



NEW PERSPECTIVES

HTML5, CSS3, and JavaScript

6th Edition

Tutorial 7

Designing a Web Form

Objectives – 1/2

- Explore web forms
- Work with form servers
- Create forms and field sets
- Create labels and input boxes
- Explore form layout
- Work with date and time fields
- Create a selection list

Objectives – 2/2

- Create option buttons
- Create check boxes and text area boxes
- Create spinners and range sliders
- Use data lists
- Create form buttons
- Validate a form
- Apply validation styles

Structure of a Web Form

Customer Survey

Thank you for taking our customer survey. Your response helps Red Ball Pizza maintain the tradition that has made us the top-rated pizzeria in the metro area. All participants are automatically entered into a monthly drawing to receive a *Red Ball Express PizzaFest* containing two large pizzas, a 2-liter soda, and a side order of chicken wings. Check your e-mail inbox for contest results.

Surveys are private and confidential. Red Ball Pizza will not share your contact information with third parties, ever.

Required values are marked by an asterisk (*)

Customer Information

| | |
|----------------|--|
| Name* | <input type="text" value="enter your name"/> |
| Street address | <input type="text"/> |
| City | <input type="text" value="Ormond Beach"/> |
| State | <input type="text" value="FL"/> |
| Postal code | <input type="text" value="nnnnn (-nnnn)"/> |

The field set legend appears at the top-left corner of the field set by default.

An input control box displaying placeholder text.

A default value appears in the input box.

A label associated with an input control.

Placeholder text is dimmed within the input box.

Introducing Web Forms

- **Web form**
 - Allows users to enter data that can be saved and processed
 - Common way to accept user input
 - Allows the creation of interactive websites for user feedback

Parts of a Web Form – 1/4

- **Controls**, also known as **widgets**, are the objects that allow a user to interact with a form
- Each data entry control is associated with a **data field**
- **Data field**: Stores the data values supplied by a user

Parts of a Web Form – 2/4

- **Types of controls**
 - **Input boxes** to insert text and numeric values
 - **Option/radio buttons** to select data values from a predefined set of options
 - **Selection lists** to select data values from an extensive list of options
 - **Check boxes** to select data values limited to two possibilities, such as “yes” or “no”
 - **Text area boxes** to enter text strings that may include several lines of content

Parts of a Web Form – 3/4

- **Types of widgets**
 - **Spin boxes** to enter integer values confined to a specified range
 - **Slider controls** to enter numeric values confined to a specified range
 - **Calendar controls** to select date and time values
 - **Color pickers** to choose color values

Parts of a Web Form - 4/4

Figure 7-1 Proposed survey form

Customer Information

Name*

Street address

City

State

Postal code

Phone number

E-mail*

Where did you hear about us?

What's your favorite Red Ball special dish?

How many times do you dine out per month?

Add me to your newsletter for great specials ☐

Share Your Experience at Red Ball Pizza

Date of visit

Order type

Was your service friendly? Yes ☐ No ☐

Was your order correct? Yes ☐ No ☐

Was your food hot? Yes ☐ No ☐

Rate your overall service (0 = poor; 10 = great)

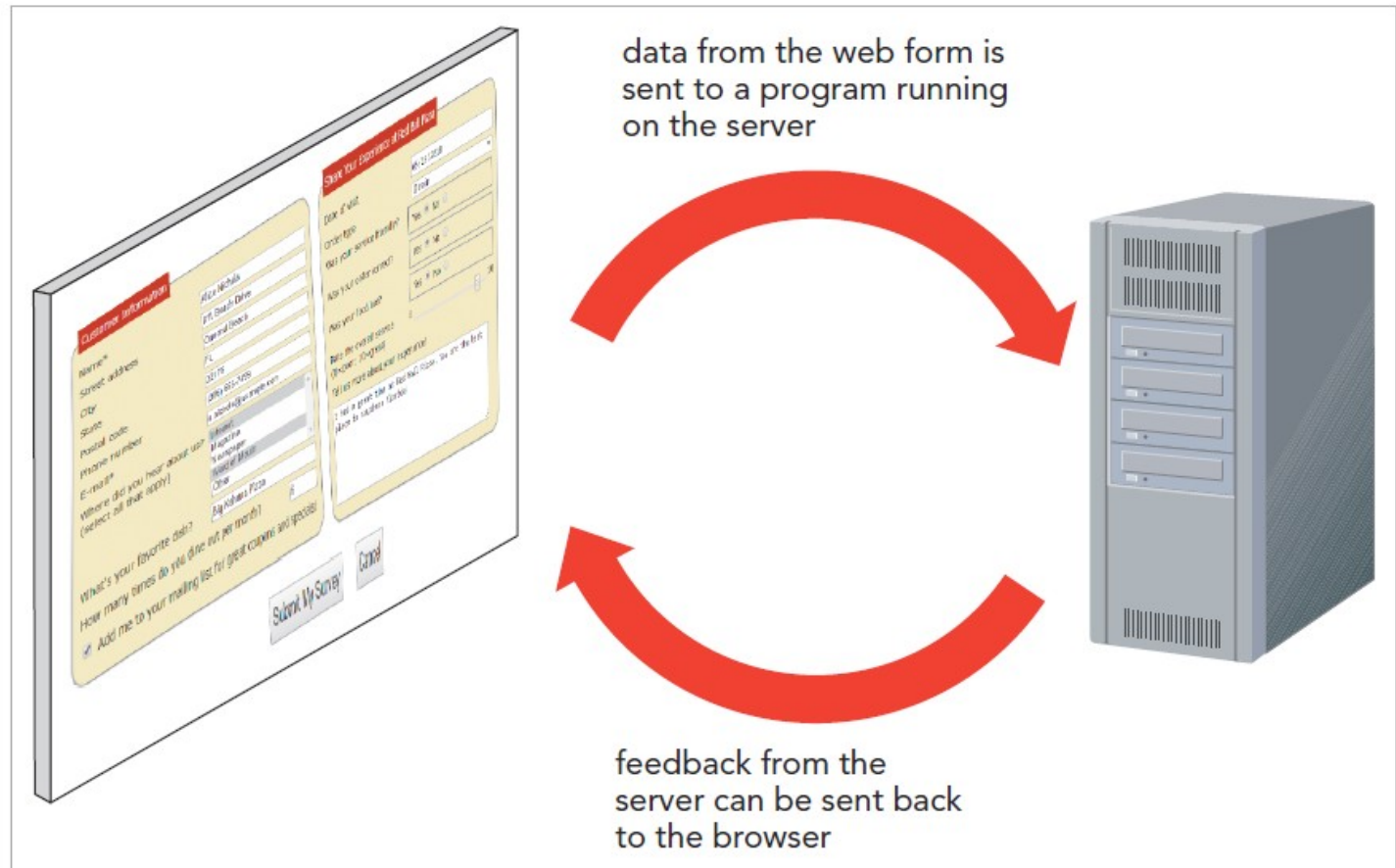
Tell us more about your experience!

