

# CP1406 – Week 7

## Creating Tables and Forms



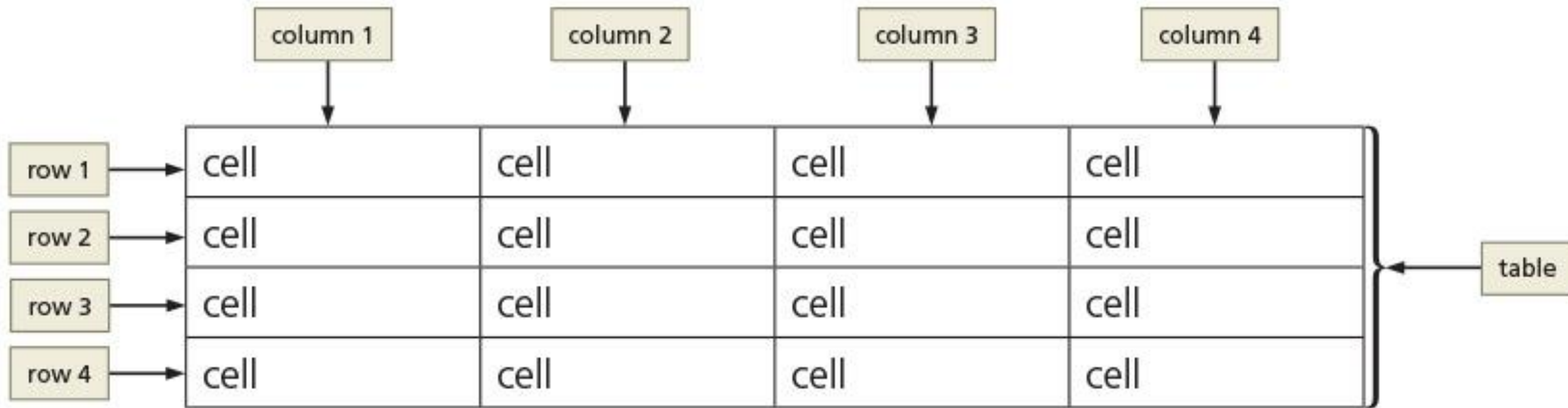
# Introduction

- **Tables** present related information in rows and columns
  - Useful when comparing types of data or listing topics and details
  - Helpful when you need to provide a lot of content in a compact form
- Many businesses use **forms** to collect information about their customers
  - Common information includes a customer's first and last names, address, email address, and phone number

# Discovering Tables

- Tables compare data or outline a detailed topic, such as a schedule or menu, in a compact format
  - Row: horizontal line of information
  - Column: vertical line of information
  - Cell: intersection of a row and a column and usually contains data
    - Header cell displays text as bold and center-aligned
    - Data cell displays normal, left-aligned text and contains information appropriate for the column and row

# Discovering Tables



# Creating a Table with HTML Elements

Element	Indicates the start and end of:	Contains:
<code>&lt;table&gt; ... &lt;/table&gt;</code>	Table within a webpage	All related table elements
<code>&lt;tr&gt; ... &lt;/tr&gt;</code>	Table row within a table	Table data cells
<code>&lt;th&gt; ... &lt;/th&gt;</code>	Table header cell	Table header content
<code>&lt;td&gt; ... &lt;/td&gt;</code>	Table data	Table cell content
<code>&lt;caption&gt; ... &lt;/caption&gt;</code>	Table caption	Table caption or title
<code>&lt;thead&gt; ... &lt;/thead&gt;</code>	Table header area	Grouped header content
<code>&lt;tbody&gt; ... &lt;/tbody&gt;</code>	Table body area	Grouped body content
<code>&lt;tfooter&gt; ... &lt;/tfooter&gt;</code>	Table footer area	Grouped footer content

# Creating a Table with HTML Elements

- Creating a table on a webpage
  - The `<table>` and `</table>` tags indicate the starting and ending of a table
  - The `<tr>` and `</tr>` tags indicate the starting and ending of each table row
  - The `<td>` and `</td>` tags indicate the starting and ending tags for data elements within the table row elements

