

HTML Tables and Forms

Chapter 5

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Fundamentals of Web Development

Chapter 5

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Tables

2 Styling Tables

3 Introducing
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4 Form Control
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5 Table and Form
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6 Microformats

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Introducing Tables

Basic Table Structure

The image displays four separate browser windows, each showing a different application or interface that utilizes tables for data presentation.

- Pricing Table:** A table comparing service plans. It has a header row with "Free", "Basic", and "Premium" columns. Subsequent rows compare "Upload Space", "Daily Uploads", "Total Uploads", "Social Sharing", and "Analytics" across the three plans. The "Price per year" row shows the final costs: \$0 for Free, \$9.99 for Basic, and \$19.99 for Premium.

	Free	Basic	Premium
Upload Space	50MB	200MB	Unlimited
Daily Uploads	1	10	Unlimited
Total Uploads	20	100	Unlimited
Social Sharing	✓	✓	✓
Analytics			✓
Price per year	\$ 0	\$ 9.99	\$ 19.99

- Artist Inventory:** A table showing details of artworks by Jacques-Louis David. The columns are "Artist" (with a portrait image), "Title", "Year", and "Home". Two rows are listed: "The Death of Marat" (1793, Royal Museums of Fine Arts of Belgium) and "The Intervention of the Sabine Women" (1793, Royal Museums of Fine Arts of Belgium).

Artist	Work Details			
		Title	Year	Home
Jacques-Louis David		<i>The Death of Marat</i>	1793	Royal Museums of Fine Arts of Belgium
		<i>The Intervention of the Sabine Women</i>	1793	Royal Museums of Fine Arts of Belgium

- Paintings Catalog:** A table listing various paintings. The columns are "Title", "Artist", "Year", and "Genre". Each row includes a small thumbnail image and an "Edit" button.

Paintings				
	Title	Artist	Year	Genre
	<i>Death of Marat</i>	David, Jacques-Louis	1793	Romanticism
	<i>Lictors Bearing to Brutus the Bodies of his Sons</i>	David, Jacques-Louis	1789	Romanticism
	<i>Liberty Leading the People</i>	Delacroix, Eugene	1830	Romanticism
	<i>Arrangement in Grey and Black</i>	Whistler, James Abbott	1871	Realism
	<i>Mademoiselle Caroline Riviere</i>	Ingres, Jean-Auguste	1806	Neo-Classicism

- Calendar:** A table-based calendar for October 2014. The days of the week (S, M, T, W, T, F, S) are at the top. The dates are arranged in a grid. The 14th is highlighted in blue, indicating it's the current date.

October 2014						
S	M	T	W	T	F	S
					1	2
					3	4
		5	6	7	8	9
		10	11			
	12	13	14	15	16	17
	18	19	20	21	22	23
	24	25	26	27	28	29
	30	31				

Introducing Tables

Basic Table Structure

The Death of Marat	Jacques-Louis David	1793	162cm	128cm
Burial at Ornans	Gustave Courbet	1849	314cm	663cm
The Death of Marat	Jacques-Louis David	1793	162cm	128cm
Burial at Ornans	Gustave Courbet	1849	314cm	663cm

```
<table>
<tr>
  <td>The Death of Marat</td>
  <td>Jacques-Louis David</td>
  <td>1793</td>
  <td>162cm</td>
  <td>128cm</td>
</tr>
<tr>
  <td>Burial at Ornans</td>
  <td>Gustave Courbet</td>
  <td>1849</td>
  <td>314cm</td>
  <td>663cm</td>
</tr>
</table>
```

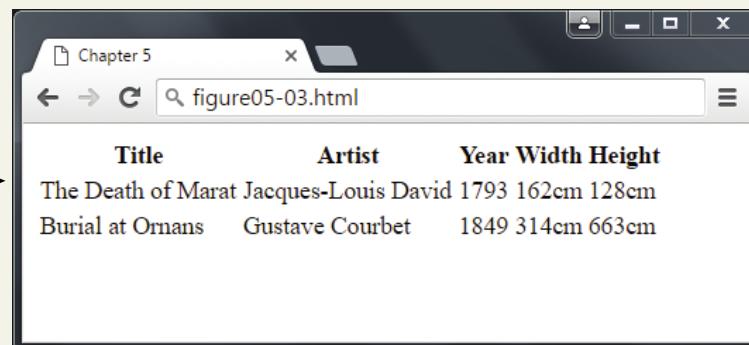


Introducing Tables

Adding Headings

Title	Artist	Year	Width	Height
The Death of Marat	Jacques-Louis David	1793	162cm	128cm
Burial at Ornans	Gustave Courbet	1849	314cm	663cm


```
<table>
  <tr>
    <th>Title</th>
    <th>Artist</th>
    <th>Year</th>
    <th>Width</th>
    <th>Height</th>
  </tr>
  <tr>
    <td>The Death of Marat</td>
    <td>Jacques-Louis David</td>
    <td>1793</td>
    <td>162cm</td>
    <td>128cm</td>
  </tr>
  <tr>
    <td>Burial at Ornans</td>
    <td>Gustave Courbet</td>
    <td>1849</td>
    <td>314cm</td>
    <td>663cm</td>
  </tr>
</table>
```



Title	Artist	Year	Width	Height
The Death of Marat	Jacques-Louis David	1793	162cm	128cm
Burial at Ornans	Gustave Courbet	1849	314cm	663cm

Introducing Tables

Spanning Columns

Title	Artist	Year	Size (width x height)	
The Death of Marat	Jacques-Louis David	1793	162cm	128cm
Burial at Ornans	Gustave Courbet	1849	314cm	663cm

Notice that this row
now only has four
cell elements.

```
<table>
  <tr>
    <th>Title</th>
    <th>Artist</th>
    <th>Year</th>
    <th colspan="2">Size (width x height)</th>
  </tr>
  <tr>
    <td>The Death of Marat</td>
    <td>Jacques-Louis David</td>
    <td>1793</td>
    <td>162cm</td>
    <td>128cm</td>
  </tr>
  ...
</table>
```

