

# COMM 641

## Web Programming Beginning

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Lecture 2 / HTML tags and Tables

# This week at a glance...

## This week at a glance...

### ❖ HTML Markup

- ❖ The Structure of a Tag
- ❖ Global Attributes
- ❖ Head Elements
- ❖ Headings
- ❖ Grouping Elements

### ❖ Working with Tables

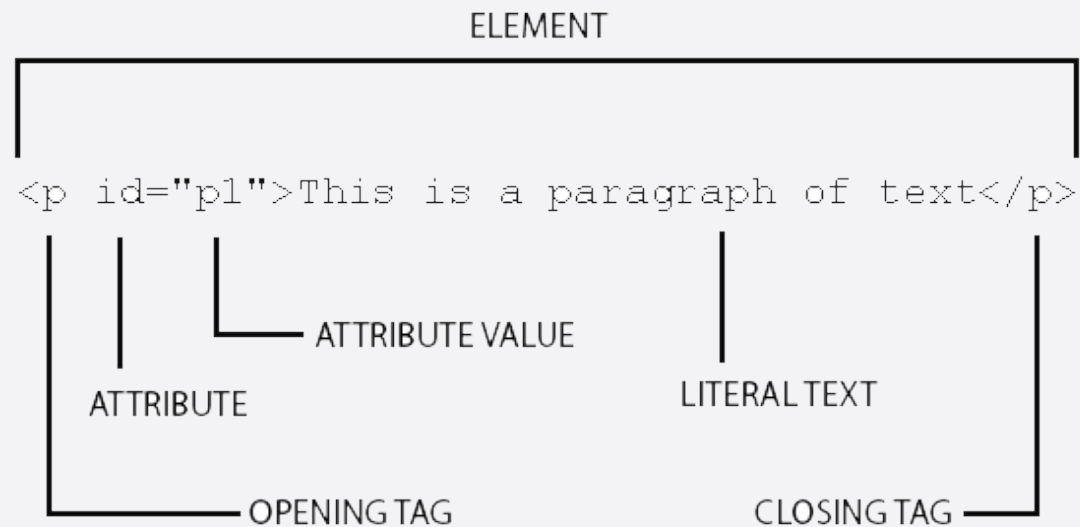
- ❖ Tables, Rows, Cells, and Headers
- ❖ tbody, thead, tfoot
- ❖ col and colgroup
- ❖ caption

# HTML Markup

# HTML Markup

## The structure of a tag

In general, all HTML elements will resemble the following structure:



# HTML Markup

## Global attributes

Attribute	Description
<code>class</code>	Used to apply a CSS style (utilizing the class selector type) to an element.
<code>dir</code>	The <code>dir</code> attribute tells the browser the direction in which the displayed text is intended to be read. Values include <code>ltr</code> and <code>rtl</code> .
<code>id</code>	Used to uniquely identify an element. Can be used to apply a CSS style (utilizing the id selector type) to an element as well as to reference that element using client-side scripting such as JavaScript.
<code>lang</code>	Used to identify the language of the content within a given section on a web page.
<code>style</code>	Used to outline CSS styling inline, within the element.
<code>title</code>	The <code>title</code> attribute allows the author to provide extra information about any element on a page. Typically, this attribute's content is rendered as a tooltip that appears when the user hovers the cursor over the element.
<code>translate</code>	Used to specify whether content within an element should be translated when the page is localized ( <code>yes</code> ) or whether to leave it unchanged ( <code>no</code> ). This attribute isn't currently supported by any browsers.

# Basic Structure of a Page

## Head elements

Tag	Description
<code>&lt;base&gt;</code>	Defines base URLs for links or resources on the page, and target windows in which to open linked content.
<code>&lt;link&gt;</code>	Refers to a resource of some kind, most often to a style sheet that provides instructions about how to style the various elements on the web page.
<code>&lt;meta&gt;</code>	Provides additional information about the page; for example, which character encoding the page uses, a summary of the page's content, instructions to search engines about whether or not to index content, etc. The following website provides as an excellent resource that you can study to learn more about meta tags: <a href="http://code.lancepollard.com/complete-list-of-html-meta-tags">http://code.lancepollard.com/complete-list-of-html-meta-tags</a>
<code>&lt;script&gt;</code>	Used either to embed or refer to an external script.
<code>&lt;noscript&gt;</code>	Used to present alternate content when scripting is disabled.
<code>&lt;style&gt;</code>	Provides an area for defining embedded CSS styles.
<code>&lt;title&gt;</code>	Represents the document's title or name.