Forms and Server-Based Programs - 1/2

- Field values entered by a user are processed by a program running on the user's computer or on a web server in a secure location
- Example: A web form is used to collect data from a customer for an order and the server program processes the data and handles the billing and delivery

Forms and Server-Based Programs – 2/2

Figure 7-2 Interaction between the web form and the server



Starting a Web Form – 1/2

- Web forms are marked using the `form` element

```
<form id="text" attributes>  
    content
```

```
</form>
```

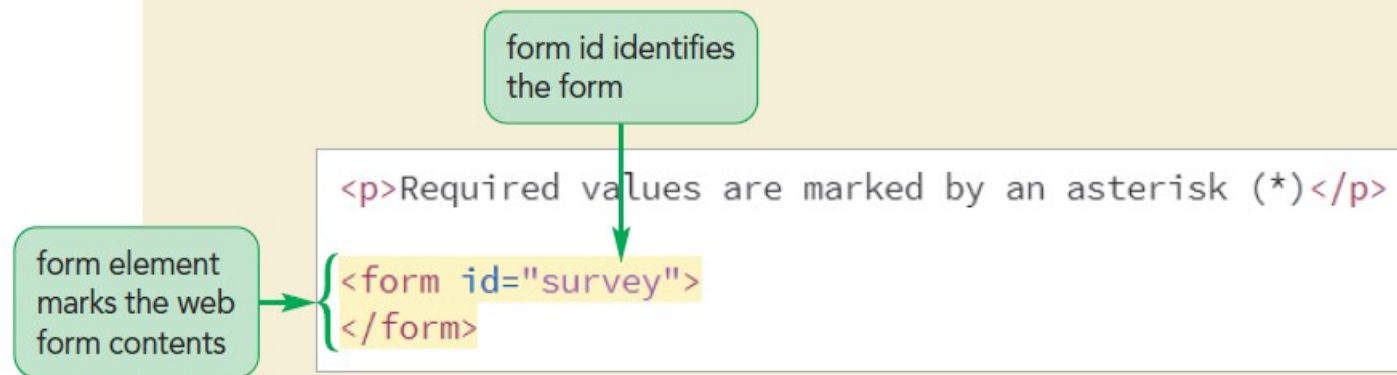
- `id` identifies the form
- `attributes` specify how the form should be processed by the browser
- `content` is the form's content

Starting a Web Form – 2/2

- A `form` element can be placed anywhere within the body of a page
- Forms also can contain page elements such as tables, paragraphs, inline images, and headings

Figure 7-3

Inserting a web form



Interacting with the Web Server – 1/6

- The `action`, `method`, and `enctype` attributes have to be included in a form to specify where and how to send the form data

```
<form action="url" method="type"  
enctype="type">  
  content  
</form>
```

Interacting with the Web Server – 2/6

- ***action*** attribute provides the location of the web server program that processes the form
- ***method*** attribute specifies how the browser should send form data to the server
- ***enctype*** attribute specifies how the form data should be encoded as it is sent to the server

Interacting with the Web Server – 3/6

- Two possible values for **method** attribute
 - **Get method**: Tells the browser to append the form data to the end of the URL specified in the `action` attribute
 - The **get method** is the default method
 - **Post method**: Sends the form data in its own separate data stream
 - The **post method** is considered to be a more secure form of data transfer

