

# CHAPTER 10

## Data Tables

When you complete this chapter, you will be able to:

- ◎ Use table elements
- ◎ Use table headers and footers
- ◎ Group columns
- ◎ Style table borders
- ◎ Apply padding, margins, and floats to tables
- ◎ Style table background colors
- ◎ Apply table styles

The 3.2 release of HTML in 1997 included table elements for the purpose of organizing tabular data in rows and columns. Web designers quickly realized they could use the table elements to build print-like design structures that allowed them to break away from the left-alignment constraints of basic HTML. With tables, Web designers had the control and the tools to build columnar layouts, align text, add white space, and structure pages. This misuse of the table elements, although well intentioned, created problems with Web site accessibility and compatibility. CSS has long offered the potential for an alternate page layout system, but browser support had to catch up before this was a viable method. The flexibility, accessibility, and ease of maintaining layouts created with CSS makes them the clear choice for designing Web pages, as detailed in Chapter 7. Now that CSS page layouts are broadly supported, tables should only be used only to present data as described in this chapter.

## Using Table Elements

To build effective tables, you must be familiar with the HTML table elements. This section describes the most commonly used table elements.

HTML tables are designed not only to present data properly in the browser window, but to be read sequentially by screen readers and other assistive devices. Some of the table features available to Web designers include the ability to span rows and columns and to create table header cells that declare the contents of a column of data.

The HTML table elements allow the arrangement of data into rows, cells, and columns. Table 10-1 lists the table elements and their usage.

Element	Description
table	Establishes the table; contains all other elements that specify caption, rows, and content
tr	Table row; contains the table cells
td	Table data cell; contains the table data
th	Table header cell; contains header information for a column of data
caption	Provides a short description of the table's contents
thead	Signifies table header

**Table 10-1** HTML table elements (*continues*)

(continued)

tbody	Signifies table body
tfoot	Signifies table footer
col	Specifies column properties
colgroup	Specifies multiple column properties

**Table 10-1** HTML table elements

The HTML **<table>** element contains the table information, which consists of **table header elements (<th>)**, **table row elements (<tr>)**, and individual **table data cells (<td>)**. These are the three elements used most frequently when you are building tables.

Figure 10-1 shows a basic HTML table with a caption, headers, and rows of data. This table also has an accompanying style that sets a border for each of the cells. The style rule looks like this:

```
th, td {border: solid 1px black;}
```

Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-1** Basic HTML table

The basic table is the result of the following code:

```
<table>
<caption>Best-Selling Albums Worldwide</caption>
<tr>
  <th>Artist</th>
  <th>Album</th>
  <th>Released</th>
  <th>Genre</th>
  <th>Sales (millions)</th>
</tr>
<tr>
  <td>Michael Jackson</td>
```



Table code can get complicated when you add content to your tables. One small error in your code can cause unpredictable results in the browser.

You can simplify your table creation and maintenance tasks by writing clean, commented code. If you use plenty of white space in the code, you will find your tables easier to access and change. Adding comments helps you quickly find the code you want.

```

        <td>Thriller</td>
        <td>1982</td>
        <td>Pop</td>
        <td>110</td>
    </tr>
    <tr>
        <td>AC/DC</td>
        <td>Back in Black</td>
        <td>1980</td>
        <td>Hard Rock</td>
        <td>49</td>
    </tr>
    <tr>
        <td>Pink Floyd</td>
        <td>The Dark Side of the Moon</td>
        <td>1973</td>
        <td>Rock</td>
        <td>45</td>
    </tr>
    <tr>
        <td>Whitney Houston</td>
        <td>The Bodyguard</td>
        <td>1992</td>
        <td>Soundtrack</td>
        <td>44</td>
    </tr>
    <tr>
        <td>Eagles</td>
        <td>Greatest Hits</td>
        <td>1976</td>
        <td>Rock</td>
        <td>42</td>
    </tr>
</table>

```

The `<table>` element contains the rows and cells that make up the table. The `<tr>` tag marks the beginning and end of each of the five rows of the table. Notice that the `<tr>` tag contains the table cells, but no content of its own.

You may occasionally use the `<caption>` and `<th>` elements when creating tables. The **<caption> element** lets you add a caption to the table. By default, captions are displayed at the top of the table. The `<caption>` element must appear immediately after the opening table tag, as shown in the code sample for Figure 10-1. You will see how to use CSS to style the caption element later in this chapter.

The `<th>` element lets you create a table header cell that presents the cell content as bold and centered by default.

## Collapsing Table Borders

Notice that each cell in the table shown in Figure 10-1 has its own border. This can make the data in the table difficult to read. This table will be more legible with the table borders collapsed. You can specify this with the CSS `border-collapse` property.

### border-collapse property description

Value: `separate` | `collapse`

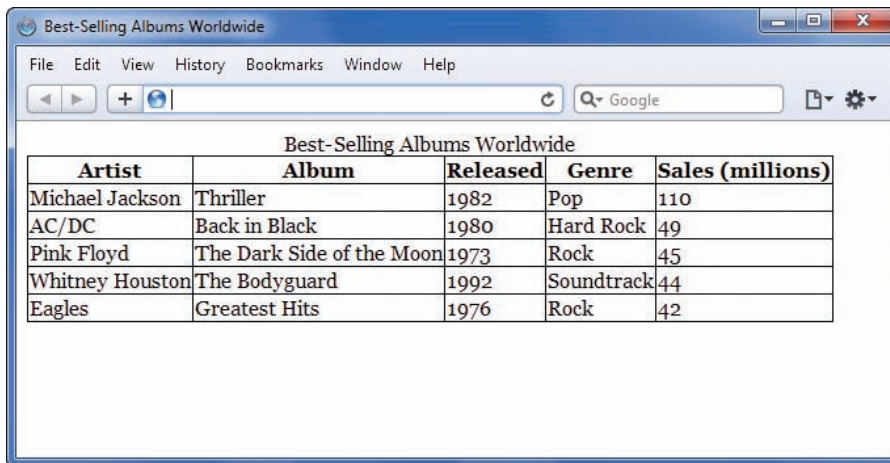
Initial: `separate`

Applies to: `<table>` element

Inherited: `yes`

The following style rule collapses the borders for the table as shown in Figure 10-2.