# HTML Markup

## The heading tags

Headings are used to indicate top-level headings in a web page. In total, we have six heading levels to choose from: `<h1>`, `<h2>`, `<h3>`, `<h4>`, `<h5>`, and `<h6>`. The `<h1>` tag represents the highest heading level (and, by default, the largest in terms of font size) and `<h6>` the lowest (and smallest).

`<h1>` **Welcome to Vecta Corp**

`<h2>` **Latest news from the site**

`<h3>` **News from the regions**

`<h4>` **USA**

`<h5>` Credits for this page

`<h6>` Contact Information

### CODE

```
<h1>Welcome to Vecta Corp</h1>
<h2>Latest news from the site</h2>
<h3>News from the regions</h3>
<h4>USA</h4>
<h5>Credits for this page</h5>
<h6>Contact Information</h6>
```

# HTML Markup

## Grouping elements

The tags in this section are used to group content. Like the section tags, you'll find yourself using these tags on virtually every web page that you create. They are:

Tag	Description
<code>&lt;p&gt;</code>	Paragraph break
<code>&lt;br&gt;</code>	Line break
<code>&lt;hr&gt;</code>	Horizontal rule
<code>&lt;pre&gt;</code>	Preformatted text
<code>&lt;blockquote&gt;</code>	Blockquote
<code>&lt;div&gt;</code>	Division



# HTML Markup

## Grouping elements - the <p> tag

The <p> tag is one of the most commonly used building blocks of HTML. When you use the <p> tag to begin a new paragraph in HTML, it automatically creates some space above and below the content. This space is applied by the browser's built-in style sheets.

### CODE

```
<body>
  <section>
    <p>This is the new Vecta Corp site.</p>
  </section>
</body>
```

# HTML Markup

## Grouping elements - the `<br>` tag

The `<br>` tag's purpose is very simple: it creates a line break within a block of text, leaving no padding or margins between the two blocks of text created by the line break.

### CODE

```
<body>
  <section>
    <p>This is the new Vecta Corp site.<br>
    We launched it about two weeks ago.</p>
  </section>
</body>
```

# HTML Markup

## Grouping elements - the <hr> tag

The <hr> tag creates a highly visible, slim horizontal line running the width of the area to which it's applied within the document.

### CODE

```
<body>
  <section>
    <p>This is the new Vecta Corp site.</p>
  </section>
  <hr>
  <footer>Copyright &copy; 2011 All Rights Reserved.</footer>
</body>
```

# HTML Markup

## Grouping elements - the `<pre>` tag

The `<pre>` tag represents a block of preformatted text. Perhaps the text was formatted in an external editor and you would like to preserve that formatting within your web page. Examples include an email (with paragraphs indicated by blank lines, lists indicated by lines prefixed with a bullet, etc.), fragments of computer code, ASCII art, etc.

### CODE

```
<body>
  <pre>
    This piece of text
    was preformatted in an external editor and has odd
    spacing and breaks. I would
    like
    to preserve its formatting.
  </pre>
</body>
```

# HTML Markup

## Grouping elements - the <blockquote> tag

The <blockquote> tag is a mechanism for marking up a block of text quoted from a person or another document or source. It may be just a few lines, or it may contain several paragraphs.

### CODE

```
<blockquote cite="http://www.vectacorp.com/article.aspx?id=34">  
  <q>We would like to thank Vecta Corp. for all of their hard  
  work on implementing a fantastic vSolution.</q>  
</blockquote>
```

### Attributes

- cite - Accepts a URL indicating the location of the cited quote

# HTML Markup

## Grouping elements - the <div> tag

The <div> tag is a generic tag that serves little purpose and provides no semantic meaning about the content it contains. Even so, it remains an important part of HTML/CSS web page structuring and is currently the most common method for identifying the structural sections of a document and for laying out a web page using CSS.