Interacting with the Web Server - 4/6

- The ***enctype*** attribute has three possible values

Figure 7-4 Values of the *enctype* attribute

| Value | Description |
|-----------------------------------|---|
| application/x-www-form-urlencoded | The default format in which the data is encoded as a long text string with spaces replaced by the + character and special characters (including tabs and line breaks) replaced with their hexadecimal code values |
| multipart/form-data | The format used when uploading files in which no encoding of the data values occurs |
| text/plain | The format in which data is transferred as plain text with spaces replaced with the + character but no other encoding of the data values occurs |

Interacting with the Web Server – 5/6

Figure 7-5

Associating the web form with an action and a method

<p>Required values are marked by an asterisk (*)</p>

```
<form id="survey" action="http://www.example.com/redball/survey" method="post">
</form>
```

location of server
processing the form

method by which
the form data is
sent to the server

Interacting with the Web Server – 6/6

- A script element is an HTML element used to access and run JavaScript programs that will run within the user's browser

Figure 7-6

Using a script to manage the form submission

the script element runs
JavaScript programs
within the browser

```
<title>Red Ball Survey</title>
<link href="rb_reset.css" rel="stylesheet" />
<link href="rb_styles.css" rel="stylesheet" />
<script src="rb_formsubmit.js"></script>
</head>
```

external JavaScript file

Creating a Field Set

- **Field set:** Groups fields that share a common purpose
- Field sets are created using the *fieldset* element

```
<fieldset id="id">
```

```
    content
```

```
</fieldset>
```

- *id* identifies the field set
- *content* is the form content within the field set

Marking a Field Set

Figure 7-7 Inserting field sets

```
<form id="survey" action="http://www.example.com/redball/survey" method="post">  
  <fieldset id="custInfo">  
  </fieldset>  
  <fieldset id="expInfo">  
  </fieldset>  
</form>
```

id associated with each fieldset element

Adding a Field Set Legend – 1/2

- Legend describes the content of a field set using the `legend` element

`<legend>text</legend>`

where *text* is the text of the legend

- The `legend` element contains only text and no nested elements
- By default, legends are placed in the top-left corner of the field set box and can be moved to a different location using the CSS positioning styles

Adding a Field Set Legend – 2/2

Figure 7-8

Adding legends to the field sets

legend associated
with each field set

```
<form id="survey" action="http://www.example.com/redball/survey" method="post">
  <fieldset id="custInfo">
    <legend>Customer Information</legend>
  </fieldset>

  <fieldset id="expInfo">
    <legend>Share Your Experience at Red Ball Pizza</legend>
  </fieldset>
</form>
```

Creating Input Boxes – 1/3

- Syntax for the `input` element

```
<input name="name" id="id"  
type="type" />
```

- The `name` attribute provides the name of the data field associated with the control
- The `id` attribute identifies the control in which the user enters the field value
- The `type` attribute indicates the data type of the field