# Table Borders, Headers, and Captions

- Table border
  - Line that defines the perimeter of the table
- Table header
  - Heading cell
  - Identifies the row or column content
  - Defined with a starting `<th>` tag and an ending `</th>` tag

# Table Borders, Headers, and Captions

- Table caption
  - Descriptive text that serves as a title or identifies the table's purpose
  - Defined with a starting `<caption>` tag and an ending `</caption>` tag
  - Inserted after the starting `<table>` tag
  - A table can have only one caption
  - Tables can include headers and captions individually or in combination



# Table Borders, Headers, and Captions

table caption → College Course Recommendations by Semester

table header →

table border →

Semester 1	Semester 2	Semester 3	Semester 4
English I	English II	Spanish I	Spanish II
College Algebra	College Geometry	Calculus	Trigonometry
Physical Science	Biology	Humanities	World History

# Table Element Attributes

- Three primary attributes can be used within a table
  - The id attribute is used to specify a unique id for a table when necessary
  - The **colspan** attribute is used to span text or other content across two or more columns

```
<td colspan="2">Sum: $180</td>
```

- The **rowspan** attribute is used to span across two or more rows

```
<td rowspan="2">$50</td>
```

# Use of Tables

- Before you add a table, first determine whether it is necessary on the webpage
  - As general rule, use a table when it will help organise information so that that it is easier for the user to read
  - Tables are also useful if the webpage needs to display a structured, organised list of information

# Use of Tables

- Tables
  - Display data in rows and columns
  - **Should NOT** be used to design a layout for a webpage
  - Help organise information so that it is easier for the user to read
  - Useful if the webpage needs to display a structured, organised list of information

# Planning the Table

- To create effective tables, plan the information that will appear in columns and rows
  - Create a design that presents the information clearly
- Planning a table for responsive web design
  - Give careful consideration to the mobile viewport because of its screen size

# Styling Table Elements

- After creating a table, style it by adding new style rules to the style sheet for the website
  - You can specify style rules for each table element

**Table 8–2 Common CSS Table Properties**

Property	Example	Explanation
background-color	<pre>th {     background-color: #ccc; }  tr:nth-child(even) {     background-color: #ccc; }</pre>	Displays the table header with a light gray background  Applies a light gray background to even rows within the table
border	<pre>table, th, td {     border: 0.1em solid #000; }</pre>	Displays the table, table header, and data cells with a thin solid black border

**Table 8–2 Common CSS Table Properties**

color	<pre>caption {     color: #003300; }</pre>	Displays the table caption in dark green text
height	<pre>td {     height: 2em; }</pre>	Sets the height of a table data cell to 2em
margin	<pre>table {     margin-top: 2em; }</pre>	Applies a 2em top margin to the table
padding	<pre>caption, th, td {     padding: 1em; }</pre>	Applies 1em of padding to the table caption, header, and data cells
text-align	<pre>td {     text-align: center; }</pre>	Aligns the table data in the center of the cell
vertical-align	<pre>td {     vertical-align: center; }</pre>	Aligns the table data vertically in the middle of the cell
width	<pre>table {     width: 80%; }</pre>	Sets the width of the table to 80% of the page width

# Styling Table Elements

- Separated border
  - When a border is applied to table elements, by default, each cell has its own border, making the table appear to use double lines between each table data cell
- Collapsed border
  - Use the border-collapse property with a value of collapse to display a table with single, consolidated borders



# Collapsing Table Borders

Name	Contact(Home)	Contact(Work)	Location
Jane Bradley	02380 123123	02380 577566	Southampton
Fred Bradley	01273 177166	01273 177167	Brighton

"Separated" borders with cellspacing

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

# Styling Tables for Responsive Web Design

- It can be difficult to style a table for a mobile viewport, especially when the table consists of several columns
  - Determine whether you can format the table, so it is still easy to read in a mobile viewport
  - If the table is too large or complex to format, you can display the content in a different format such as a list or a chart in a mobile viewport