### CODE

```
<div>  
My content would go here.<br>  
I would need to use CSS in order to get this tag to do anything.  
</div>
```

# Semantic Markup

## Text-level semantic tags - the `<b>` and `<strong>` tags

The `<b>` tag simply styles the text it encloses in a bold typeface. The strong emphasis or `<strong>` tag also bolds text but may be nested within other strong elements to provide a hierarchal ordering of strongly emphasized text.

CODE

```
<b>This text will appear bolded.</b>
```

Or

CODE

```
<strong>This text will appear <strong>bolded</strong>.</strong>
```

# Semantic Markup

## Text-level semantic tags - the `<i>` and `<em>` tags

The `<i>` (short for italic) tag simply styles the text it encloses in an italicized typeface. The `<em>` (short for emphasis) tag also italicizes text but may be nested within other `<em>` tags to provide a hierarchical ordering of emphasized text.

CODE

```
<i>This text will appear italicized.</i>
```

Or

CODE

```
<em>This text will appear with <em>emphasis</em>.</em>
```



# Semantic Markup

## Text-level semantic tags - the `<s>` tag

The `<s>` tag will create a horizontal strike (or line) straight through any text and whitespace it contains.

### CODE

```
<p>The following companies will have booths at the conference.  
Companies who have cancelled are shown with a line through  
them: Microsoft, Apple, Adobe, and <s>Intel</s>.</p>
```

# Semantic Markup

## Text-level semantic tags - the `<span>` tag

For a tag that offers no semantic information about the content inside and also provides no styling change, or any other visual change to speak of, the lowly `<span>` tag is one of the most useful elements in your HTML toolbox. When you wrap text with an opening `<span>` and closing `</span>`, you're simply providing a hook - one that allows you to add styles (by adding a class attribute and using CSS to define the look of that class), or interact with the element via JavaScript.

### CODE

```
<p>There were various brands represented at the conference.  
<span class="brand">Microsoft</span> and <span  
class="brand">Apple</span> were two of those brands.</p>
```

# Semantic Markup

## Text-level semantic tags - the `<sub>` and `<sup>` tags

The `<sub>` and `<sup>` tags are used to define subscript and superscript text which appear half a character's height below or above the baseline of the line it's on. The `<sub>` tag is most often used in mathematical or chemical formulae whereas the `<sup>` tag is most commonly seen when trademarks, registered, or copyright symbols need to be added to text.

### CODE

```
<p>That's not just water, it's high quality H<sub>2</sub>O.</p>  
<p>vProspect 2.0 <sup>&reg;</sup> is a registered trademark.</p>
```

# Semantic Markup

## Text-level semantic tags - the `<u>` tag

Simply underlines text. The W3C discourages use of the `<u>` tag as it clashes with the conventional rendering of links.

