

1 TABLES AND COLUMNS

HTML5 and CSS3

2 HTML TABLES

- Tables are a systematic arrangement of data in rows and columns similar to a spreadsheet (e.g. Microsoft Excel):
 - For displaying text, images, links, forms and form fields, other tables, etc.
- The basic unit of every table is the cell which is the intersection of a row and column and is the smallest component of a table

3 TABULAR DATA

- The HTML table is best used for displaying tabular data
 - In older web documents tables were used for layout (avoid doing that now)
- If what is placed on the page is information that would make sense to record or track in a *spreadsheet*, it is almost certainly tabular data
- If the information will have header fields at the top of the columns of data or to the left of the rows of data, then it likely is tabular

6 CREATING A TABLE IN A WEB DOCUMENT—PAGE 1

- A table is a block inserted within the tags `<table> ... </table>`
- Rows are inserted within the table using the tags `<tr> ... </tr>`
- Cells are inserted into the row's using the tags `<td> ... </td>`

7 CREATING A TABLE IN A WEB DOCUMENT—PAGE 2

- Creating a table example:

```
<table>
  <tr>
    <td>Some data</td>
    <td>More data</td>
    <td>End of line</td>
  </tr>
</table>
```

8 ADDING TABLE HEADERS—PAGE 1

- Table headers are titles displayed in bold and *centered* above each of the columns of the table
- Usually describe the data entered into the cells in the subsequent rows

9 ADDING TABLE HEADERS—PAGE 2

- To create headers over each column, the developer uses `<th>` tags within the first `<tr>` (row) of the table (instead of `<td>`)
 - Theoretically headers could be placed into any row
 - Also they might be placed in the first column of rows
- Usually should be as many headings as there are columns in the table

10 **ADDING TABLE HEADERS—PAGE 3**

- Format:
 - `<th>content</th>`
- Example:
 - `<tr>`
 - `<th>Time</th>`
 - `<th>Monday</th>`
 - `<th>Tuesday</th>`
 - `<th>Wednesday</th>`
 - `<th>Thursday</th>`
 - `<th>Friday</th>`
 - `<th>Saturday</th>`
 - `<th>Sunday</th>`
 - `</tr>`

12 **ADDING TABLE BORDERS—PAGE 1**

- In a table borders are the lines that are displayed:
 - Around the entire table
 - Around some or all of the cells

13 **ADDING TABLE BORDERS—PAGE 2**

- The border attribute turns borders “on” and “off” around and within the table
 - A value of one (1) will turn “on” borders
 - A value of zero (0) will turn “off” borders, the default in an HTML table
- Does not control the width of borders around cells, but must be set “on” for cell borders to display

14 **ADDING TABLE BORDERS—PAGE 3**

- Format:
 - `<table border="value">`
- Example:
 - `<table class="schedule" border="1">`
 - `<tr>`
 - `<td>Some data</td>`
 - `<td>More data</td>`
 - `<td>End of line</td>`
 - `</tr>`
 - `</table>`

16 **SPANNING ROWS AND COLUMNS—PAGE 1**

- The rowspan attribute formats a cell to span a distance of more than one row (combines multiple rows into one)
- Cell(s) within same column in row(s) below rowspan cells will not be defined

- The colspan attribute formats a cell to span a distance of more than one column (combines multiple cells into one)
- The number of cells defined in the row should be reduced by the colspan size

17 SPANNING ROWS AND COLUMNS—PAGE 2

- The colspan and rowspan attributes only may be used in a <td> cell tag
- Format for rowspan:
 - <td rowspan="rows">
- Format for colspan:
 - <td colspan="columns">

18 SPANNING ROWS AND COLUMNS—PAGE 3

- Example of rowspan:
 - <table border = "1">

```
<tr>
  <td rowspan="2">1st cell in row 1</td>
  <td>2nd cell in row 1</td>
</tr>
<tr>
  <td>2nd cell in row 2</td>
</tr>
<tr>
  <td>1st cell in row 3</td>
  <td>2nd cell in row 3</td>
</tr>
</table>
```

19 SPANNING ROWS AND COLUMNS—PAGE 4

- Example of colspan:
 - <table border="1">

```
<tr>
  <td colspan="2">1st cell in row 1</td>
</tr>
<tr>
  <td>1st cell in row 2</td>
  <td>2nd cell in row 2</td>
</tr>
<tr>
  <td>1st cell in row 3</td>
  <td>2nd cell in row 3</td>
</tr>
</table>
```