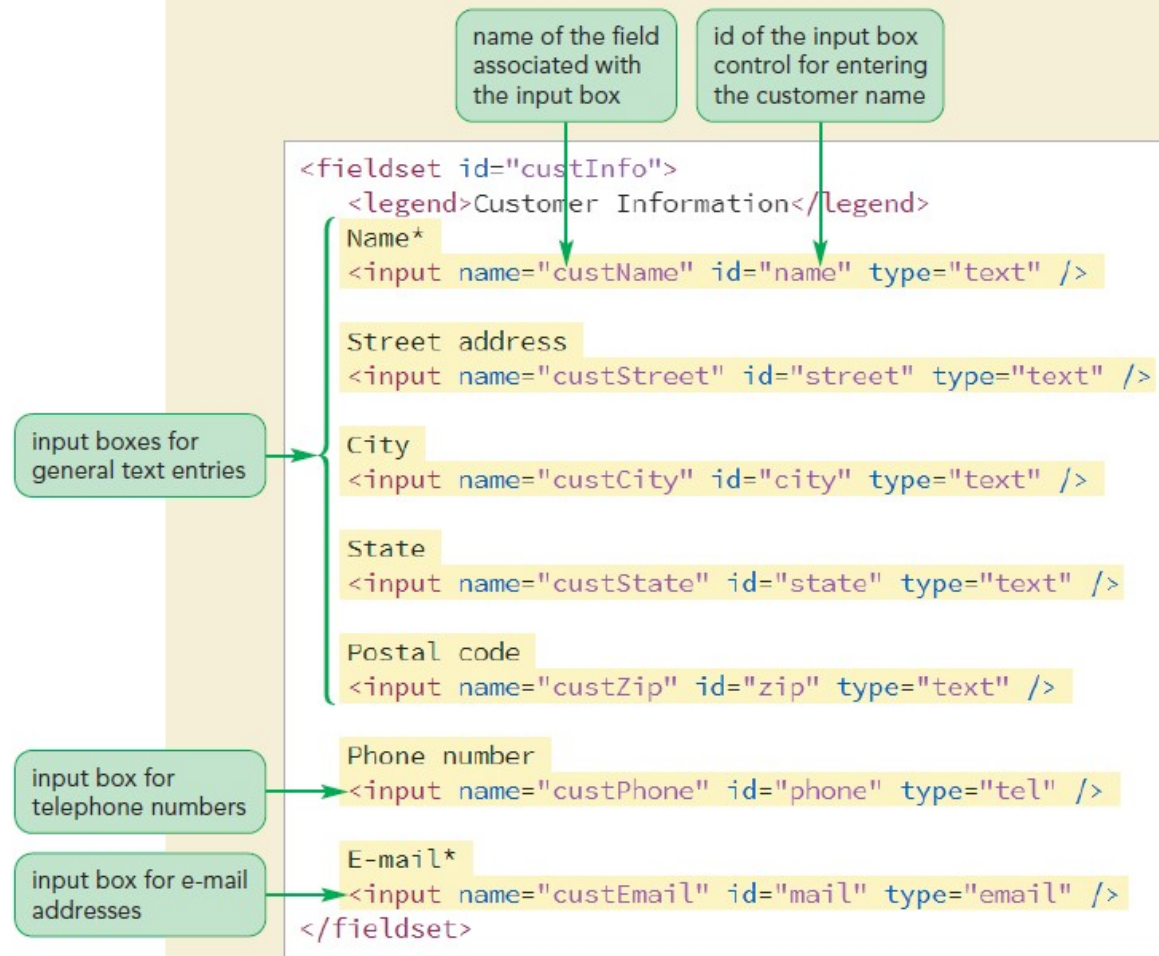
Creating Input Boxes – 2/3

Figure 7-10 Controls and the input type attribute

| Type Value | Control Displayed by the Browser |
|--------------------|---|
| button | A button that can be clicked to perform an action |
| checkbox | A check box for yes/no or true/false responses |
| color | A widget from which users can select a color |
| date | A widget from which users can select a calendar date |
| datetime-local | A widget from which users can select a calendar date and time |
| email | An input box used for e-mail addresses |
| file | A widget from which users can select a local file |
| hidden | A control that is hidden from the user |
| image | An image that can be clicked to perform an action |
| month | A widget from which users can select a calendar month and year |
| number | A spin box from which users can select a numeric value |
| password | An input box in which the entry value is hidden by * symbols |
| radio | A radio or option button that can be clicked by the user |
| range | A slider from which users can select a numeric value within a defined range |
| reset | A button that can be clicked to reset the web form |
| search | A widget that can be used to search for a defined term |
| submit | A button that can be clicked to submit the form for processing |
| tel | An input box used for telephone numbers |
| text (the default) | An input box used for text entries |
| time | A widget from which users can select a time value |
| url | An input box used for entering URLs |
| week | A widget from which users can select a week value |

Creating Input Boxes – 3/3

Figure 7-11 Adding input elements to the form



Input Types and Virtual Keyboards

- **Virtual keyboards** are software representations of a physical device
- Web forms can be made responsive by displaying different virtual keyboards for each input type
- Example: An input box for telephone number is more convenient to read with digits displayed prominently on the keyboard

Adding Field Labels – 1/2

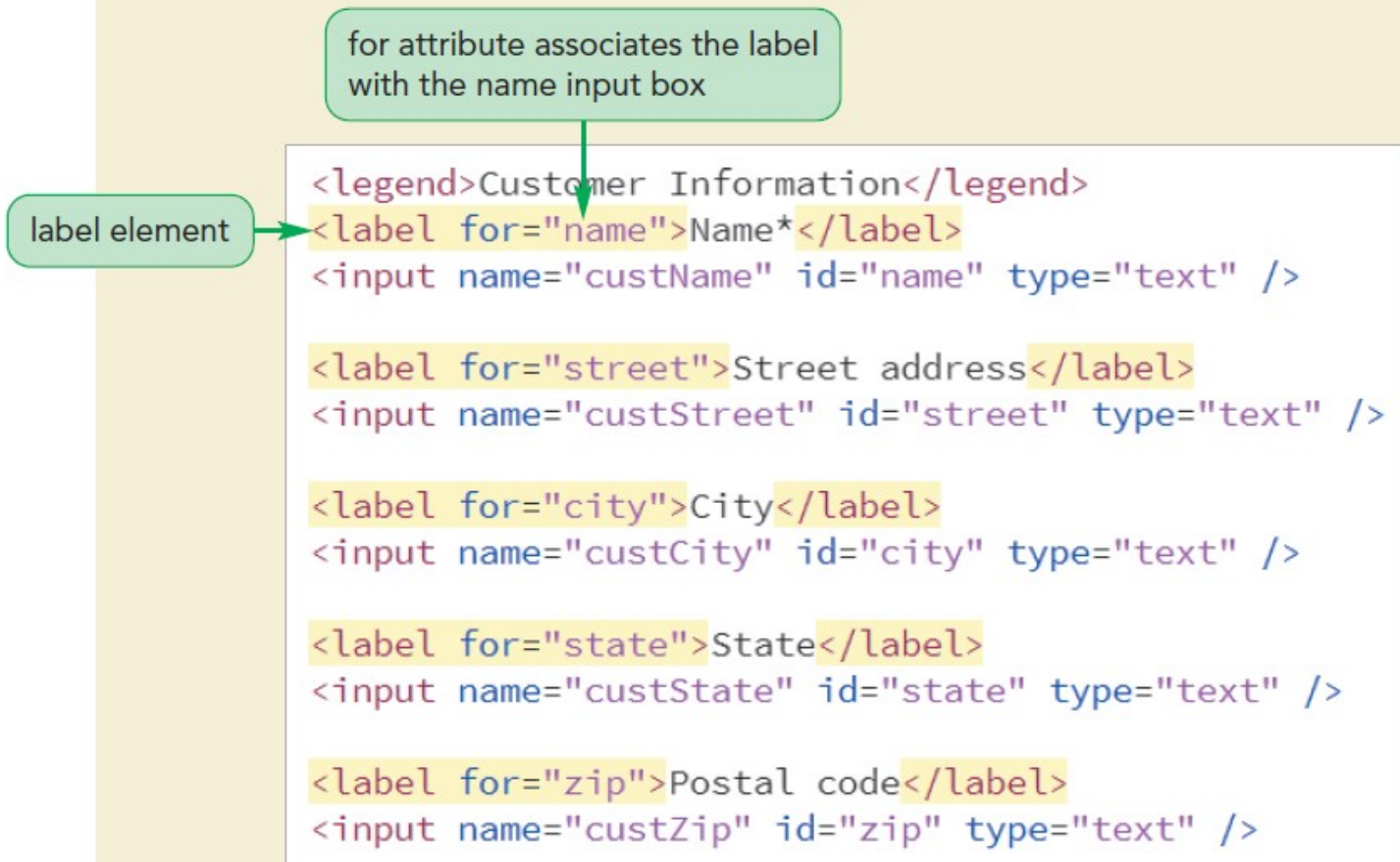
- To associate a text string with a control, the text string has to be enclosed within the `label` element

```
<label for="id">label text</label>
```