CODE

```
<p><u>Click here to install a virus on your computer.</u></p>
```

# Working with Tables

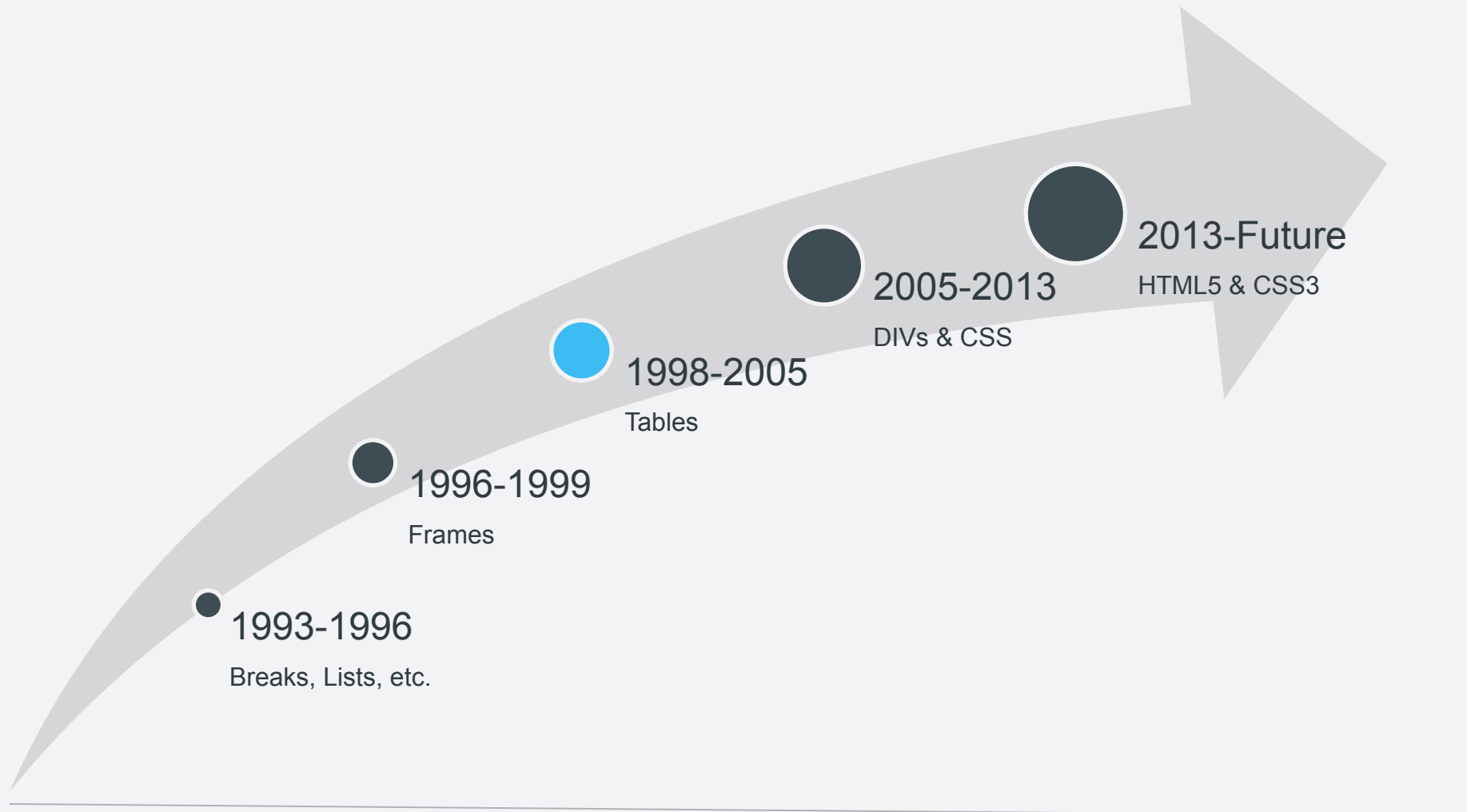
# Working with Tables

## Introduction to tables

HTML Tables and table markup are used for presenting data in a grid-like fashion. In years past, it was considered standard practice to use tables and table markup as a mechanism for laying out a web page. While this practice is strongly discouraged in the industry today, I can guarantee that you will inherit a web site that was built using table markup. For this reason it's important that we discuss these elements, and more importantly, discuss them from the perspective of a traditional web designer using tables to construct the layout of a web page. This will help you troubleshoot and correct any problems that may surface on a tables-based web page that you may inherit.

# Working with Tables

A place in history...



# Working with Tables

## The `<table>` tags

Including the required `<table>` tag, there are about 10 different table tags that you may use within your web pages. It should be noted that despite the fact that tables are shunned for the purposes of web page layouts, none of the `<table>` tags are considered deprecated in HTML5.