Introducing Tables

Spanning Rows

```
<table>
```

Artist <i><th></i>	Title <i><th></i>	Year <i><th></i>
Jacques-Louis David	The Death of Marat <i><td></i>	1793 <i><td></i>
	The Intervention of the Sabine Women <i><td></i>	1799 <i><td></i>
	Napoleon Crossing the Alps <i><td></i>	1800 <i><td></i>

```
<tr>
```

```
<tr>
```

```
<tr>
```

```
<tr>
```

```
<table>
  <tr>
    <th>Title</th>
    <th>Artist</th>
    <th>Year</th>
  </tr>
  <tr>
    <td rowspan="3">Jacques-Louis David</td>
    <td>The Death of Marat</td>
    <td>1793</td>
  </tr>
  <tr>
    <td>The Intervention of the Sabine Women</td>
    <td>1799</td>
  </tr>
  <tr>
    <td>Napoleon Crossing the Alps</td>
    <td>1800</td>
  </tr>
</table>
```

Notice that these two rows now only have two cell elements.

Introducing Tables

Additional Table Elements

A title for the table is good for accessibility.

These describe our columns, and can be used to aid in styling.

Table header could potentially also include other `<tr>` elements.

Yes, the table footer comes *before* the body.

Potentially, with styling the browser can scroll this information, while keeping the header and footer fixed in place.

```
<table>
  <caption>19th Century French Paintings</caption>
  <col class="artistName" />
  <colgroup id="paintingColumns">
    <col />
    <col />
  </colgroup>

  <thead>
    <tr>
      <th>Title</th>
      <th>Artist</th>
      <th>Year</th>
    </tr>
  </thead>

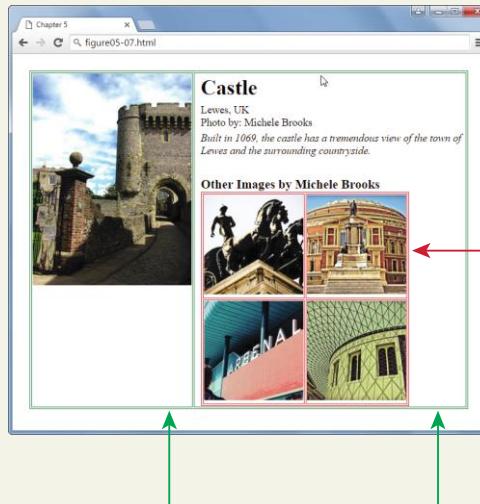
  <tfoot>
    <tr>
      <td colspan="2">Total Number of Paintings</td>
      <td>2</td>
    </tr>
  </tfoot>

  <tbody>
    <tr>
      <td>The Death of Marat</td>
      <td>Jacques-Louis David</td>
      <td>1793</td>
    </tr>
    <tr>
      <td>Burial at Ornans</td>
      <td>Gustave Courbet</td>
      <td>1849</td>
    </tr>
  </tbody>
</table>
```



Introducing Tables

Using Tables for Layout



```
<table>
  <tr>
    <td>
      
    </td>
    <td>
      <h2>Castle</h2>
      <p>Lewes, UK</p>
      <p>Photo by: Michele Brooks</p>
      <p>Built in 1069, the castle has a tremendous
         view of the town of Lewes and the
         surrounding countryside.</p>
    </td>
  </tr>
  <tr>
    <td></td>
    <td></td>
  </tr>
  <tr>
    <td></td>
    <td></td>
  </tr>
</table>
```

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Styling Tables

Table Borders

The figure consists of three screenshots of a web browser displaying a table titled "19th Century French Paintings".

Top Screenshot: Shows a table with a single solid black border around the entire structure. The table has columns for Title, Artist, and Year.

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Total Number of Paintings		4

Middle Screenshot: Shows a table where each cell has its own solid black border. The table structure is identical to the first one.

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Total Number of Paintings		4

Bottom Screenshot: Shows a table where the overall border is collapsed, but individual cells have their own solid black borders. The table structure is identical to the first one.

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Total Number of Paintings		4

```
table {  
    border: solid 1pt black;  
}
```

```
table {  
    border: solid 1pt black;  
}  
td {  
    border: solid 1pt black;  
}
```

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

Styling Tables

Table Borders

19th Century French Paintings		
Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Total Number of Paintings		4

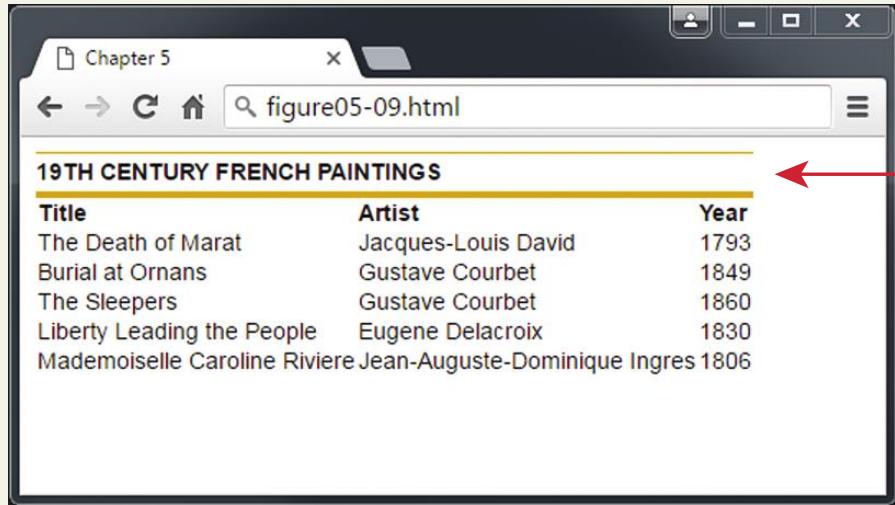
```
table {  
    border: solid 1pt black;  
    border-collapse: collapse;  
}  
td {  
    border: solid 1pt black;  
    padding: 10pt;  
}
```