- *id* is the id of the control that is associated with the label
- *label text* is the text of the label

Adding Field Labels – 2/2

Figure 7-14 Adding form labels



Designing a Form Layout

- There are two general layouts
 - Labels are placed directly above the input controls
 - Labels and controls are placed side-by-side

Figure 7-15 Form layouts

The diagram illustrates two form layouts for a 'Customer Information' form. Both layouts are enclosed in a rectangular box with the title 'Customer Information' at the top left.

one-column layout: This layout shows a vertical stack of labels and input fields. The labels are 'Name *', 'Street address', 'City', and 'State'. Each label is positioned directly above its corresponding rectangular input field.

two-column layout: This layout shows labels and input fields arranged in two columns. The labels 'Name *', 'Street address', 'City', and 'State (abbr.)' are in the left column, and their corresponding rectangular input fields are in the right column, aligned horizontally with the labels.

Defining Default Values and Placeholders – 1/4

- The `value` attribute is used to specify a default field value

Figure 7-22

Defining the default field value

```
<div class="formRow">
  <label for="city">City</label>
  <input name="custCity" id="city" type="text" value="Ormond Beach" />
</div>

<div class="formRow">
  <label for="state">State</label>
  <input name="custState" id="state" type="text" value="FL" />
</div>
```

sets the default value
for the custCity field

sets the default value
for the custState field

Defining Default Values and Placeholders – 2/4

- **Placeholders:** Text strings that appear within a form control, providing a hint about the kind of data that should be entered into a field
- They are defined using the `placeholder` attribute

`placeholder="text"`

where *text* is the text of the placeholder

Defining Default Values and Placeholders – 3/4

Figure 7-23

Defining placeholder text

```
<div class="formRow">
  <label for="name">Name*</label>
  <input name="custName" id="name" type="text" placeholder="first and last name" />
</div>
```

placeholder text for
the name input box

```
<div class="formRow">
  <label for="zip">Postal code</label>
  <input name="custZip" id="zip" type="text" placeholder="nnnnn (-nnnn)" />
</div>
```

placeholder text for
the zip input box

```
<div class="formRow">
  <label for="phone">Phone number</label>
  <input name="custPhone" id="phone" type="tel" placeholder="(nnn) nnn-nnnn" />
</div>
```

placeholder text for
the phone input box

Defining Default Values and Placeholders – 4/4

Figure 7-24 Viewing default values and placeholder text

The diagram illustrates a 'Customer Information' form with the following fields and annotations:

- formatted field set legend**: Points to the 'Customer Information' header.
- placeholder text for the name input box**: Points to the 'Name*' field, which contains the placeholder text 'first and last name'.
- default value for the custCity field**: Points to the 'City' field, which contains the default value 'Ormond Beach'.
- default value for the custState field**: Points to the 'State' field, which contains the default value 'FL'.
- placeholder text for zip input box**: Points to the 'Postal code' field, which contains the placeholder text 'nnnnn (-nnnn)'.
- placeholder text for the phone input box**: Points to the 'Phone number' field, which contains the placeholder text '(nnn) nnn-nnnn'.
- E-mail***: The 'E-mail*' field is empty.

