead>), table body (<tbody>) and table footer (<tfoot>).

The **<thead> element** is used to group the header content inside a data table.

```
<thead>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
</thead>
```

The **<thead> element** must have one or more <tr> elements inside.

```
<thead>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
</thead>
```

The \<thead> element **must be placed inside a \<table> element**.

```
<table>
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </thead>
```

It must be placed **directly after the <table> start tag** or after the <caption> element, if present.

```
<table>
    <caption>Table caption here</caption>
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
```

The <thead> element must **come before** any <tbody>, <tfoot> or <tr> elements.

```
<table>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
    <tbody>
    </tbody>
</table>
```

Some browsers allow you to **scroll the table header content** separately to the table body content.

When printing a table that spans more than one page, the table header will be **printed at the top of each page** for reference.

Exercise

Let's wrap a table header around our first row...

```html
<table>
    <caption>Table caption here</caption>
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </thead>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
    <tr>
        <td>Row 2 - Cell 1</td>
        <td>Row 2 - Cell 2</td>
    </tr>
```

Step 7:
<tfoot> element

The **<tfoot> element** is used to group the footer content inside a data table.

```
<tfoot>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
</tfoot>
```

The **<tfoot> element** must have one or more <tr> elements inside.

```
<thead>
    <tr>
        <th>Col1 header</th>
        <th>Col2 header</th>
    </tr>
</thead>
```

The \<tfoot\> element **must be placed inside a \<table\> element**.

```
<table>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
```

It must be **placed after** any
<caption> or <thead>.

```
<table>
    <caption>Table caption here</caption>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
    <tbody>
    </tbody>
</table>
```

It must **come before** any <tbody> or <tr> elements.

```
<table>
    <caption>Table caption here</caption>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
    <tbody>
    </tbody>
</table>
```

The <tfoot> is **only needed if the table is long**, and an additional reference at the bottom of the table would be helpful (ie. avoid having to scroll to the top of the table).

When printing a table that spans more than one page, the table footer will be **printed at the bottom of each page** for reference.

Exercise

Let's create a new table footer...

```html
<table>
    <caption>Table caption here</caption>
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </thead>
    <tfoot>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </tfoot>
    <tr>
        <td>Row 1 - Cell 1</td>
```

Step 8:
<tbody> element

The **<tbody> element** is used to group the body content inside a data table.

```
<tbody>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
</tbody>
```

The **<tbody> element** must have one or more <tr> elements inside.

```
<tbody>
    <tr>
        <td>Row 1 - Cell 1</td>
        <td>Row 1 - Cell 2</td>
    </tr>
</tbody>
```

The <tbody> element **must be placed inside a <table> element**.

```
<table>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
    <tbody>
    </tfoot>
```

It must be **placed after** any <caption>, <thead> or <tfoot> elements.

```
<table>
    <caption>Table caption here</caption>
    <thead>
    </thead>
    <tfoot>
    </tfoot>
    <tbody>
    </tbody>
```

There can be **more than one** <tbody> element inside a single table.

```
<tfoot>
</tfoot>
<tbody>
</tbody>
<tbody>
</tbody>
</table>
```

Exercise

Let's wrap a table body around our content rows...

```
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </tfoot>
    <tbody>
        <tr>
            <td>Row 1 - Cell 1</td>
            <td>Row 1 - Cell 2</td>
        </tr>
        <tr>
            <td>Row 2 - Cell 1</td>
            <td>Row 2 - Cell 2</td>
        </tr>
    </tbody>
</table>
```

Step 9:
<col> element

HTML tables are laid out in rows and cells. Even though these cells appear in column form, **there is no structural column element**.

The **<col> element** does not group columns structurally. However, it does allow us to define attributes to all the cells in one or more columns.

header 1	header 2	header 3
row 1 cell 1	row 1 cell 2	row 1 cell 3
row 2 cell 1	row 2 cell 2	row 2 cell 3
row 3 cell 1	row 3 cell 2	row 3 cell 3
row 4 cell 1	row 4 cell 2	row 4 cell 3

<col> allows us to define attributes for all cells in the column

This means we could set the background color or text alignment for a column of cells, **without having to style each cell individually**.

The <col> must be **after the optional <caption>** and before the optional <thead>.

```
<table>
    <caption>Table caption here</caption>
    <col>
    <col>
    <thead>
        <tr>
```

The <col> element is a **void element** so does not require a closing tag.

```
<col>
<col>
```

In order to identify specific <col> elements, **classes may need to be applied** to each <col>.

```html
<table>
    <caption>Table caption here</caption>
    <col class="col1">
    <col class="col2">
    <thead>
        <tr>
```

We could then use **a CSS rule** like this to apply a background-color to all cells within the column.

```
.col1 { background-color: yellow; }
```

Exercise

Let's add some cols to our table...

```html
<table>
    <caption>Table caption here</caption>
    <col class="col1">
    <col class="col2">
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </thead>
    <tfoot>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </tfoot>
```

Step 10:
<colgroup> element

The **<colgroup> element** is used to group sets of <col> elements.

```
<colgroup>
    <col>
    <col>
</colgroup>
```

The <colgroup> element allows you to **set attributes for a number of <cols>** without having to set them on each individual <col>.

The <colgroup> must be **after the <caption>** and before the <thead>.

```
<table>
    <caption>Table caption here</caption>
    <colgroup>
        <col class="col1">
        <col class="col2">
    </colgroup>
    <thead>
```

You can use **more than one** <colgroup> element.

```html
<colgroup class="colgroup1">
    <col class="col1">
    <col class="col2">
</colgroup>
<colgroup class="colgroup2">
    <col class="col3">
</colgroup>
<colgroup class="colgroup3">
    <col class="col4">
</colgroup>
```

Exercise

Let's add a colgroup...

```html
<table>
    <caption>Table caption here</caption>
    <colgroup class="colgroup1">
        <col class="col1">
        <col class="col2">
    </colgroup>
    <thead>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
        </tr>
    </thead>
    <tfoot>
        <tr>
            <th>Col1 header</th>
            <th>Col2 header</th>
```

Note:
what is needed?

In many cases, **you do not need to include <col> or <colgroup> elements**. Even the <caption> element may not be needed if there is enough context associated with the table.

However, **all tables should include <th> elements** to help identify the cells.

Russ Weakley

Max Design

Site: maxdesign.com.au

Twitter: twitter.com/russmaxdesign

Slideshare: slideshare.net/maxdesign

Linkedin: linkedin.com/in/russweakley