19th Century French Paintings		
Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Total Number of Paintings		4

```
table {  
    border: solid 1pt black;  
    border-spacing: 10pt;  
}  
td {  
    border: solid 1pt black;  
}
```

Styling Tables

Boxes



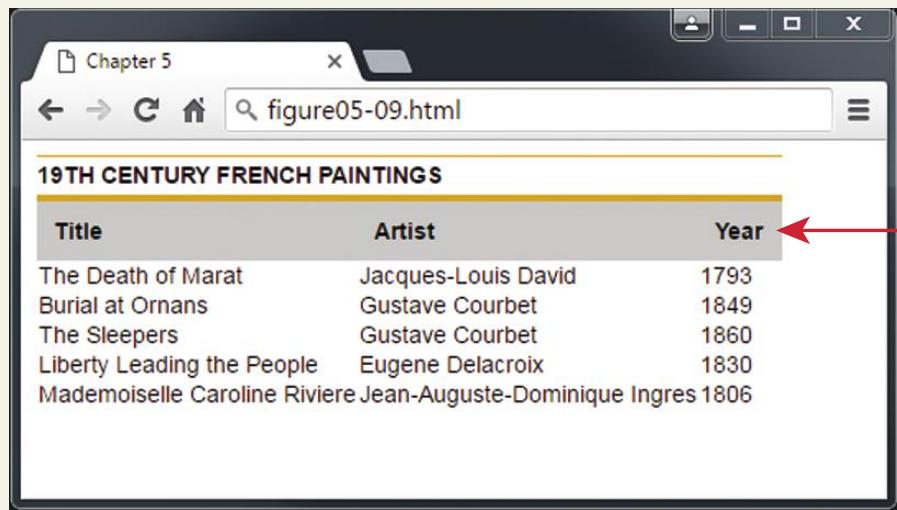
A screenshot of a web browser window titled "Chapter 5". The address bar shows "figure05-09.html". The page displays a table with a yellow border. The table has a caption "19TH CENTURY FRENCH PAINTINGS" and three columns: "Title", "Artist", and "Year". The data rows are:

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Mademoiselle Caroline Riviere	Jean-Auguste-Dominique Ingres	1806

```
caption {  
    font-weight: bold;  
    padding: 0.25em 0 0.25em 0;  
    text-align: left;  
    text-transform: uppercase;  
    border-top: 1px solid #DCA806;  
}  
table {  
    font-size: 0.8em;  
    font-family: Arial, sans-serif;  
    border-collapse: collapse;  
    border-top: 4px solid #DCA806;  
    border-bottom: 1px solid white;  
    text-align: left;  
}
```

Styling Tables

Boxes



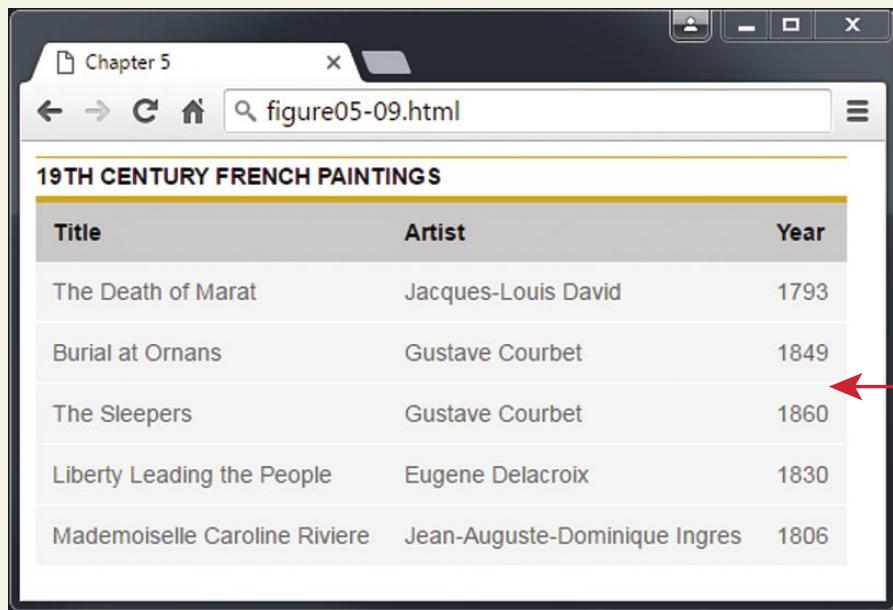
A screenshot of a web browser window titled "Chapter 5". The address bar shows "figure05-09.html". The page content is a table with a yellow header row. The header row contains three columns: "Title", "Artist", and "Year". The table lists five paintings: "The Death of Marat" by Jacques-Louis David (1793), "Burial at Ornans" by Gustave Courbet (1849), "The Sleepers" by Gustave Courbet (1860), "Liberty Leading the People" by Eugene Delacroix (1830), and "Mademoiselle Caroline Riviere Jean-Auguste-Dominique Ingres" (1806). A red arrow points from the CSS code to the "Year" column header in the table.

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Mademoiselle Caroline Riviere Jean-Auguste-Dominique Ingres		1806

```
thead tr {  
    background-color: #CACACA;  
}  
th {  
    padding: 0.75em;  
}
```

Styling Tables

Boxes



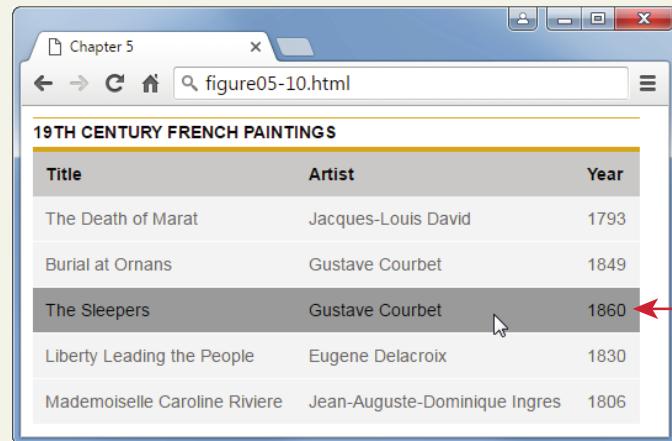
A screenshot of a web browser window titled "Chapter 5". The address bar shows "figure05-09.html". The page content is a table with a yellow header row and a light gray body row. The table has three columns: "Title", "Artist", and "Year". The data rows are:

Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Mademoiselle Caroline Riviere	Jean-Auguste-Dominique Ingres	1806

```
tbody tr {  
    background-color: #F1F1F1;  
    border-bottom: 1px solid white;  
    color: #6E6E6E;  
}  
tbody td {  
    padding: 0.75em;  
}
```

Styling Tables

Hover & Zebras



Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Mademoiselle Caroline Riviere	Jean-Auguste-Dominique Ingres	1806

```
tbody tr:hover {  
    background-color: #9e9e9e;  
    color: black;  
}
```



Title	Artist	Year
The Death of Marat	Jacques-Louis David	1793
Burial at Ornans	Gustave Courbet	1849
The Sleepers	Gustave Courbet	1860
Liberty Leading the People	Eugene Delacroix	1830
Mademoiselle Caroline Riviere	Jean-Auguste-Dominique Ingres	1806

```
tbody tr:nth-child(even) {  
    background-color: lightgray;  
}
```

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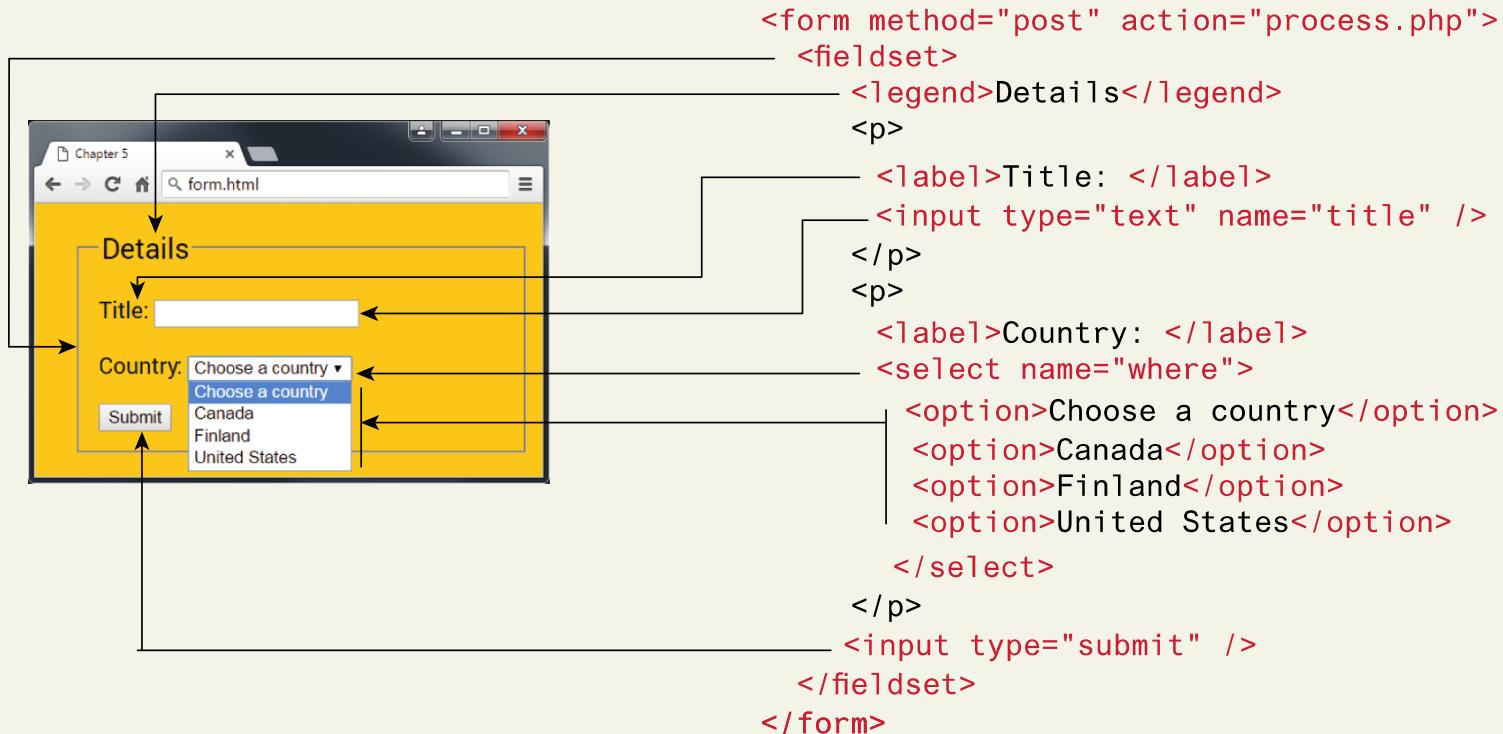
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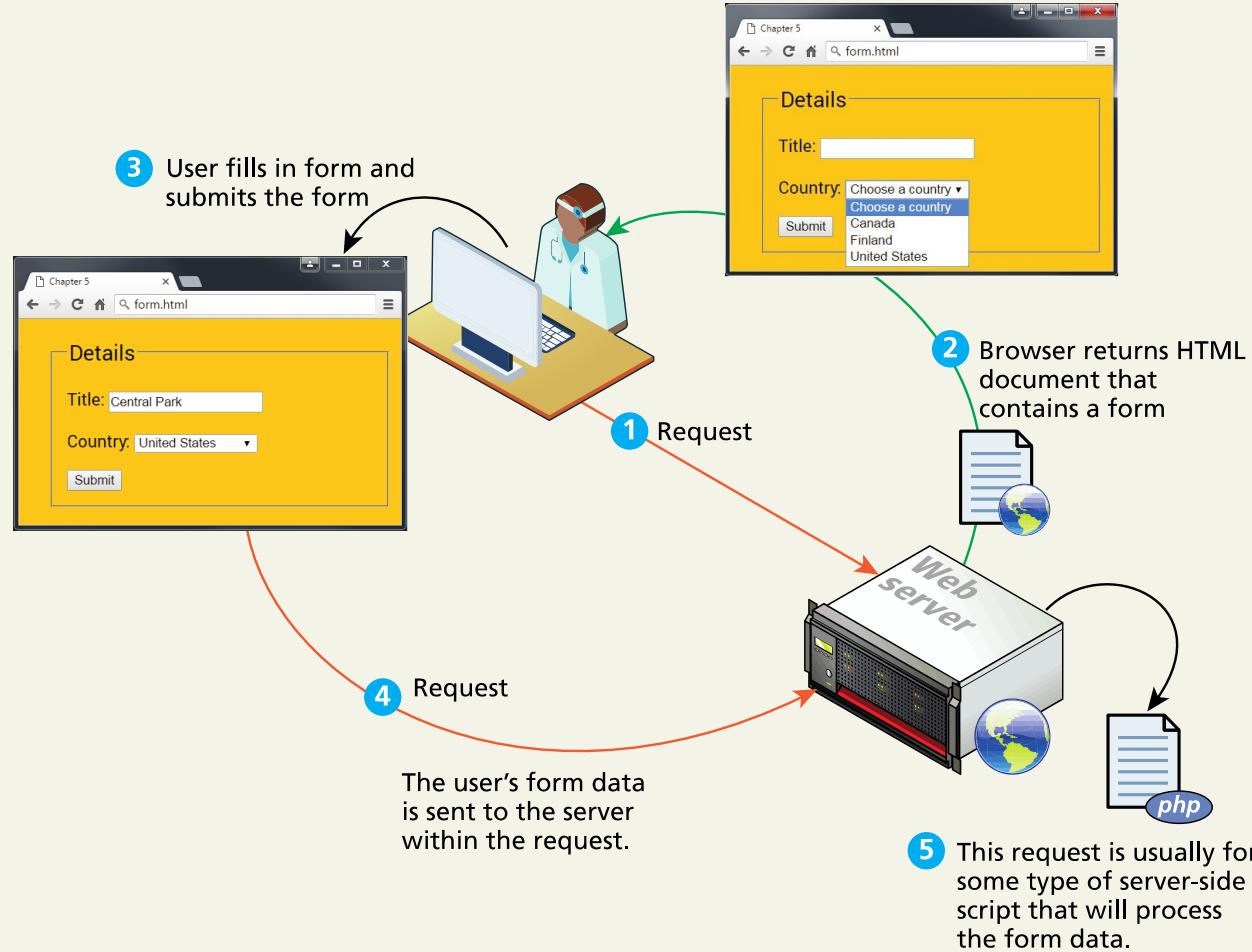
Introducing Forms