21 **ADDING A TABLE CAPTION—PAGE 1**

- The caption tag inserts a centered title above (or below) the table
- Placed after table tag and only one is allowed per table
- The default position for the caption is the top row of the table
 - To place caption under the table, the optional valign attribute is used with the value set to bottom (does not work in all browsers)

22 **ADDING A TABLE CAPTION—PAGE 2**

- Format:
 - `<caption [valign="bottom"]>content</caption>`
 - The valign attribute is optional

23 **ADDING A TABLE CAPTION—PAGE 3**

- Example:
 - `<table border="1">`

```

      <caption>All Times Central</caption>
      <tr>
        <th>Time</th>
        <th>Monday</th>
        <th>Tuesday</th>
        <th>Wednesday</th>
        ...
      </tr>
      ...
      
```

25 **CREATING ROW GROUPS—PAGE 1**

- HTML tables provide three section types for creating groups of rows that can be formatted as a unit
- `thead`—for heading elements in a table; must appear first and only one per table
- `tfoot`—for footer elements in a table; must appear second and only one per table
- `tbody`—for the row content of the table; appears last and may include any number of `tbody` elements for grouping of table row sections

26 **CREATING ROW GROUPS—PAGE 2**

- Formats:
 - `<thead>`

```

      rows
      </thead>
      <tfoot>
      rows
      </tfoot>
      <tbody>
      
```

```

        rows
    </tbody>

```

...

27 CREATING ROW GROUPS—PAGE 3

- Example:

```

    • <thead>
      <tr>
        <th>Time</th>
        <th>Monday</th>
        <th>Tuesday</th>
        <th>Wednesday</th>
        <th>Thursday</th>
        <th>Friday</th>
        <th>Saturday</th>
        <th>Sunday</th>
      </tr>
    </thead>

```

28 CREATING ROW GROUPS—PAGE 4

- Example (*con.*):

```

    • <tbody>
      <tr>
        <th>6:00</th>
        <td colspan="7">National News</td>
      </tr>
      ...
      <tr>
        <th>10:00</th>
        <td colspan="7">World News Feed</td>
      </tr>
    </tbody>

```

30 CREATING COLUMN GROUPS—PAGE 1

- Columns are created implicitly from cells that are inserted into rows, so there is no HTML tag to mark table columns
- The `colgroup` block tag creates groups of one or more columns so that an entire column (or columns) can be formatted as a unit

31 CREATING COLUMN GROUPS—PAGE 2

- Must be inside a table block, after any caption element and before any `thead`, `tbody`, `tfoot` and `tr` elements
- Format:

- `<colgroup>`
columns
`</colgroup>`

32 CREATING COLUMN GROUPS—PAGE 3

- The `col` tag defines the column(s) in the group
 - It has a `span` attribute which designates that there is more than one column in a group (default is one column)
 - It is best to “account” for every existing column

33 CREATING COLUMN GROUPS—PAGE 4

- Format:
 - `<colgroup>`
`<col class="className" [span="value"] />`
`<col class="className" [span="value"] />`
 ...
`</colgroup>`

34 CREATING COLUMN GROUPS—PAGE 5

- Example:
 - `<table class="schedule" border="1">`
`<caption>All Times Central</caption>`
`<colgroup>`
`<col class="firstCol" />`
`<col class="dayCols" span="7" />`
`</colgroup>`
 ...

36 CREATING A TABLE SUMMARY—PAGE 1

- The `summary` attribute for a table specifies summary of table's content
- Normally has no visual effect but can be used by screen readers when listening to each cell might be cumbersome

37 CREATING A TABLE SUMMARY—PAGE 2

- Format:
 - `<table summary="description"> ... </table>`
- Example:
 - `<table summary="This table contains the nightly ... ">`
 ...
`</table>`

39 FORMATTING TABLES WITH HTML ATTRIBUTES

- Many older web pages prior to CSS used HTML *attributes* to format tables, e.g.:
 - Cell spacing

- Cell padding
- Widths
- Row heights
- Border properties
- Aligning cell contents
- Vertical alignment