Entering Date and Time Values

- Date and time fields ensure that users enter data in the correct format
- Indicated using `type` attributes: `date`, `time`, `datetime-local`, `month`, and `week`

Figure 7-26 Creating a date field

```
<fieldset id="expInfo">
  <legend>Share Your Experience at Red Ball Pizza</legend>

  <div class="formRow">
    <label for="visit">Date of visit</label>
    <input name="visitDate" id="visit" type="date" />
  </div>
</fieldset>
```

sets the data type of the visitDate field to "date"

Creating a Selection List – 1/3

- A selection list is a list box that presents users with a group of possible values for the data field
- The list is created using the `select` and `option` elements

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

```
<option value="value1">text1</option>
```

```
<option value="value2">text2</option>
```

```
...
```

```
</select>
```

Creating a Selection List – 2/3

- *name* is the name of the data field
- *value1, value2,...* are the possible field values
- *text1, text2,...* are the text of the entries in the selection list that users see on the web form

Creating a Selection List – 3/3

Figure 7-27

Creating a selection list for the orderType field

```
<div class="formRow">
  <label for="visit">Date of visit</label>
  <input name="visitDate" id="visit" type="date" />
</div>
```

field name
associated with
the selection list

id of the selection
list control

```
<div class="formRow">
  <label for="order">Order type</label>
  <select name="orderType" id="order">
    <option value="order1">Carry out</option>
    <option value="order2">Delivery</option>
    <option value="order3" selected>Dine in</option>
    <option value="order4">Take 'n bake</option>
  </select>
</div>
```

order3 (Dine in) is the
default selected value
of the orderType field

possible values
of the orderType
field

text strings displayed in the
selection list for each option

Working with Select Attributes – 1/3

- By default, a selection list appears as a drop-down list box
- To display a selection list as a scroll box, use the `size` attribute to the `select` element

```
<select size="value"> ... </select>
```

where *value* is the number of options that the selection list displays at one time

Working with Select Attributes – 2/3

- By default, selection lists allow only one selection from the list of options
- To allow more than one item to be selected, add `multiple` attribute
`<select multiple> ... </select>`

Working with Select Attributes – 3/3

- Two ways for users to select multiple items from a selection list
 - For non-contiguous selection, press and hold the Ctrl key while making the selections
 - For contiguous selection, select the first item, press and hold the Shift key, and then select the last item in the range

Grouping Selection Options – 1/2

- Organize selection list options by placing them in option groups using the `optgroup` element

```
<select>
```

```
  <optgroup label="label1">
```

```
    <option>text1</option>
```

```
    <option>text2</option>
```

```
  </optgroup>
```

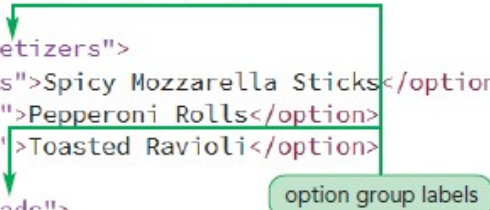
```
</select>
```

where *label1* is the label for the different groups of options

Grouping Selection Options - 2/2

Figure 7-31 Grouping options in a selection list

```
<label for="appetizers">Starter Menu</label>
<select name="meal">
  <optgroup label="Appetizers">
    <option value="sms">Spicy Mozzarella Sticks</option>
    <option value="pr">Pepperoni Rolls</option>
    <option value="tr">Toasted Ravioli</option>
  </optgroup>
  <optgroup label="Salads">
    <option value="sms">Pasta Salad</option>
    <option value="tbs">Tuscan Bread Salad</option>
    <option value="pr">Caesar Salad</option>
  </optgroup>
</select>
```



Starter Menu



Spicy Mozzarella Sticks ▼

Appetizers

- Spicy Mozzarella Sticks
- Pepperoni Rolls
- Toasted Ravioli

Salads

- Pasta Salad
- Tuscan Bread Salad
- Caesar Salad

Creating Option Buttons – 1/3

- Option buttons are also called radio buttons
- Unlike selection lists, the options appear as separate controls in the web form
- They are created with a group of `input` elements with a `type` attribute value of “radio”

```
<input name="name" value="value1"  
type="radio" />
```

Creating Option Buttons – 2/3

```
<input name="name" value="value2"  
type="radio" />
```