Form Structure



Introducing Forms

How Forms Work



Introducing Forms

Query Strings

```
<input type="text" name="title" />
```

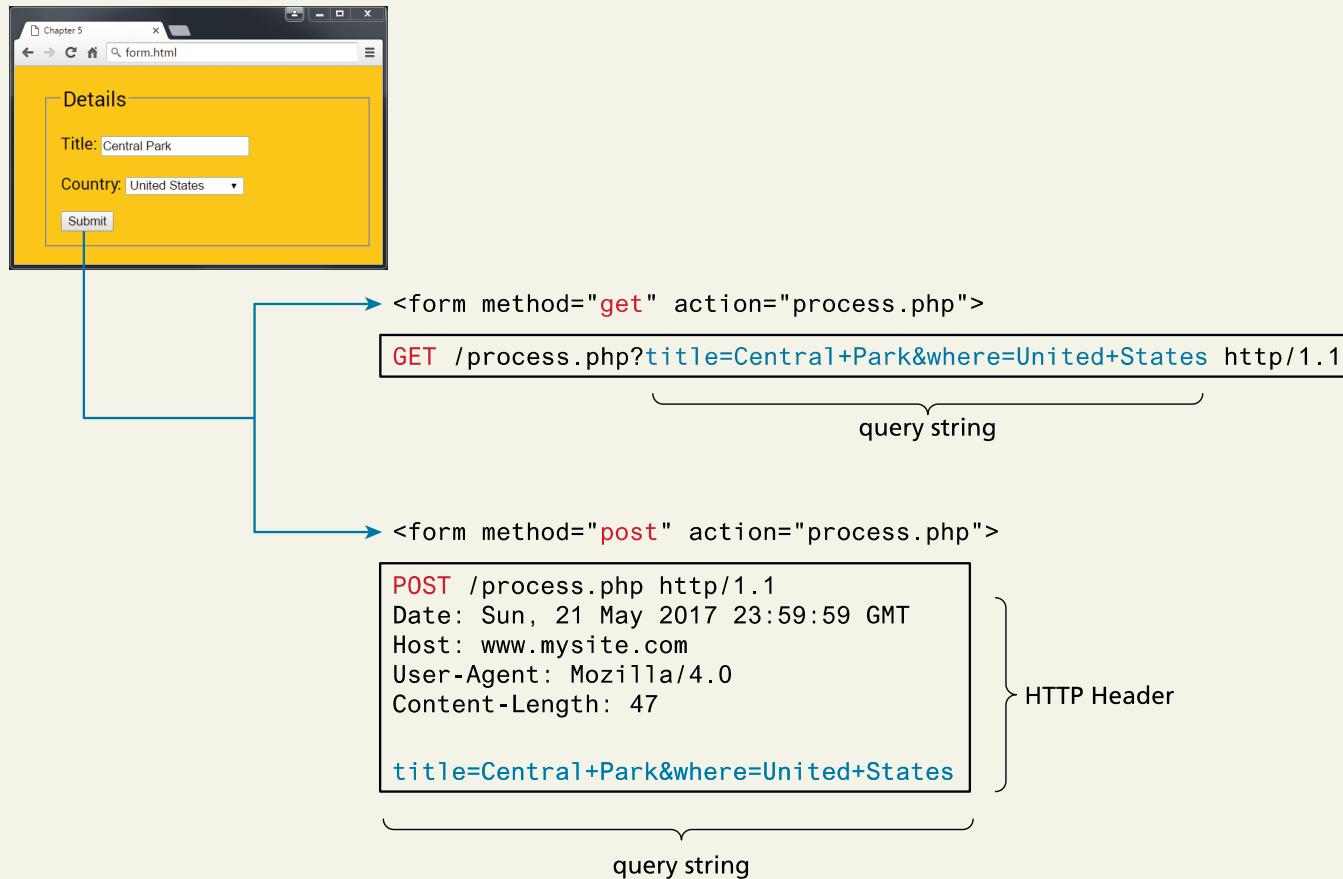
A screenshot of a web browser window titled "Chapter 5". The address bar shows "form.html". The page content is a form with a yellow background. It has a "Details" section containing two input fields: "Title" with the value "Central Park" and "Country" with the value "United States". Below the inputs is a "Submit" button. Red boxes highlight the "title" and "where" names in the code and the browser's input fields.

```
<select name="where">
```

```
title=Central+Park&where=United+States
```