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



Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-2** Table with borders collapsed

## Spanning Columns

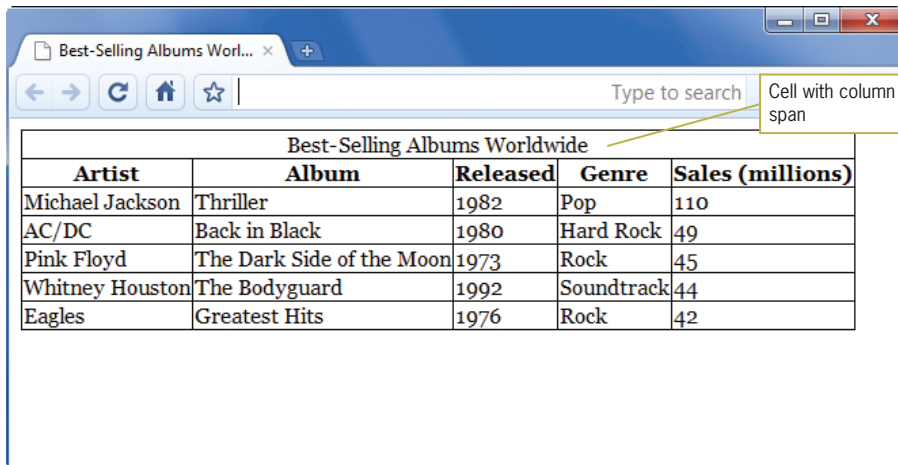
The **colspan** attribute lets you create cells that span multiple columns of a table. Column cells always span to the right. Figure 10-3 shows a table with a column span in the first row.

The following code fragment shows the `colspan` attribute in blue:

```
<tr>
  <td class="title" colspan="5">
    Best-Selling Albums Worldwide</td>
</tr>
```

Notice that this cell also contains a `class="title"` attribute. This is used to apply a CSS text-align property to center the text in the cell.

When you build column spans, make sure that all of your columns add up to the correct number of cells. In this code, because each row has five cells, the `colspan` attribute is set to five to span all columns of the table, as shown in Figure 10-3.



Best-Selling Albums Worldwide				
Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-3** Table with a column span

## Spanning Rows

The **rowspan** attribute lets you create cells that span multiple rows of a table. Rows always span down. Figure 10-4 shows a table with a row span added to the left of the data cells. Adding a row span usually means adding an extra cell to accommodate the span.

Best-Selling Albums Worldwide	Artist	Album	Released	Genre	Sales (millions)
	Michael Jackson	Thriller	1982	Pop	110
	AC/DC	Back in Black	1980	Hard Rock	49
	Pink Floyd	The Dark Side of the Moon	1973	Rock	45
	Whitney Houston	The Bodyguard	1992	Soundtrack	44
	Eagles	Greatest Hits	1976	Rock	42

**Figure 10-4** Table with row span

The following code shows the new cell that contains the rowspan attribute and the extra column cell in the table header row:

```
<table>
  <tr>
    <td class="title" rowspan="6">
      Best-Selling Albums Worldwide</td>
    <th>Artist</th>
    <th>Album</th>
    <th>Released</th>
    <th>Genre</th>
    <th>Sales (millions)</th>
  </tr>
  ...rest of the table code...
</table>
```

The row span cell is the first cell in the first row of the table. It spans down through six rows of the table. Often you will see the rowspan value set to “99.” This ensures that the rowspan will always be greater than the number of rows in the table (at least for tables that contain less than 99 rows). Once again, note that a class=“title” attribute is used to apply a text-align property to the text.

## Using Table Headers and Footers

Rows can be grouped into head, body, and footer sections using the `<thead>`, `<tbody>`, and `<tfoot>` elements, as shown in the following code sample.

```
<table>
<thead>
  <tr><th>Header Cell 1</th>
    <th>Header Cell 2</th>
  </tr>
</thead>
<tbody>
  <tr><td>Body Cell 1</td>
    <td>Body Cell 2</td>
  </tr>
  <tr><td>Body Cell 3</td>
    <td>Body Cell 4</td>
  </tr>
</tbody>
<tfoot>
  <tr><td>Footer Cell 1</td>
    <td>Footer Cell 2</td>
  </tr>
</tfoot>
</table>
```

The `<thead>` and `<tfoot>` elements can then be styled with style rules. Figure 10-5 shows an example of using CSS style rules to style the header and footer of a table.

Best-Selling Albums Worldwide - Mozilla Firefox

Table 1-2: Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

Note: A number of issues make exact figures difficult to calculate, as historical data before the 1980s and from developing countries is incomplete.