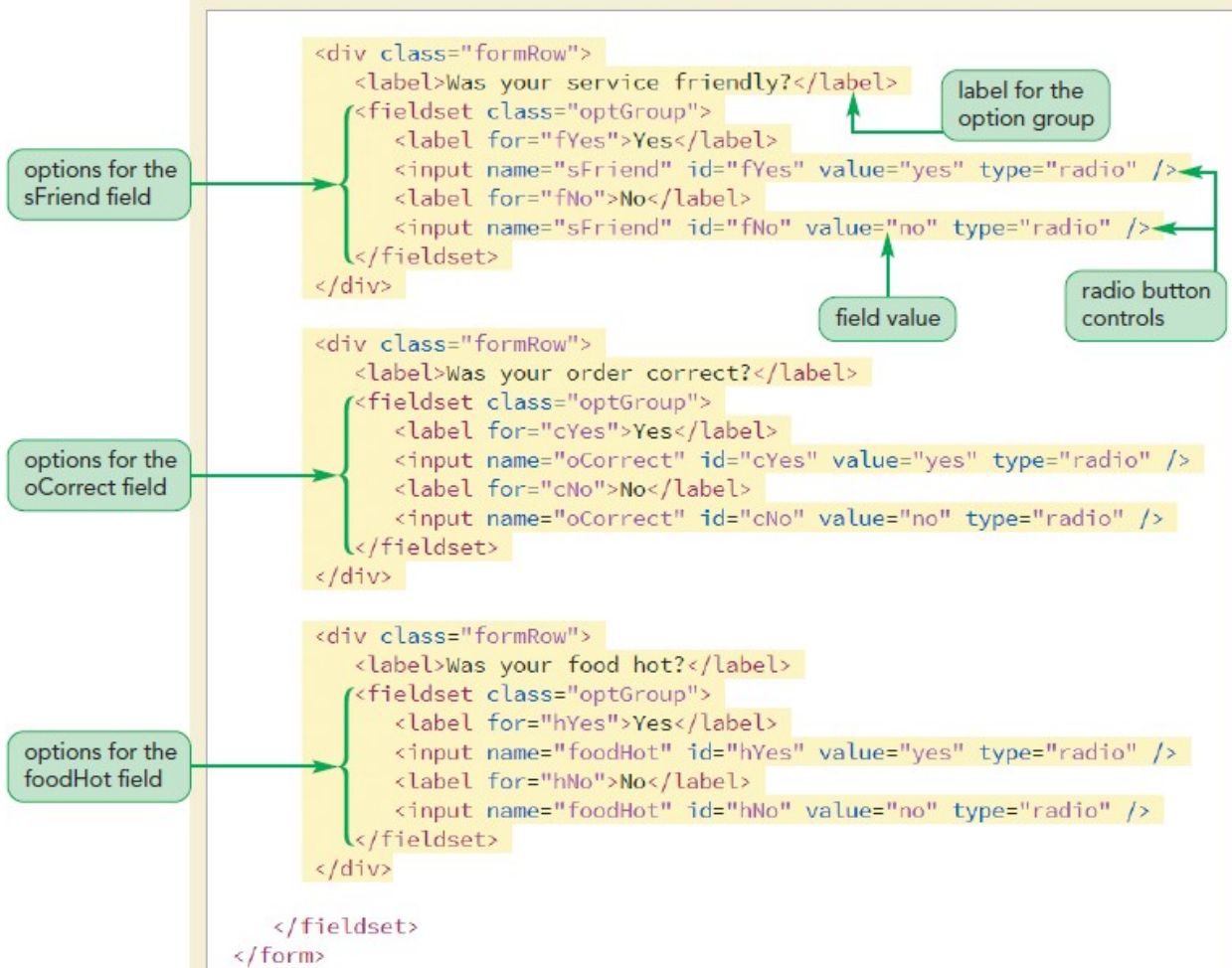
...

where *name* is the name of the data field and *value1*, *value2*, *value3*,... are the field values associated with each option

- Set an option button to be selected as the default by adding the `checked` attribute to the input element
- ```
<input name="name" type="radio" checked
/>
```

# Creating Option Buttons – 3/3

Figure 7-32 Creating option groups for the sFriend, oCorrect, and foodHot fields



# Creating Check Boxes – 1/2

- Check boxes are designed for fields that record the presence or absence of an object or event
- They are created using the `input` element with the `type` attribute set to “checkbox”

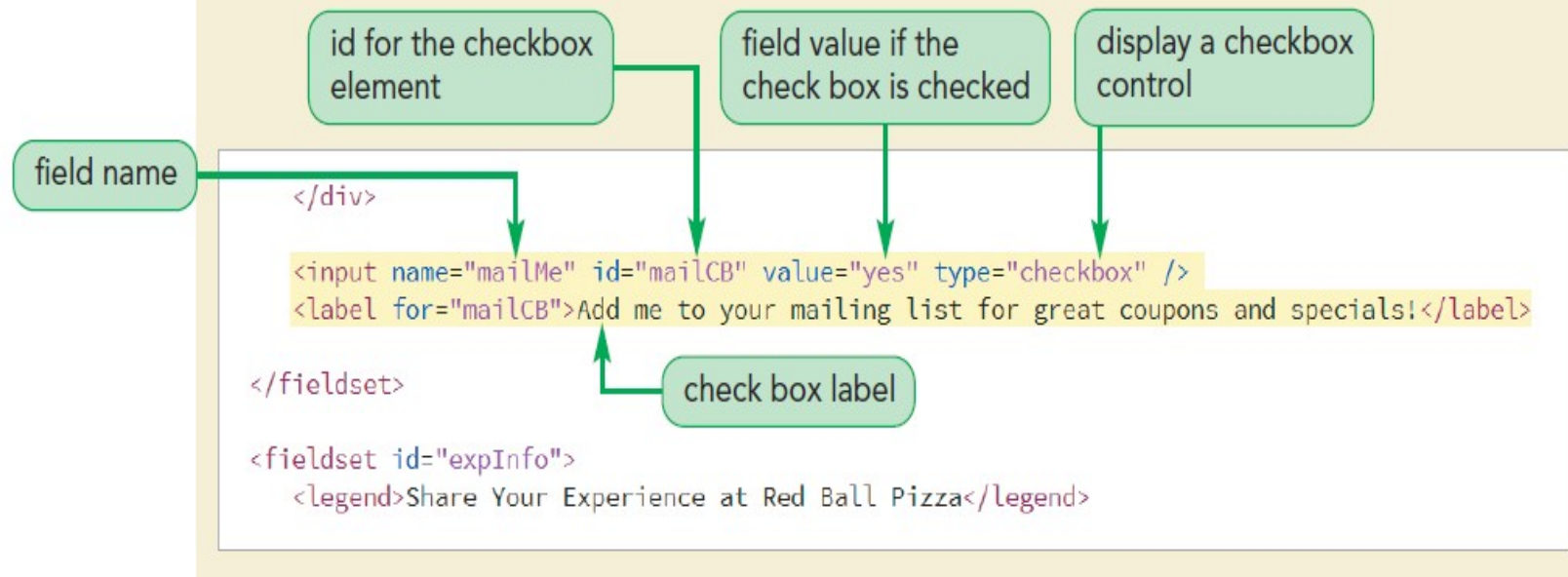
```
<input name="name" value="value"
type="checkbox" />
```