Introducing Forms

GET and POST



Introducing Forms

HTML Form elements

- <button>
- <datalist>
- <fieldset>
- <form>
- <input>
- <label>
- <legend>
- <option>
- <optgroup>
- <select>
- <textarea>
- <output>

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Form Control Elements

Text Input Controls

```
<input type="text" ... />
```

Text:

```
<textarea>  
    enter some text  
</textarea>
```

TextArea:


```
<textarea placeholder="enter some text">  
    </textarea>
```

TextArea:


```
<input type="password" ... />
```

Password: Password:

```
<input type="search" placeholder="enter search text" ... />
```

Search: Search:

HTML 

```
<input type="email" ... />
```

Email: In Opera

Please enter a valid email address.

Email: In Chrome

Please enter an email address.

```
<input type="url" ... />
```

url:
Please enter a URL.

```
<input type="tel" ... />
```

Tel:

Form Control Elements

New in HTML5 – pattern and datalist

```
<input type="text" ... placeholder="L#L #L#" pattern="[a-z][0-9][a-z] [0-9][a-z][0-9]" />
```

Postal:

Postal:

Please match the requested format.

```
Search City:   
Paris  
Prague
```

```
<input type="text" name="city" list="cities" />  
  
<datalist id="cities">  
  <option>Calcutta</option>  
  <option>Calgary</option>  
  <option>London</option>  
  <option>Los Angeles</option>  
  <option>Paris</option>  
  <option>Prague</option>  
</datalist>
```

Form Control Elements

Choice Controls (<select>)

Select: Second ▾

Select: Second ▾

- First
- Second
- Third

```
<select name="choices">
  <option>First</option>
  <option selected>Second</option>
  <option>Third</option>
</select>
```

Select: First
Second
Third

```
<select size="3" . . . >
```

Cities: London ▾

- North America
 - Calgary
 - Los Angeles
- Europe
 - London
 - Paris
 - Prague

```
<select . . . >
  <optgroup label="North America">
    <option>Calgary</option>
    <option>Los Angeles</option>
  </optgroup>
  <optgroup label="Europe">
    <option>London</option>
    <option>Paris</option>
    <option>Prague</option>
  </optgroup>
</select>
```

Form Control Elements

Choice Controls <select> using value attribute

Select:

Second ▾

- First
- Second
- Third

```
<select name="choices">
    <option>First</option>
    <option>Second</option>
    <option>Third</option>
</select>
```

?choices=Second

```
<select name="choices">
    <option value="1">First</option>
    <option value="2">Second</option>
    <option value="3">Third</option>
</select>
```

?choices=2

Form Control Elements

Button Controls (radio)

Continent:

- North America
- South America
- Asia

```
<input type="radio" name="where" value="1">North America<br/>
<input type="radio" name="where" value="2" checked>South America<br/>
<input type="radio" name="where" value="3">Asia
```

Form Control Elements

Button Controls (checkbox)

I accept the software license

Where would you like to visit?
 Canada
 France
 Germany

```
<label>I accept the software license</label>
<input type="checkbox" name="accept" >
```

```
<label>Where would you like to visit? </label><br/>
<input type="checkbox" name="visit" value="canada">Canada<br/>
<input type="checkbox" name="visit" value="france">France<br/>
<input type="checkbox" name="visit" value="germany">Germany
```

```
?accept=on&visit=canada&visit=germany
```

Form Control Elements

Button Controls (checkbox)

```
<input type="submit" />
```

Submit

Reset

```
<input type="reset" />
```

```
<input type="button" value="Click Me" />
```

Click Me



```
<input type="image" src="appointment.png" />
```



```
<button>
  <a href="email.html">
    
    Email
  </a>
</button>
```

```
<button type="submit" >
  
  Edit
</button>
```

Form Control Elements

Specialized Controls (file upload)

Upload a travel photo
Choose File No file chosen

Upload a travel photo
Choose File IMG_0020.JPG

```
<form method="post" enctype="multipart/form-data" . . . >
  ...
  <label>Upload a travel photo</label>
  <input type="file" name="photo" />
  ...
</form>
```

Form Control Elements

Specialized Controls (number and range controls)

Rate this photo:

2

Grumpy Ecstatic

```
<label>Rate this photo: <br/>
<input type="number" min="1" max="5" name="rate" />
```

Grumpy

Ecstatic

```
<input type="range" min="0" max="10" step="1" name="happiness" />
```