Source: [http://en.wikipedia.org/wiki/List\\_of\\_best-selling\\_albums\\_worldwide](http://en.wikipedia.org/wiki/List_of_best-selling_albums_worldwide)

**Figure 10-5** Table with styled headers and footers



```
thead {
    font-family: arial;
    background-color: #ccddee;
}

tfoot {
    background-color: #ddccee;
    font-family: times, serif;
    font-size: .9em;
    font-style: italic;
}

<table>
<thead>
    <tr>
    <td colspan="5">Table 1-2: Best-Selling Albums Worldwide
    </caption>
    </tr>
    <tr>
        <th>Artist</th>
        <th>Album</th>
        <th>Released</th>
        <th>Genre</th>
        <th>Sales (millions)</th>
    </tr>
</thead>

...rest of table code...

<tfoot>
    <tr>
    <td colspan="5"> Note: A number of issues make exact figures
difficult to calculate, as historical data before the 1980s and
from developing countries is incomplete.</td>
    </tr>
    <tr>
    <td colspan="5"> Source:
http://en.wikipedia.org/wiki/List\_of\_best-
selling\_albums\_worldwide</td>
    </tr>
</tfoot>
</table>
```

## Grouping Columns

The `<colgroup>` and `<col>` elements allow you to apply style characteristics to groups of columns or individual columns. The `<colgroup>` element has a `span` attribute that lets you set the number of columns specified in the group. Column groups are always applied left to right in the table. The only other available property is `width`, which lets you specify the width of a column or group of columns.



Only the width property and the background properties, such as background-color and background-image, can be applied to the `<colgroup>` and `<col>` elements.

The `<col>` element lets you specify style characteristics for individual columns. It always appears within a set of `<colgroup>` tags. Both `<colgroup>` and `<col>` elements must appear immediately after the opening `<table>` element, or after the `<caption>` element if the table contains a caption.

Figure 10-6 shows the use of the `colgroup` element applied to the sample table. In this five-column table, the columns are organized into two column groups. The left column group contains two columns, and the right column group contains three columns.

Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

Figure 10-6 Applying styles to column groups

The code for the table follows. Notice that each column group contains a class name, which is used to apply a CSS background color to the column group. The `<colgroup>` elements appear directly after the caption element.

```
<table>
<caption>Best Selling Albums Worldwide</caption>
<colgroup span="2" class="left"></colgroup>
<colgroup span="3" class="right"></colgroup>
<tr>
  <th>Artist</th>
  <th>Album</th>
  <th>Released</th>
  <th>Genre</th>
  <th>Sales (millions)</th>
</tr>
```

...rest of table code...

You can use the `<col>` element to apply class names and style individual columns. The following HTML code in the table shows each column with a class name.

```
<colgroup>
  <col class="artist" />
  <col class="album" />
  <col class="released" />
  <col class="genre" />
  <col class="sales" />
</colgroup>
```

These class names can be used as selectors in the style sheet. The following style rule selects the column with the class name *artist* and applies a background color to the column, as shown in Figure 10-7.

```
col.artist {background-color: #ddeeff;}
```



Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-7** Selecting one column and applying a background color

## Styling the Caption

You can style the caption with CSS to position the caption on the top or bottom of the table using the `caption-side` property. You can also choose from any of the other style properties to enhance the caption text.

### caption-side property description

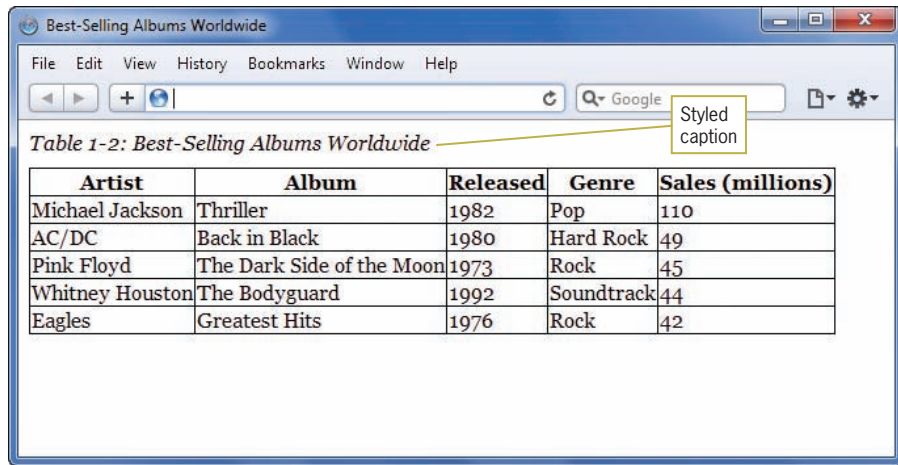
Value: top | bottom

Initial: top

Applies to: `<caption>` element

Inherited: yes

Figure 10-8 shows the caption left-aligned and italic. The style rule that follows shows the use of common CSS properties to specify text alignment, font style, and padding.



**Figure 10-8** Styled caption

```
<style type="text/css">
body {
    font-family: georgia;
}

table {
    border-collapse: collapse;
}

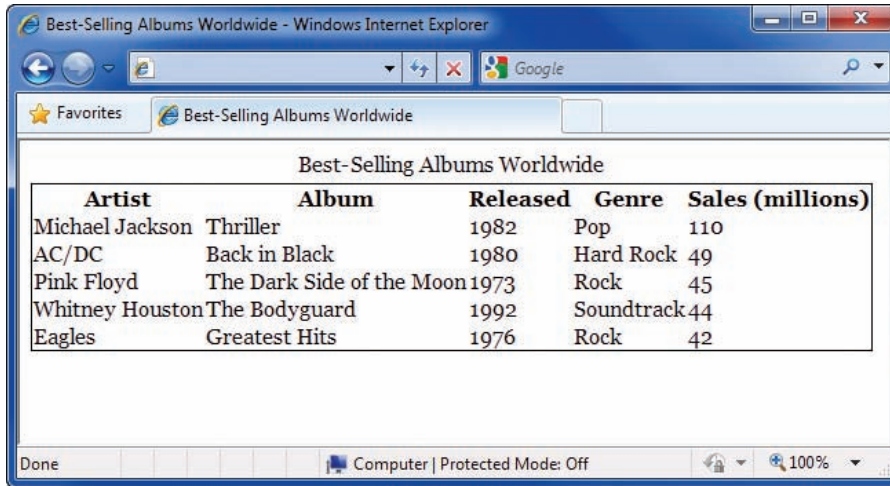
th, td {
    border: solid 1px black;
}

caption {text-align: left;
        font-style: italic;
        padding-bottom: 10px;
}
</style>
```

## Styling Table Borders

By default, tables are displayed in the browser with borders turned off. You can add borders to tables using CSS style rules. Borders can be applied to the whole table, to individual rows, and to individual cells. Using the table element as a selector

applies the border only to the outside of the table as shown in Figure 10-9.



Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-9** Table with outside border only

The style rule for this table looks like the following code. Note that the `border-collapse` property is used to remove the extra space between the borders.

```
table {
    border: solid 1px black;
    border-collapse: collapse;
}
```

Recall from Chapter 6 that borders do not inherit styles, so you can add borders for each cell by specifying them in a separate style rule. The sample table has two types of cells: table header cells `<th>` and table data cells `<td>`. These must each be added as selectors to make sure every cell has a border. The style rule looks like the following code, and the result is shown in Figure 10-10. Notice that the `<th>` and `<td>` elements share the same style declaration.

```
table {
    border: solid 1px black;
    border-collapse: collapse;
}
th, td {
    border: solid 1px black;
}
```

Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

**Figure 10-10** Table with outside border and cell borders

You can also style individual row and cell borders using classes or ids to make specific selections in the table. For example, a row selector could look like the following:

```
tr.header {background-color: #ccddee;}
```

You would apply this rule using the class attribute in the specific row you want to have the background color:

```
<tr class="header">
```

Figure 10-11 shows a table with the header row styled with a thick blue bottom border and light blue background color.

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 mil.
AC/DC	Back in Black	1980	Hard Rock	49 mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 mil.
Eagles	Greatest Hits	1976	Rock	42 mil.

**Figure 10-11** Table header row with custom bottom border

The style rule for this table shows the selector for the <th> elements with properties that set the border and background color.

```
table {  
    border: solid 1px black;  
    border-collapse: collapse;  
}  
  
th, td {  
    border: solid 1px black;  
}  
  
th {  
    border-bottom: solid thick blue;  
    background-color: #ccddee;  
}
```

## Applying Padding, Margins, and Floats to Tables

The box properties can be applied to tables to increase spacing within cells, add white space around tables, and float them within blocks of text.



See Chapter 6 for more information on the box model properties.

### Using Padding

You can enhance the legibility of your table data by adding padding values for the entire table, or alternately adding padding values in individual rows or cells with class selectors. The <table> element does not accept the padding property, so you have to apply it to the <th> and <td> elements. This style rule adds 5 pixels of padding to both types of table elements:

```
th, td {padding: 5px;}
```

The table in Figure 10-12 uses this style rule to apply 5 pixels of padding to every cell.

Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 mil.
AC/DC	Back in Black	1980	Hard Rock	49 mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 mil.
Eagles	Greatest Hits	1976	Rock	42 mil.

**Figure 10-12** Table with 5 pixels of padding in each cell

```
table {
    border: solid 1px black;
    border-collapse: collapse;
}
```

```
th, td {
    border: solid 1px black;
    padding: 5px;
}
```

You can also specify individual padding properties for each cell or row. For example, you might specify that <th> cells have extra padding on the bottom:

```
th {padding-bottom: 10px;}
```

Figure 10-13 shows a table with 10 pixels of padding in the header row, and 5 pixels of padding in the data cells.



Best-Selling Albums Worldwide - Windows Internet Explorer

Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 mil.
AC/DC	Back in Black	1980	Hard Rock	49 mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 mil.
Eagles	Greatest Hits	1976	Rock	42 mil.

Header cells have 10 pixels of padding

**Figure 10-13** Table with 5 pixels of padding in each data cell, 10 pixels in header cell

The style rule has separate selectors for the <th> and <td> elements.

```
table {
    border: solid 1px black;
    border-collapse: collapse;
}

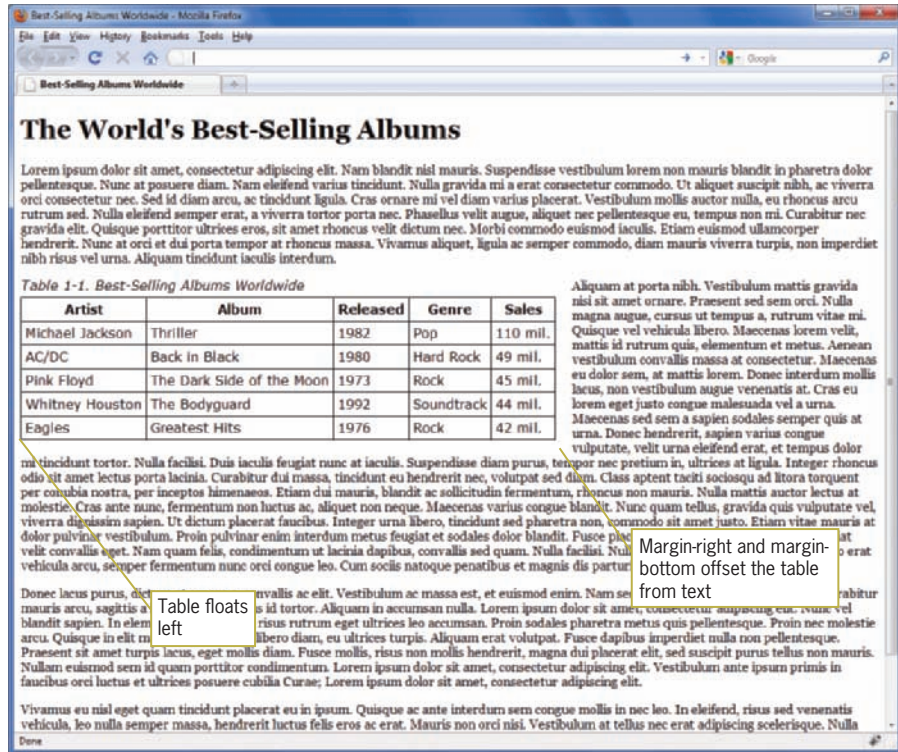
th {
    padding: 10px;
}

td {
    border: solid 1px black;
    padding: 5px;
}
```

## Using Margins and Floats

Tables can be floated like any other block-level element. When you float a table next to a block of text, you can provide white space around the table with the margin properties.