# Style a Table for a Tablet Viewport



Group Fitness Class Schedule

Class	Days	Times	Instructor	Room
Cardio	Mon, Wed, Fri	6:00am, 6:00pm	Schultz	B
Boot Camp	Tue, Thu	5:00am, 5:00pm	Taylor	B
Spinning	Tue, Thu	6:00am, 6:00pm	Roberts	A
Kickboxing	Mon, Wed, Fri	8:00am, 7:15pm	Lawrence	A
Yoga	Tue, Thu	6:00am, 6:00pm	Schultz	B
Zumba	Mon, Wed, Fri	7:00am, 6:00pm	Roberts	A

table border

table is centered  
on the page

table width is 100% within  
the main element

Rob Marmion/Shutterstock.com



# Style a Table for a Tablet Viewport

formatting applied  
to th element

Your Busy Schedule				
Group Fitness Class Schedule				
Class	Days	Times	Instructor	Room
Cardio	Mon, Wed, Fri	6:00am, 6:00pm	Schultz	B
Boot Camp	Tue, Thu	5:00am, 5:00pm	Taylor	B
Spinning	Tue, Thu	6:00am, 6:00pm	Roberts	A
Kickboxing	Mon, Wed, Fri	8:00am, 7:15pm	Lawrence	A
Yoga	Tue, Thu	6:00am, 6:00pm	Schultz	B
Zumba	Mon, Wed, Fri	7:00am, 6:00pm	Roberts	A
© Copyright 2021. All Rights Reserved. forwardfitness@club.net				



# Style a Table for a Tablet Viewport

```
307     th {  
308         background-color: #000;  
309         color: #fff;  
310         font-size: 1.15em;  
311     }  
312  
313     tr:nth-child(odd) {  
314         background-color: #ccc;  
315     }  
316  
317 }
```

Line 313

style rule for tr  
element

tablet media query  
closing brace

# Style a Table for a Tablet Viewport

Your Busy Schedule				
Group Fitness Class Schedule				
Class	Days	Times	Instructor	Room
Cardio	Mon, Wed, Fri	6:00am, 6:00pm	Schultz	B
Boot Camp	Tue, Thu	5:00am, 5:00pm	Taylor	B
Spinning	Tue, Thu	6:00am, 6:00pm	Roberts	A
Kickboxing	Mon, Wed, Fri	8:00am, 7:15pm	Lawrence	A
Yoga	Tue, Thu	6:00am, 6:00pm	Schultz	B
Zumba	Mon, Wed, Fri	7:00am, 6:00pm	Roberts	A
© Copyright 2021. All Rights Reserved. forwardfitness@club.net				

background color applied to odd rows

# Style a Table for a Tablet Viewport

```
392  /* Media Query for Large Desktop Viewports */
393  @media screen and (min-width: 1921px) {
394
395      #container {
396          width: 1920px;
397          margin: 0 auto;
398      }
399
400      table {
401          width: 80%;
402      }
403
404  }
```

Line 400

style rule for table

large desktop media  
query closing brace

# Style a Table for a Tablet Viewport

table width is  
80% for a large  
desktop viewport



Group Fitness Class Schedule

Class	Days	Times	Instructor	Room
Cardio	Mon, Wed, Fri	6:30am, 8:00pm	Schultz	B
Boot Camp	Tue, Thu	8:00am, 9:00pm	Taylor	B
Spinning	Tue, Thu	9:00am, 10:00pm	Williams	A
Kickboxing	Mon, Wed, Fri	8:00am, 7:30pm	Lawrence	A
Yoga	Tue, Thu	6:30am, 8:00pm	Schultz	B
Zumba	Mon, Wed, Fri	7:00am, 8:00pm	Roberts	A



# Creating Webpage Forms

- Forms provide a structured way to collect information from webpage visitors
  - Visitors complete webpage forms to register for an account or to make a purchase
  - Businesses use forms to gather visitor or customer information and store it in a database for future use