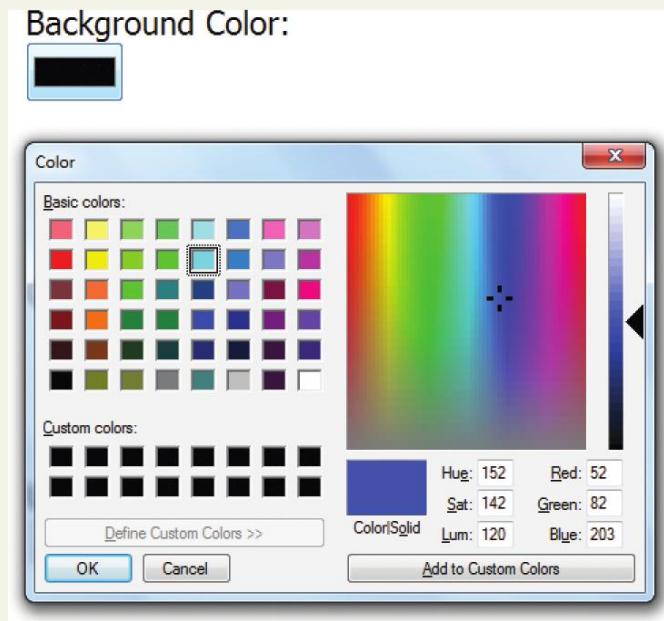
Rate this photo:

Grumpy Ecstatic

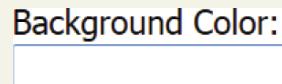
Controls as they appear in browser
that doesn't support these input types

Form Control Elements

Specialized Controls (colour)



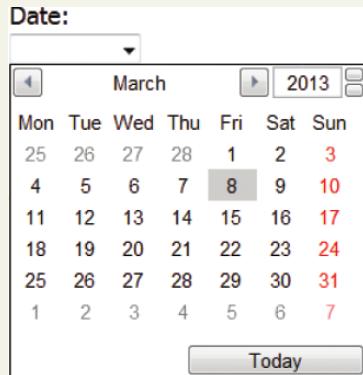
```
<label>Background Color: <br />
<input type="color" name="back" />
```



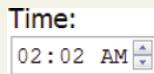
Control as it appears in browser that
doesn't support this input type

Form Control Elements

Date and Time Controls



```
<label>Date: <br />
<input type="date" . . . />
```



```
<input type="time" . . . />
```



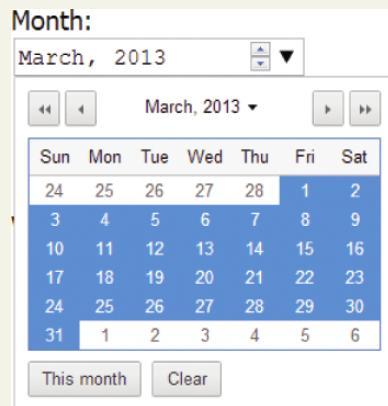
```
<input type="datetime" . . . />
```



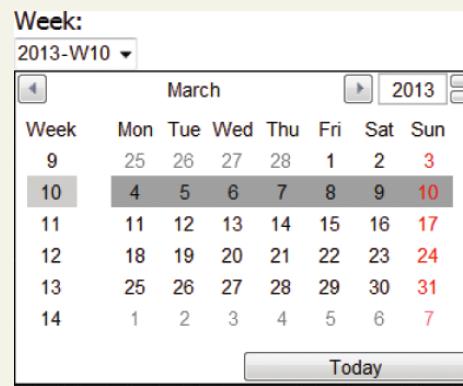
```
<input type="datetime-local" . . . />
```

Form Control Elements

Date and Time Controls



```
<input type="month" . . . />
```



```
<input type="week" . . . />
```

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Table and Form Accessibility

Accessible Tables

- Use tables for data, not layout
- Use the `<caption>` element
- Connect cells with a textual description in the header

```
<caption>Famous Paintings</caption>
<tr>
  <th scope="col">Title</th>
  <th scope="col">Artist</th>
  <th scope="col">Year</th>
  <th scope="col">Width</th>
  <th scope="col">Height</th>
</tr>
```

Table and Form Accessibility

Accessible Form

```
<label for="f-title">Title: </label>
```

```
<input type="text" name="title" id="f-title"/>
```

```
<label for="f-country">Country: </label>
```

```
<select name="where" id="f-country">
    <option>Choose a country</option>
    <option>Canada</option>
    <option>Finland</option>
    <option>United States</option>
</select>
```