Figure 10-14 shows a table floated to the left, with right and bottom margin settings to offset the table from text.



**Figure 10-14** Table floated to the left with right and bottom margins

The style rule for this table follows. Notice that this table has a class selector named *best* that specifies only this one table for these style rules. The table has float and margin properties that position it on the page.

```
table.best {
    font-family: verdana;
    border: solid 1px black;
    border-collapse: collapse;
    float: left;
    margin-right: 20px;
    margin-bottom: 10px;
}

th, td {
    border: solid 1px black;
    padding: 5px;
}
```

```
caption {
  padding-bottom: 5px;
  text-align: left;
  font-style: italic;
}
```



Remember that you can select and style individual tables by giving them a class or id name to apply style rules only to the selected table.

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## Styling Table Background Colors

You can use the background color properties to add legibility to your table data. You can apply background colors to an entire table, single out rows and cells, or use the `<colgroup>` and `<col>` properties to highlight individual columns. You can alternate colors for different rows of data, or add hover interaction that highlights data when a user selects rows or cells.

### Specifying Background Color

Background colors can make your tables easier to read by providing contrast. Figure 10-15 shows a table with different background colors for the column titles and data. Notice that the text in the column titles is white against the dark blue background.

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 mil.
AC/DC	Back in Black	1980	Hard Rock	49 mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 mil.
Eagles	Greatest Hits	1976	Rock	42 mil.

**Figure 10-15** Styling table colors

The style rules for this table specify a background and text color for the <th> elements and a different background color for the <td> elements.

```
table {
    border: solid 1px black;
    border-collapse: collapse;
    color: #722750
}

td, th {
    border: solid 1px black;
    padding: 5px;
}

caption {
    padding-bottom: 5px;
}

th {
    padding: 10px;
    background-color: #7fa2c1;
    color: white;
}

td {
    background-color: #ccdae6;
}
```

## Creating Alternate Color Rows

Table data becomes much easier to read when alternate rows have a distinguishing background color. This effect is easy to create with a class that selects the alternate rows. Write a style rule for the odd (or even) row using a class selector that specifies the class named *odd* applied to the <tr> element as shown. This style rule selects all of the <td> elements within that row to apply the background-color property:

```
tr.odd td {background-color: #eaeada5;}
```

Then add the class attribute to every odd row in the table:

```
<tr class="odd">
    <td>AC/DC</td>
    <td>Back in Black</td>
    <td>1980</td>
    <td>Hard Rock</td>
    <td>49</td>
</tr>
```

The result is shown in Figure 10-16.



Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales (millions)
Michael Jackson	Thriller	1982	Pop	110
AC/DC	Back in Black	1980	Hard Rock	49
Pink Floyd	The Dark Side of the Moon	1973	Rock	45
Whitney Houston	The Bodyguard	1992	Soundtrack	44
Eagles	Greatest Hits	1976	Rock	42

Figure 10-16 Styling alternate row colors

## Creating Background Hover Effects

You can add interactivity to your table by adding hover effects. When a user hovers the pointer over a cell or row then the background, font, or formatting can change. Figure 10-17 shows a table with highlighted data activated by the pointer hovering over the cell.



Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 Mil.
AC/DC	Back in Black	1980	Hard Rock	49 Mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 Mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 Mil.
Eagles	Greatest Hits	1976	Rock	42 Mil.

Figure 10-17 Table cell hover

This effect uses the `:hover` pseudo-class described in Chapter 4. The following style rules state the default cell background color (`#ccdae6`) and the different background and text color when the user hovers the pointer over a table cell.

```
td {
    background-color: #ccdae6;
}

td:hover {
    color: white;
    background-color: #722750;
}
```

This same effect can be applied to a row of data by applying the `hover` to `<tr>` elements as shown. These style rules show the default cell background and the alternate background and text color when the user hovers the pointer over any row of data.

```
td {
    background-color: #ccdae6;
}

tr:hover td {
    color: white;
    background-color: #722750;
}
```

Figure 10-18 shows the result of the row hover.



Best-Selling Albums Worldwide

Artist	Album	Released	Genre	Sales
Michael Jackson	Thriller	1982	Pop	110 mil.
AC/DC	Back in Black	1980	Hard Rock	49 mil.
Pink Floyd	The Dark Side of the Moon	1973	Rock	45 mil.
Whitney Houston	The Bodyguard	1992	Soundtrack	44 mil.
Eagles	Greatest Hits	1976	Rock	42 mil.