# Form Controls

- All form elements are contained with the starting `<form>` tag and the ending `</form>` tag
  - Input control: interactive mechanism for users to enter text or make selections on a form
  - Label: text describing the type of information to enter with an input control

# Form Controls

- Most controls in an HTML form are defined by using the type attribute of the input element
  - Define other controls using separate elements, such as the textarea and select elements

# Form Controls

- Data input control: used to make a selection or perform a command
  - Can be:
    - a radio button (input type="radio"),
    - a check box (input type="checkbox"),
    - a Submit button (input type="submit"),
    - a Reset button (input type="reset"),
    - or a selection menu (select element).
- Text input control: accepts text, such as names, dates, and passwords
  - Often called an input field

# Form Controls - Name, ID, and Value

- Each input control has attributes that are used more frequently than the others
  - Name: identifies the specific information that is being sent when the form is submitted for processing
    - All controls have a name
  - Id: provides a unique ID for the element
    - Use the id attribute with input controls
  - Value: specifies the value of an input element
    - Varies depending on input type

# Form Controls - Input Controls

- Common input controls used with a form
  - Text, password, email, checkbox, select, submit, reset, etc.
- Text input controls
  - Text box (text control)
  - Password text box (password control)
  - Email text box (email control)
  - Telephone text box (tel control)
  - Date text box (date control)
  - Text area box (textarea control)

# Form Controls - Text Input

- These text input controls have two frequently used attributes:
  - Size: determines width of the control in characters
  - Maxlength: specifies maximum number of characters accepted

```
<input type="text" id="fname" name="fname" maxlength="4">
```

First name:

# Form Controls - Password, Email, Tel, Date Controls

- Password control: text control; provides a text box for the password a visitor enters
- Email control: text box where visitors enter an email address
- Tel control: text box where visitors enter a telephone number
- Date control: text box that accepts a date



# Form Controls - Textarea Control

- Textarea control: creates a text box that allows multiple lines of input
  - To create a textarea control, use the textarea element instead of the input element
  - Two primary attributes set the size
    - Rows: specifies the number of rows, or lines, in the textarea control
    - Cols: sets the width of the textarea control as the number of columns, with each column containing one character

# Form Controls - Textarea Control

- Example of HTML code defining a textarea control:  
    <label>Please tell us more about your shopping experience  
    with us today.</label>  
    <textarea name="feedback" rows="5"  
        cols="100"></textarea>

Please tell us more about your shopping experience with us today.

Submit

# Form Controls - Checkbox Control

- Checkbox control allows a webpage visitor to select items from a list of one or more choices
  - Each choice appears with a graphical box, which can be checked (selected or on) or unchecked (deselected or off)
    - By default, all check boxes are deselected
  - To set a particular check box to be preselected as the default, use the `checked` attribute and value (`checked="checked"`) within the `<input>` tag

☐ I have a bike  
☐ I have a car  
☐ I have a boat

# Form Controls - Radio Control

- Radio control limits the webpage visitor to only one choice from a list of choices
  - Each choice has a radio button, or option button, which appears as an open circle
    - By default, all radio buttons are deselected
  - To set a particular button as the default, use the checked attribute and value within the <input> tag

Please select your favourite Web language:

- ☐ HTML
- ☐ CSS
- ☐ JavaScript

# Form Controls - Select Control

- Select control creates a selection menu from which the visitor makes one or more choices
  - Prevents the visitor from having to type information into a text or textarea control
  - Suitable when a limited number of choices are available
  - Appears on a form as a text box with a list arrow

# Form Controls - Submit Control

- Submit control and reset control create the Submit and Reset buttons
  - Submit button sends the form information to the appropriate location for processing
    - When it is clicked on the form, the name of each control and the value of its data are sent to the server to be processed

## Display a Reset Button

Click on the reset button to reset the form.

Enter your email:

Enter a PIN:

Reset

Submit

# Form Controls - Reset Control

- Reset button clears any input entered in the form, resetting the input controls to their defaults
- A webpage form must include a submit control and a reset control
- The value attribute specifies the text that appears on the button

**Display a Reset Button**

Click on the reset button to reset the form.