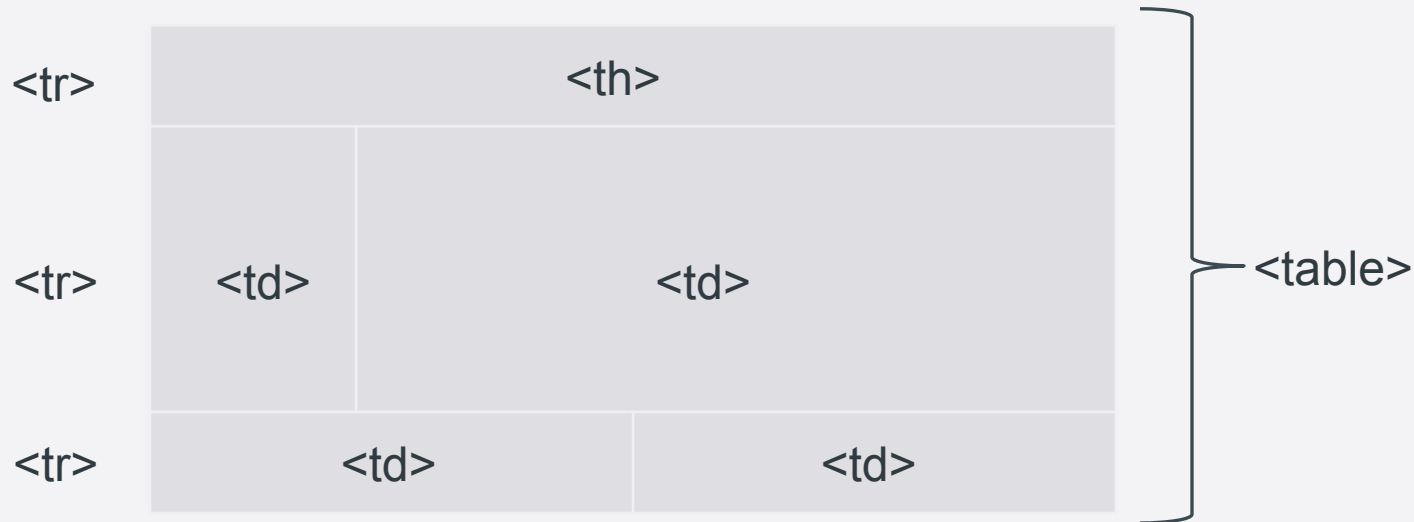
- |                              |                                 |
|------------------------------|---------------------------------|
| ❖ <code>&lt;table&gt;</code> | ❖ <code>&lt;tbody&gt;</code>    |
| ❖ <code>&lt;tr&gt;</code>    | ❖ <code>&lt;tfoot&gt;</code>    |
| ❖ <code>&lt;td&gt;</code>    | ❖ <code>&lt;col&gt;</code>      |
| ❖ <code>&lt;th&gt;</code>    | ❖ <code>&lt;colgroup&gt;</code> |
| ❖ <code>&lt;thead&gt;</code> | ❖ <code>&lt;caption&gt;</code>  |



# Working with Tables

## The `<table>`, `<tr>`, `<th>`, and `<td>` tags

The `<table>` tag is used to present data in a grid-like fashion (in rows (`<tr>`) and cells (`<td>`)), with appropriate headers (`<th>`) to identify the data contained in each column and row. In its most basic form, the table is constructed using the `<table>`, `<tr>`, and `<td>` tags which are used to markup the rows and columns.



# Working with Tables

## Example 1

### CODE

```
<table>
  <tr>
    <td>This is cell 1</td>
  </tr>
  <tr>
    <td>This is cell 2</td>
  </tr>
</table>
```

Looks like this...

This is cell 1
This is cell 2

# Working with Tables

## Example 2

### CODE

```
<table>
  <tr>
    <th>This is cell 1</th>
  </tr>
  <tr>
    <td>This is cell 2</td>
  </tr>
</table>
```

Looks like this...

This is cell 1
This is cell 2

# Working with Tables

## Example 3

### CODE

```
<table>
  <tr>
    <td>This is cell 1</td>
    <td>This is cell 2</td>
  </tr>
  <tr>
    <td>This is cell 3</td>
    <td>This is cell 4</td>
  </tr>
</table>
```

Looks like this...

This is cell 1	This is cell 2
This is cell 3	This is cell 4

# Working with Tables

## Example 4

### CODE

```
<table>
  <tr>
    <th colspan="2">This is cell 1</th>
  </tr>
  <tr>
    <td>This is cell 2</td>
    <td>This is cell 3</td>
  </tr>
</table>
```

Looks like this...

This is cell 1	
This is cell 2	This is cell 3

# Working with Tables

## Example 5

### CODE

```
<table>
  <tr>
    <td rowspan="2">This is cell 1</td>
    <td>This is cell 2</td>
  </tr>
  <tr>
    <td>This is cell 3</td>
  </tr>
</table>
```

Looks like this...