Figure 10-18 Table row hover

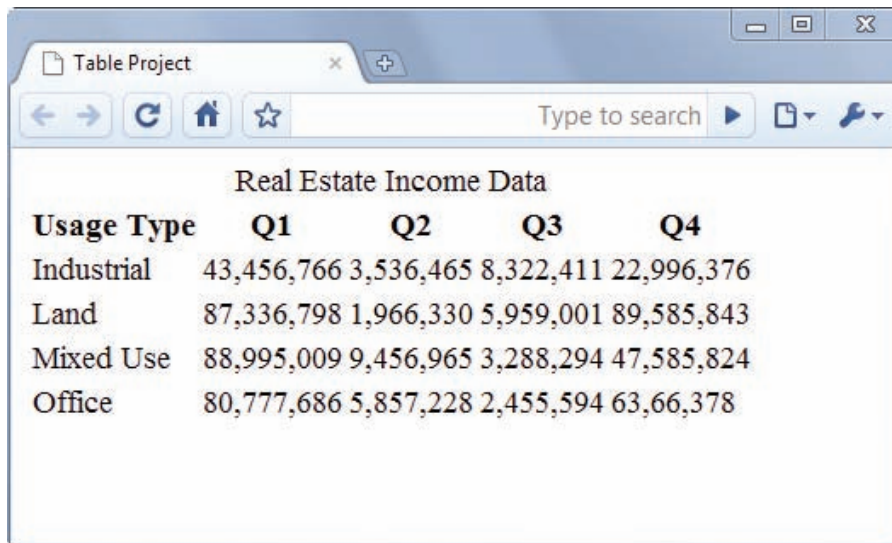


## Activity: Applying Table Styles

In the following set of steps, you will style a table using CSS. Save your file and test your work in the browser as you complete each step. Refer to Figure 10-22 as you progress through the steps to see the results. New code that you will add is shown in blue. Save your file and test your work in the browser as you complete each step.

To style the table:

1. Copy the **table project.html** file from the Chapter10 folder provided with your Data Files to the Chapter10 folder in your work folder. (Create the Chapter10 folder, if necessary.)
2. In your browser, open **table project.html**. When you open the file it looks like Figure 10-19.



Usage Type	Q1	Q2	Q3	Q4
Industrial	43,456,766	3,536,465	8,322,411	22,996,376
Land	87,336,798	1,966,330	5,959,001	89,585,843
Mixed Use	88,995,009	9,456,965	3,288,294	47,585,824
Office	80,777,686	5,857,228	2,455,594	63,66,378

**Figure 10-19** Beginning project file

3. Start by setting a font family for the table. Use *table* as a selector, and specify Georgia as the font with an alternate generic font.

```
<style type="text/css">
table {
    font-family: georgia, serif;
}

</style>
```

4. Specify a border for the outside of the table. Collapse the borders of the table as well.

```
<style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}
```

```
</style>
```

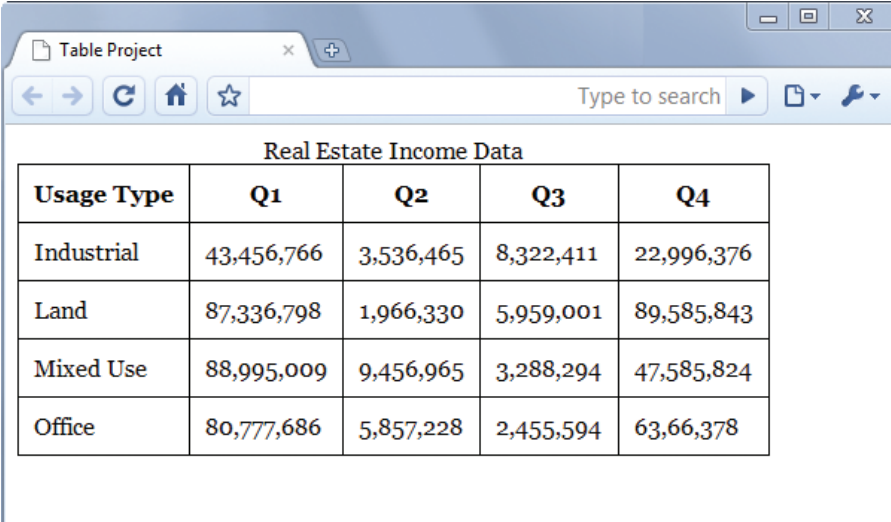
5. Specify a border and padding for both types of cell elements, <th> and <td>.

```
<style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}
```

```
th, td {
    border: solid 1px black;
    padding: 5px;
}
```

```
</style>
```

6. View the file in the browser. It should look like Figure 10-20.



Usage Type	Q1	Q2	Q3	Q4
Industrial	43,456,766	3,536,465	8,322,411	22,996,376
Land	87,336,798	1,966,330	5,959,001	89,585,843
Mixed Use	88,995,009	9,456,965	3,288,294	47,585,824
Office	80,777,686	5,857,228	2,455,594	63,66,378

**Figure 10-20** Table with basic styling applied



7. Add a background color for the header <th> cells.

```

style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}

th, td {
    border: solid 1px black;
    padding: 5px;
}

th {
    background-color: #d0dafd;
    color: #0070dd;
}

</style>

```

8. Now prepare to add a background color to the far-left column by adding a <colgroup> element to the table code. Find the <caption> element in the table code, and add a <colgroup> element with class and span values as shown. These tags let you select the left column and apply a style to it.

```

<table>
<caption>Real Estate Income Data</caption>
<colgroup class="leftcol" span="1"></colgroup>

...rest of table code...