Enter your email:

Enter a PIN:

# Form Controls

The diagram illustrates a web form titled "Form Example" with several sections and associated HTML controls:

- Application Information** (Grouped by a **fieldset**):
  - Name**:  (labeled **text control**)
  - Email**:  (labeled **email control**)
  - Phone**:  (labeled **tel control**)
- Job Interest**:
  - I am interested in:** (labeled **checkbox control**)
    - ☐ Programming
    - ☐ Networking
    - ☐ Mobile App Development
    - ☐ Web Development
  - Start Date**:  (labeled **date control**)
- Referral Source**:
  - Advertisement**:  (labeled **select control**)
- Comments and Questions**:
  - Questions?** (labeled **label**):  (labeled **textarea control**)
  - Submit**:  (labeled **submit control**)



# Form Labels

- Form labels identify the type of information to enter into or select from an input control
  - Added to a form using the label element
  - To connect them to their controls, include the for attribute with the same value as the input control's id value

HTML

CSS

```
1 <div class="preference">
2   <label for="cheese">Do you like cheese?</label>
3   <input type="checkbox" name="cheese" id="cheese">
4 </div>
5
6 <div class="preference">
7   <label for="peas">Do you like peas?</label>
8   <input type="checkbox" name="peas" id="peas">
9 </div>
10
```

Output

Do you like cheese? ☐

Do you like peas? ☐

# Attributes of HTML Tags Used to Create Forms

- Many of the HTML tags used to create forms have several attributes
  - Many of the attributes are not supported by all major browsers, so be sure to test them first

Table 8–4 Common Form Attributes		
Attribute	Description	Code Example
max and min	Specifies the maximum and minimum values for an input element	<code>&lt;input type="number" name="survey" min="1" max="10"&gt;</code>
maxlength	Specifies the maximum number of characters allowed within the input field	<code>&lt;input type="text" name="fName" id="fName" maxlength="15"&gt;</code>
method	Specifies the HTTP method used to submit the form data	<code>&lt;form method="POST"&gt;</code>
multiple	Specifies that user may input more than one value within an input element; used with email and file input types	<code>&lt;input type="email" name="email" id="email" multiple&gt;</code>
novalidate	A form attribute that specifies not to validate form data when the submit button is clicked	<code>&lt;form novalidate&gt;</code>
pattern	Specifies a regular expression for checking an input element value; used with text, search, url, tel, email, and password input types	<code>&lt;input type="password" name="pw" id="pw" pattern="[A-Za-z]{8}"&gt;</code>
placeholder	Specifies a hint of the type of information expected within an input field	<code>&lt;input type="email" name="email" id="email" placeholder="youremail@domain.com"&gt;</code>
readonly	Specifies that the input field is a read-only field and cannot be modified	<code>&lt;input type="text" name="ssn" id="ssn" value="555123654" readonly&gt;</code>