This is cell 1	This is cell 2
	This is cell 3

# Working with Tables

## Attributes for the `<table>`, `<th>`, and `<td>` tags

Unique attributes for the `<th>` tag only

Attribute	Description
<code>abbr</code>	Specifies an abbreviated version of the content in a header cell.
<code>scope</code>	Specifies whether a header cell is a header for a column, row, or group of columns or rows. Possible values include <code>col</code> , <code>colgroup</code> , <code>row</code> , and <code>rowgroup</code> .

Unique attributes for the `<th>` and `<td>` tags

Attribute	Description
<code>colspan</code>	Use this attribute when a table's cell needs to span the length of multiple columns.
<code>rowspan</code>	Use this attribute when a table's cell needs to span the length of multiple rows.
<code>headers</code>	Used to associate a cell with another cell for semantic purposes.

# Working with Tables

## The <thead> tag

In a simple table, the first row of your table may or may not contain a table header. If you do decide to define a table header, the <thead> tag would be the tag that you would use. You can also make use of this tag as a “hook” from which to apply CSS styles to the header area of your table.

### CODE

```
<table>
  <thead>
    <tr>
      <th>This is the table's header</th>
    </tr>
  </thead>
</table>
```



# Working with Tables

## The <tfoot> tag

The <tfoot> tag is an odd element as it seems to defy logic. Common sense would suggest that you would have a header (<thead>), body (<tbody>), and then a footer (<tfoot>) within your table. However this is not the case. When using the <tfoot> tag, you'd actually define this element just after your <thead>, then the <tbody> would go last. The original idea was that the header and footer were rendered first then the body was “filled” in as the connection speed allowed.

### CODE

```
<table>
  <tfoot>
    <tr>
      <td>This is the table's footer</td>
    </tr>
  </tfoot>
</table>
```

# Working with Tables

## The `<tbody>` tag

Just as you can logically group all the header content in a table using `<thead>`, you can do the same for the main body of the table data using `<tbody>`. By default, a `<tbody>` will not affect the display of the table in any way. However, you may use this element to affect the table's display via CSS.

### CODE

```
<table>
  <tbody>
    <tr>
      <td>This would be the body of the table.</td>
    </tr>
  </tbody>
</table>
```

# Working with Tables

## The <col> tag

Tables are primarily constructed by defining rows, but it's often useful to define their structure as columns as well. Unlike rows, columns don't directly contain any cells; rather, they implicitly group adjacent cells between rows. This may not seem important, but it means that there isn't an easy way to select a column for styling purposes. The <col> tag aims to solve the problem by providing a mechanism for selecting columns and applying the necessary attributes. The idea is that you can use the <col> tag to define all of your columns' attributes up-front, before you begin the process of writing out each row.

### Attributes

- span - Used to span the length of two or more columns.

# Working with Tables

## Example 1

### CODE

```
<table>
  <col style="width:200px;">
  <col style="width:100px;">
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```

Looks like this...

Cell 1	Cell 2
--------	--------

# Working with Tables

## Example 2

### CODE

```
<table>
  <col span="2" style="width:200px;">
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```

Looks like this...

Cell 1	Cell 2
--------	--------

# Working with Tables

## The `<colgroup>` tag

The `colgroup` is a container for a number of `col` elements, and allows you to set attributes that you might otherwise set at `col` level on a number of `col` elements simultaneously. The attributes defined at this higher level apply to all of the child columns.

It is important to note that if you use one or more `colgroup` then all `cols` must be enclosed in one or more `colgroups`.

### Attributes

- `span` - Used to span the length of two or more columns.

# Working with Tables

## Example 1

### CODE

```
<table>
  <colgroup style="width:200px;">
    <col style="background-color:green;">
    <col style="background-color:red;">
  </colgroup>
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```

Looks like this...

Cell 1

Cell 2

# Working with Tables

## The <caption> tag

The <caption> tag provides a means for labeling the table's content in a visual manner. The <caption> tag can only be used once per table and must immediately follow the table's start tag.

### CODE

```
<table>
  <caption>These are the cells within the table</caption>
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```