```

9. Select the colgroup class, and apply a background color style as shown.

```

<style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}

th, td {
    border: solid 1px black;
    padding: 5px;
}

th {
    background-color: #d0dafd;
    color: #0070dd;
}

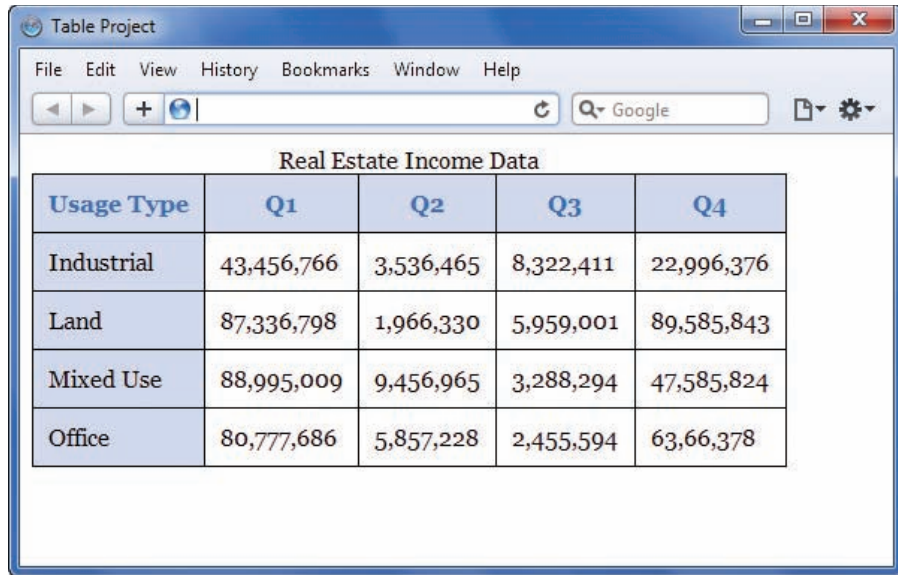
```

```
colgroup.leftcol {
    background-color: #d0dafd;
}

</style>
```

10. View the file in the browser. It should look like Figure 10-21.

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Usage Type	Q1	Q2	Q3	Q4
Industrial	43,456,766	3,536,465	8,322,411	22,996,376
Land	87,336,798	1,966,330	5,959,001	89,585,843
Mixed Use	88,995,009	9,456,965	3,288,294	47,585,824
Office	80,777,686	5,857,228	2,455,594	63,66,378

**Figure 10-21** Table with background colors applied

11. Add a style for the caption that changes the font-family and adds some bottom padding to move it away from the table border.

```
<style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}

th, td {
    border: solid 1px black;
    padding: 5px;
}

th {
    background-color: #d0dafd;
    color: #0070dd;
}
```

```

colgroup.leftcol {
    background-color: #d0dafd;
}

caption {
    font-family: verdana, sans-serif;
    padding-bottom: 10px;
}

</style>

```

12. Finally, add a hover style that changes the background color when a user hovers over a cell.

```

<style type="text/css">
table {
    font-family: georgia, serif;
    border: solid 1px black;
    border-collapse: collapse;
}

th, td {
    border: solid 1px black;
    padding: 5px;
}

th {
    background-color: #d0dafd;
    color: #0070dd;
}

colgroup.leftcol {
    background-color: #d0dafd;
}

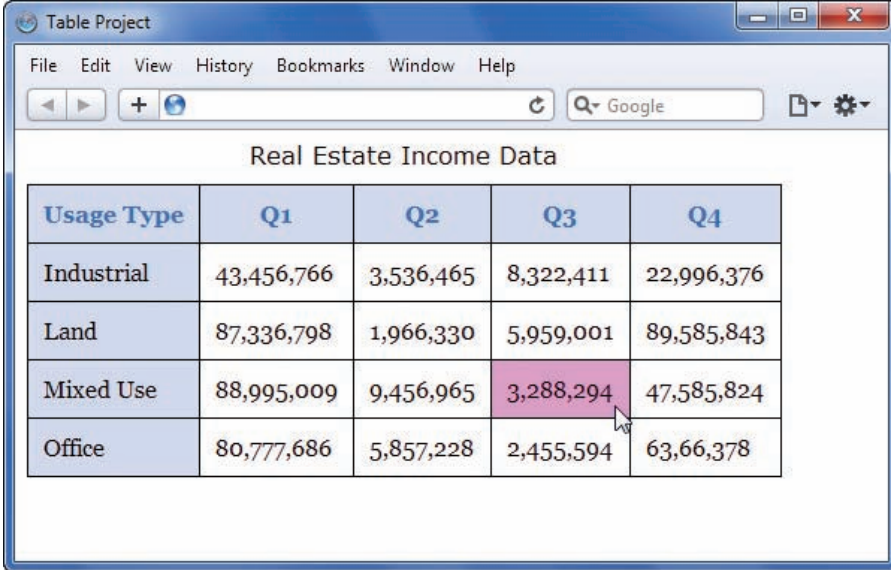
caption {
    font-family: verdana, sans-serif;
    padding-bottom: 10px;
}

td:hover {
    background-color: #ff99ff;
}

</style>

```

13. View the file in the browser. It should like Figure 10-22.



Usage Type	Q1	Q2	Q3	Q4
Industrial	43,456,766	3,536,465	8,322,411	22,996,376
Land	87,336,798	1,966,330	5,959,001	89,585,843
Mixed Use	88,995,009	9,456,965	3,288,294	47,585,824
Office	80,777,686	5,857,228	2,455,594	63,66,378

Figure 10-22 Finished styled table

## Chapter Summary

- Use tables for presentation of data, not for page layout.
- To build effective data tables, you must be familiar with the HTML table elements including the `<table>`, `<caption>`, and `<th>`, `<tr>`, and `<td>` elements.
- Use the grouping elements to apply styles to groups of rows or columns, or to the header, body, and footer of a table.
- Apply borders to both the `<table>` and cell (`<th>` and `<td>`) elements to display a table border on the entire table.
- Use the border-collapse property to make table data more legible.
- Always use CSS to add presentation style to tables.
- Use padding to add space within your cells to make your data more legible.

- You can float tables and add margins with the box model properties.
- Specify background colors or hovers to aid in the legibility of your data.

## Key Terms

**<caption> element**—An HTML element that lets you add a caption to the table.

**colspan**—An attribute that lets you create cells spanning multiple columns of a table.

**rowspan**—An attribute that lets you create cells spanning multiple rows of a table.

**<table> element**—An HTML element that contains table information.

**table data cell (<td>)**—An HTML element that contains the table data.

**table header element (<th>)**—An HTML element that contains the table header, which is the heading at the top of a column of data.