Table 8–4 Common Form Attributes

Attribute	Description	Code Example
accept-charset	Specifies the character set used for the form submission	<code>&lt;form accept-charset="UTF-8"&gt;</code>
action	Specifies where to submit the form data (a URL)	<code>&lt;form method="POST" action="form.php"&gt;</code>
autocomplete	Specifies whether a form or input field should use autocomplete; when enabled, the browser can complete input fields based on information entered in previous input fields	<code>&lt;form autocomplete="on"&gt;</code>
autofocus	Specifies that an input field should have focus when the page is displayed, which places the insertion point within a specific input field	<code>&lt;input type="text" name="fName" id="fName" autofocus&gt;</code>
disabled	Specifies that the input field is disabled and not available for user input	<code>&lt;input type="radio" name="terms" value="Accept" disabled&gt;</code>
enctype	Specifies the encoding of the form for submitting data	<code>&lt;form enctype="app/urlencoded"&gt;</code>
form	Specifies which form an input field belongs to when multiple forms are used within a website	<code>&lt;input type="text" name="fName" id="fName" form="form1"&gt;</code>
formaction	Specifies the URL of a file that will process the input control when the form is submitted, overriding the form action attribute; use the formaction attribute with type="submit" and type="image" input types	<code>&lt;input type="submit" value="Submit" formaction="process.asp"&gt;</code>
formenctype	Specifies how to encode form data during form submission; use the formenctype attribute with type="submit" and type="image" input types	<code>&lt;input type="submit" formenctype="multipart/form-data"&gt;</code>
formmethod	Specifies the HTTP method used to transfer the form data, overriding the method attribute	<code>&lt;input type="submit" value="Submit" formmethod="post"&gt;</code>
formnovalidate	Specifies to not validate an input element	<code>&lt;input type="submit" value="Submit" formnovalidate&gt;</code>
formtarget	Specifies a keyword that determines how to display a response when the form is submitted, such as a new, blank window	<code>&lt;input type="submit" value="Submit" formtarget="_blank"&gt;</code>
height and width	Specifies the height and width for an image input type; always specify a height and width for the image input type	<code>&lt;input type="image" src="btn1" alt="button 1" height="25" width="30"&gt;</code>
list	Used with the datalist element to specify predefined options for an input element	<pre> &lt;input list="music"&gt; &lt;datalist id="music"&gt; &lt;option value="Country"&gt; &lt;option value="Classical"&gt; &lt;option value="Hip Hop"&gt; &lt;option value="Rock"&gt; &lt;/datalist&gt; </pre>

# Form Processing

- The action attribute of the <form> tag is used to specify the browser's action when submitting the form
  - Browsers can send information entered in forms to a database on a web server or send it by email to an email address
  - Many websites use form processing software tools available from the web server or website hosting provider

# Form Processing

- The method attribute of the <form> tag specifies how to send the data entered in the form to the server to be processed
  - The get method appends the name-value pairs to the URL indicated in the action attribute
  - The post method sends a separate data file with the name-value pairs to the URL (or email address) indicated in the action attribute

# Styling Forms

- CSS styles are applied to forms to improve the appeal and usefulness of the form and its controls
  - As with tables, consider forms in the context of responsive design
  - Controls can be included to collect optional information, such as product feedback, in tablet and desktop viewports



# Styling Forms

```
348     tr:nth-child(odd) {  
349         background-color: #ccc;  
350     }  
351  
352     /* Tablet viewport: style rule for form element */  
353     form {  
354         width: 70%;  
355         margin: 0 auto;  
356     }
```



Line 352

comment

style rule for form element

# Styling Forms

form is centered  
on the page with a  
width of 70%

## Additional Information

I would like more information about:

- ☐ Group Fitness
- ☐ Personal Training
- ☐ Nutrition

## Referral Source

How did you find us?

Advertisement ▼

Questions?

Submit





# Styling Forms

comment

Line 431

```
431  /* Desktop Viewport: Style rules for form elements */
432  form {
433      width: auto;
434  }
435
436  .form-grid {
437      display: grid;
438      grid-template-columns: auto auto auto;
439      grid-gap: 20px;
440  }
441
442  .btn {
443      grid-column: 1 / span 3;
444  }
445
446  }
```

style rule for  
form element

style rule for form  
paragraph element

closing brace for  
desktop media query

# Styling Forms

form fieldsets arranged  
in three columns



Complete the form below to begin your free trial.

## Customer Information

First Name:

Last Name:

Email:

Phone:

## Additional Information

I would like more information about:

- ☐ Group Fitness
- ☐ Personal Training
- ☐ Nutrition

## Referral Source

How did you find us?

Advertisement ▼

Questions?

Submit button  
appears centered  
below the fieldsets



Submit

# Chapter Summary

- In this chapter, you learned how to:
  - Include tables and forms on webpages
  - Create a table that displays related information and format it using CSS properties
  - Use webpage forms and form controls, including the HTML elements, attributes, and values for creating the controls you need
  - Use CSS styles to format a form for mobile, tablet, and desktop viewports