42 **SEPARATE VS. COLLAPSED BORDERS—PAGE 1**

- The border-collapse property draws borders as follows:
 - separate—borders around the table and the cells are separate (default)
 - collapsed—borders for the table and cells are “collapsed” onto each other

43 **SEPARATE VS. COLLAPSED BORDERS—PAGE 2**

- Format :
 - border-collapse: separate | collapse | initial | inherit;
- Example:
 - table

```
{
    border-collapse: collapse;
}
```

44 **SEPARATE VS. COLLAPSED BORDERS—PAGE 3**

- If border-collapse is set to separate, the space between the borders can be set using the border-spacing property
- Format :
 - border-spacing: *value*;
- Example:
 - table

```
{
    border-collapse: separate;
    border-spacing: 10px;
}
```

46 **SETTING CAPTION STYLES**

- Captions by default are centered vertically at the top of a table but can be positioned at the bottom with caption-side property
- Format:
 - caption-side: top | bottom | initial | inherit;
- Example:
 - table caption

```
{
    caption-side: bottom;
    text-align: right;
}
```

48 **USING FIGURE AND FIGCAPTION WITH TABLES—PAGE 1**

- HTML tables are “figures” just as are illustrations, diagrams, photos, code listings, etc.
- A `<figure>` block can be wrapped around a table
- The `<figcaption>` tag can be used to provide a caption for the table

49 **USING FIGURE AND FIGCAPTION WITH TABLES—PAGE 2**

- Format:


```
<figure>
  <figcaption>content</figcaption>
  <table>
    ...
  </table>
</figure>
```

50 **USING FIGURE AND FIGCAPTION WITH TABLES—PAGE 3**

- Example:


```
<figure id="table">
  <figcaption>The KPAF Evening Lineup</figcaption>
  <table class="schedule">
    ...
  </table>
</figure>
```

52 **NESTED TABLES—PAGE 1**

- A “nested table” is created by placing one table inside another table
- Always created by placing new table within a `<td>...</td>` cell block

53 **NESTED TABLES—PAGE 2**

- Format:


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

```
</table>
```

54 NESTED TABLES—PAGE 3

- Example:

```
<table border=1 bordercolor=red>
  <tr>
    <td>First Column of Outer Table</td>
    <td>
      <table border=1 bordercolor=green>
        <tr>
          <td>
            First row of Inner Table
          </td>
        </tr>
        <tr>
          <td>
            Second row of Inner Table
          </td>
        </tr>
      </table>
    </td>
  </tr>
</table>
```

56 CSS COLUMNS—PAGE 1

- CSS formatting allows easy definition of multiple columns of text just like in newspapers
- Columns are turned on and applied to a block using the column-count property
 - Must include break `
` tag to indicate start location of each new column

57 CSS COLUMNS—PAGE 2

- Format:

```
selector
{
  column-count: numberOfCols;
}
```

- Example:

```
p
{
  column-count: 2;
}
```

58 **THE COLUMN-GAP PROPERTY**

- The column-gap property specifies a gap (padding) between the columns
- Format:

```
selector
{
    column-gap: value;
}
```

- Example:

```
p
{
    column-gap: 20px;
}
```

59 **THE COLUMN-RULE PROPERTY—PAGE 1**

- The column-rule property specifies the *width*, *style* and *color* of a rule (a vertical border) between the columns
- These values also may be assigned using three separate properties:
 - column-rule-width
 - column-rule-style
 - column-rule-color

60 **THE COLUMN-RULE PROPERTY—PAGE 2**

- Format:

```
selector
{
    column-rule: width style color;
}
```

- Example:

```
p
{
    column-rule: 2px solid rgb(153, 0, 153);
}
```

61 **COLUMN PROPERTIES WITH VENDOR PREFIXES**

- Example of column properties with vendor prefixes for older browsers:

```
p
{
    -moz-column-count: 2;
    -webkit-column-count: 2;
    column-count: 2;
}
```

```
-moz-column-gap: 20px;  
-webkit-column-gap: 20px;  
column-gap: 20px;  
  
-moz-column-rule: 2px solid rgb(153, 0, 153);  
-webkit-column-rule: 2px solid rgb(153, 0, 153);  
column-rule: 2px solid rgb(153, 0, 153);  
}
```