**table row element (<tr>)**—An HTML element that contains the table cells.

## Review Questions

1. What are the three basic table elements?
2. What table element presents its content as bold and centered?
3. What table element lets you add a title for a table?
4. What CSS property can you use to change the alignment of the <caption> element?
5. What CSS property do you use to remove spacing between table cells?
6. What are the two table attributes that let you span columns and rows?

7. What value should colspan equal in the following code?  

```
<tr><td>R1C1</td><td>R1C2</td><td>R1C3</td></tr>  
<tr><td>R2C1</td><td colspan=  >R2C2</td></tr>
```
8. What CSS property do you use to adjust spacing within table cells?
9. What HTML elements let you apply styles to table columns?
10. Which elements do you have to apply borders to if you want borders to be displayed for an entire table?
11. Do border properties inherit from the <table> element to <td> elements?
12. What is one way to select a specific table row or cell?
13. What is a good way to add legibility to rows of data?

## Hands-On Projects

1. In this project, you have a chance to apply some of the data table techniques you learned about in this chapter. As you work through the steps, refer to Figure 10-23 to see the results you will achieve. Save your file and test your work in the browser as you complete each step.
  - a. Copy the **project1.html** file from the Chapter10 folder provided with your Data Files to the Chapter10 folder in your work folder. (Create the Chapter10 folder, if necessary.)
  - b. Open the file **project1.html**. This is a blank HTML file with just the necessary structural elements such as <head>, <body>, and so on.
  - c. Build a simple table with four columns and five rows as shown. Use any data you choose or copy the data supplied here.
  - d. Make sure you include the caption and header row.

- e. Display the results in a browser, and then compare them to Figure 10-23.

AFI Top 5 Movies			
#	Movie	Year	Director
1	Citizen Kane	1941	Orson Welles
2	The Godfather	1972	Francis Ford Coppola
3	Casablanca	1942	Michael Curtiz
4	Raging Bull	1980	Martin Scorsese
5	Singing in the Rain	1952	Stanley Donen

**Figure 10-23** Project 1 solution

2. In this project, you continue working in the project1.html file from the previous exercise. As you work through the steps, refer to Figure 10-24 to see the results you will achieve. Save your file and test your work in the browser as you complete each step.
  - a. Add the following style properties to the table in project1.html:
    - All borders collapsed
    - font family: arial
    - table border: solid 4px blue
    - table cells border: solid 1px black
    - table cells padding: 10 pixels
  - b. Display the results in a browser, and then compare them to Figure 10-24.

AFI Top 5 Movies			
#	Movie	Year	Director
1	Citizen Kane	1941	Orson Welles
2	The Godfather	1972	Francis Ford Coppola
3	Casablanca	1942	Michael Curtiz
4	Raging Bull	1980	Martin Scorsese
5	Singing in the Rain	1952	Stanley Donen

**Figure 10-24** Project 2 solution

3. In this project, you continue working in the `project1.html` file from the previous exercise. As you work through the steps, refer to Figure 10-25 to see the results you will achieve. Save your file and test your work in the browser as you complete each step.
  - a. Style the table caption with the following properties:
    - Alignment: Left-aligned
    - Font size: .85em
    - Font style: italic
    - Padding: 10 pixels on the bottom
  - b. Display the results in a browser, and then compare them to Figure 10-25.

*AFI Top 5 Movies*

#	Movie	Year	Director
1	Citizen Kane	1941	Orson Welles
2	The Godfather	1972	Francis Ford Coppola
3	Casablanca	1942	Michael Curtiz
4	Raging Bull	1980	Martin Scorsese
5	Singing in the Rain	1952	Stanley Donen

**Figure 10-25** Project 3 solution

4. In this project, you continue working in the `project1.html` file from the previous exercise. As you work through the steps, refer to Figure 10-26 to see the results you will achieve. Save your file and test your work in the browser as you complete each step.
  - a. Add a background color (`#929292`) and font-color (`#fff`) to the table header cells.
  - b. Display the results in a browser, and then compare them to Figure 10-26.



AFI Top 5 Movies

#	Movie	Year	Director
1	Citizen Kane	1941	Orson Welles
2	The Godfather	1972	Francis Ford Coppola
3	Casablanca	1942	Michael Curtiz
4	Raging Bull	1980	Martin Scorsese
5	Singing in the Rain	1952	Stanley Donen

**Figure 10-26** Project 4 solution

5. In this project, you continue working in the project1.html file from the previous exercise. As you work through the steps, refer to Figure 10-27 to see the results you will achieve. Save your file and test your work in the browser as you complete each step.
  - a. Add a background hover color (#66ccff) when the user points to a row of data.
  - b. Display the results in a browser, and then compare them to Figure 10-27.

AFI Top 5 Movies

#	Movie	Year	Director
1	Citizen Kane	1941	Orson Welles
2	The Godfather	1972	Francis Ford Coppola
3	Casablanca	1942	Michael Curtiz
4	Raging Bull	1980	Martin Scorsese
5	Singing in the Rain	1952	Stanley Donen

**Figure 10-27** Project 5 solution

## Individual Case Project

Examine the content you are presenting in your project Web site and find data that would be enhanced by the use of a table. Write a brief, single-page analysis or memo that you can present to your instructor that explains why you should or should not use tables to present your data. If your analysis warrants a table, then design and implement the table in the appropriate Web page(s).

## Team Case Project

As a team, examine the content you are presenting in your project Web site and find data that would be enhanced by the use of a table. Write a brief, single-page analysis or memo that you can present to your instructor that explains why you should or should not use tables to present your data. If your analysis warrants a table, then design and implement the table in the appropriate Web page(s).