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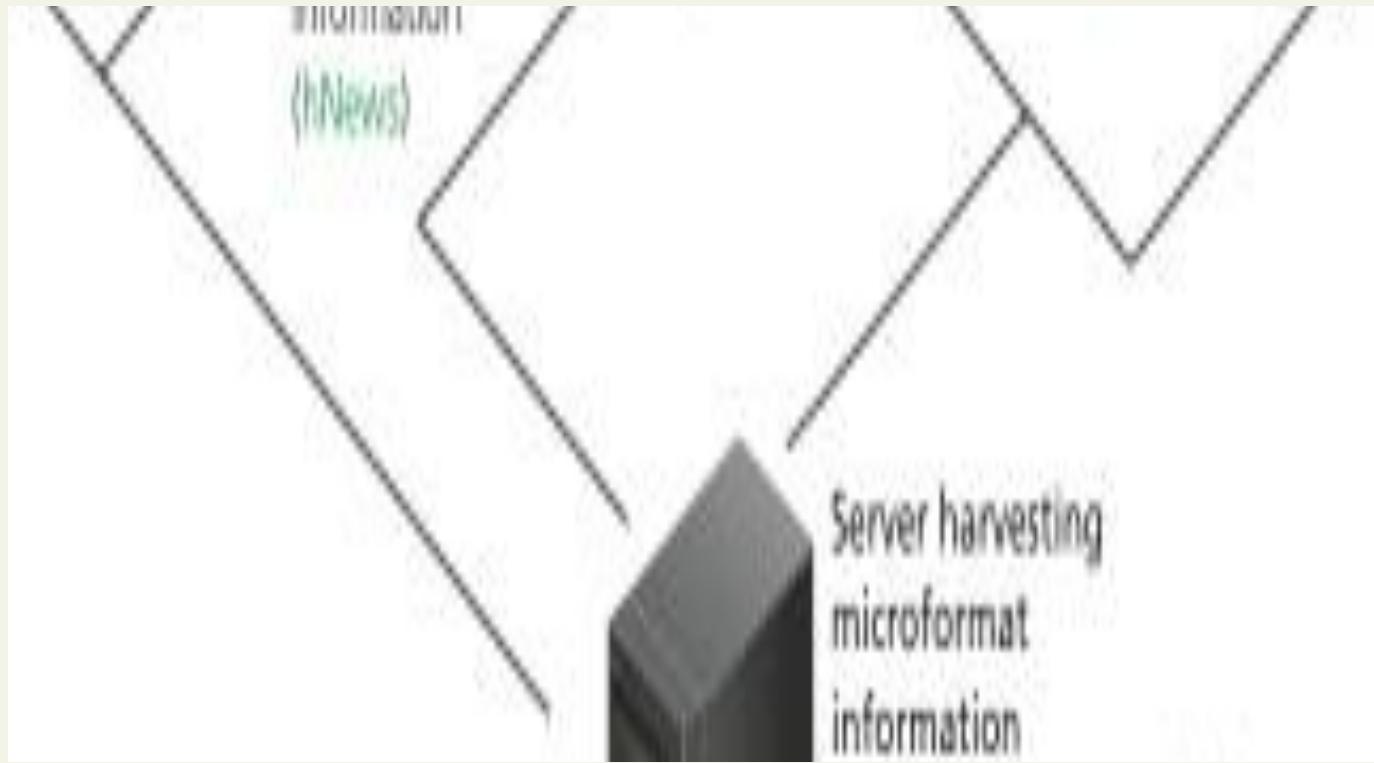
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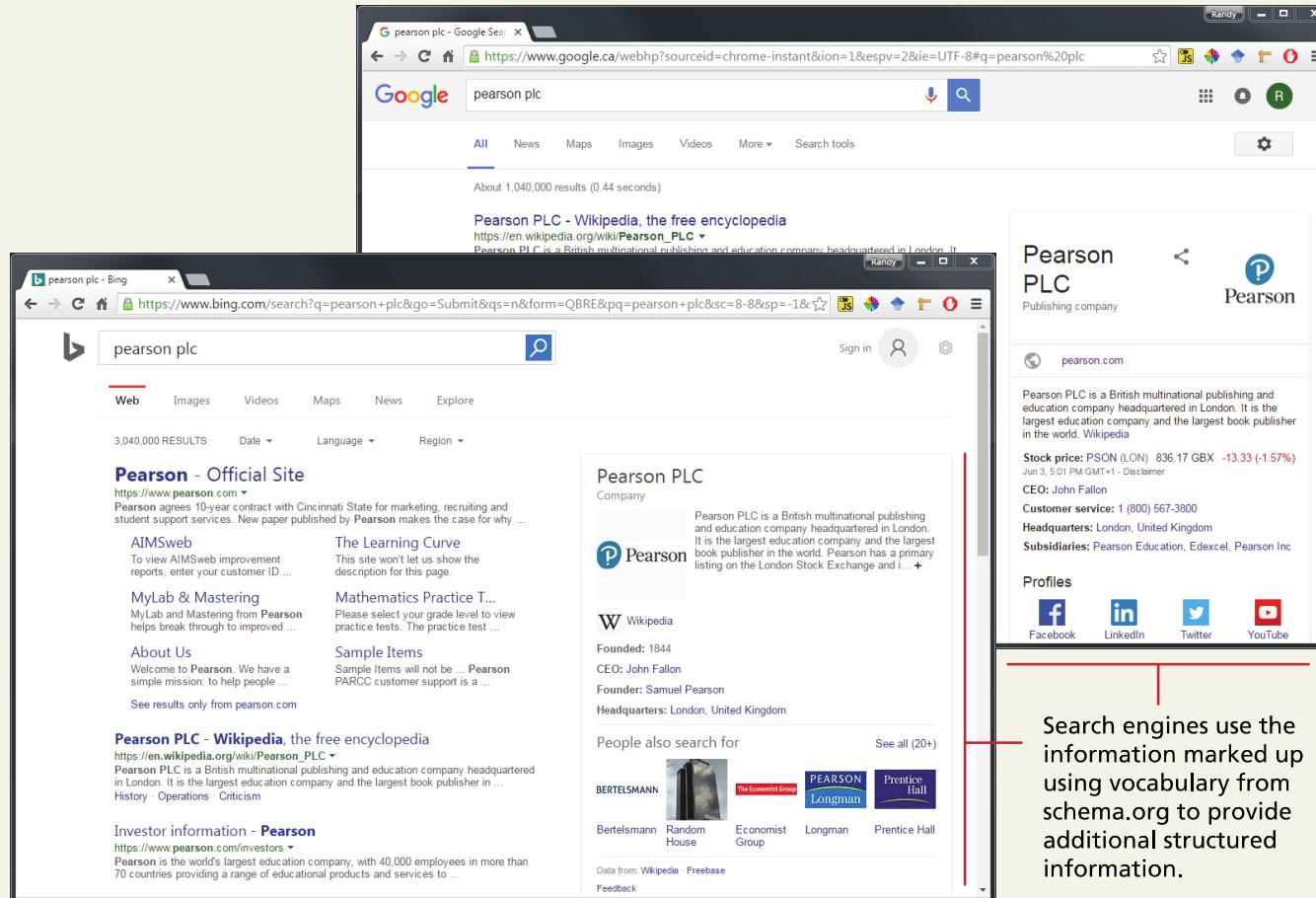
7 Summary

Microformats



Microformats

Schema.org



Search engines use the information marked up using vocabulary from schema.org to provide additional structured information.

Microformats

References

hCard, which is used to semantically mark up contact information for a person

- <http://microformats.org/wiki/hcard>.

Schema.org aims to create and promote schemas for structured data on the Web. Google's on-line testing tool helps developers test their semantic markup and microformats

- <https://search.google.com/structured-data/testing-tool/u/0/>

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Summary

Key Terms

- checkbox
- colspan
- form
- GET
- hCard
- microformat
- POST
- query string
- radio buttons
- rowspan
- schema.org
- table
- URL encoded
- web accessibility
- Web Accessibility Initiative (WAI)

Questions