- *value* attribute contains the value of the field when the check box is checked
- *type* attribute indicates that the input box is a check box

# Creating Check Boxes – 2/2

- By default, a check box is not checked

**Figure 7-34** Creating a checkbox control





# Creating a Text Area Box – 1/3

- Text area is created using the `textarea` element

```
<textarea name="name">
 text
</textarea>
```

where *text* is the default value of the data field

# Creating a Text Area Box – 2/3

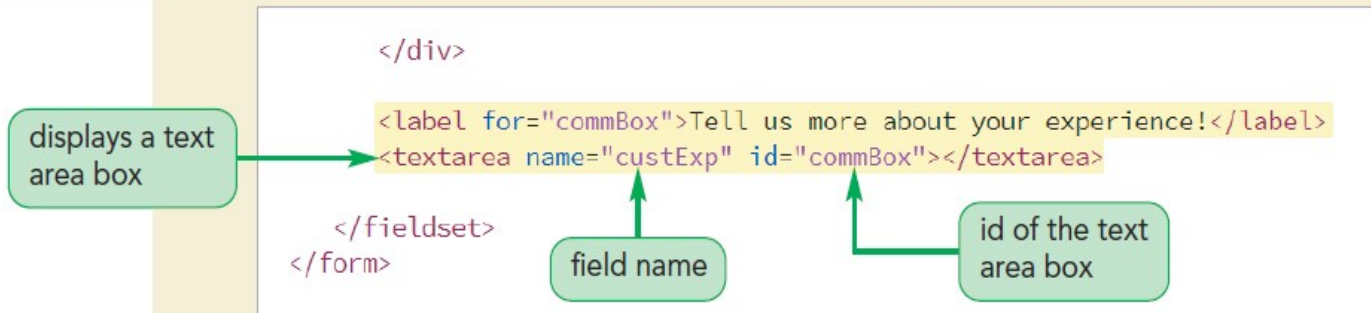
- HTML supports the `rows` and `cols` attributes to set the text area size

```
<textarea rows="value" cols="value">
...
</textarea>
```

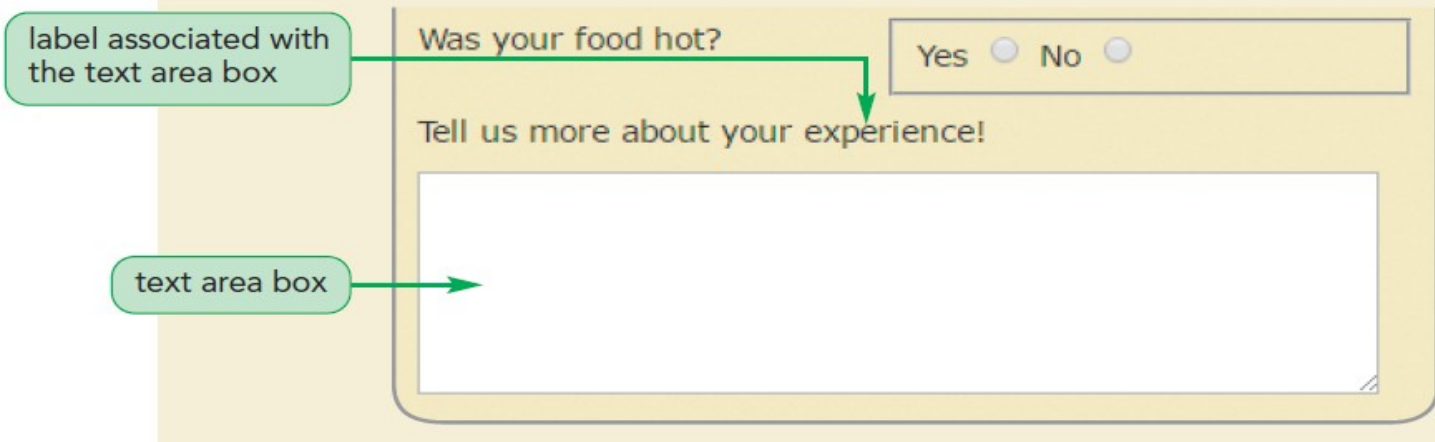
- `rows` attribute specifies the number of lines in the text area box
- `cols` attribute specifies the number of characters per line

# Creating a Text Area Box – 3/3

**Figure 7-36** Creating a text area box



**Figure 7-38** Text area box in the web form



# Entering Numeric Data – 1/4

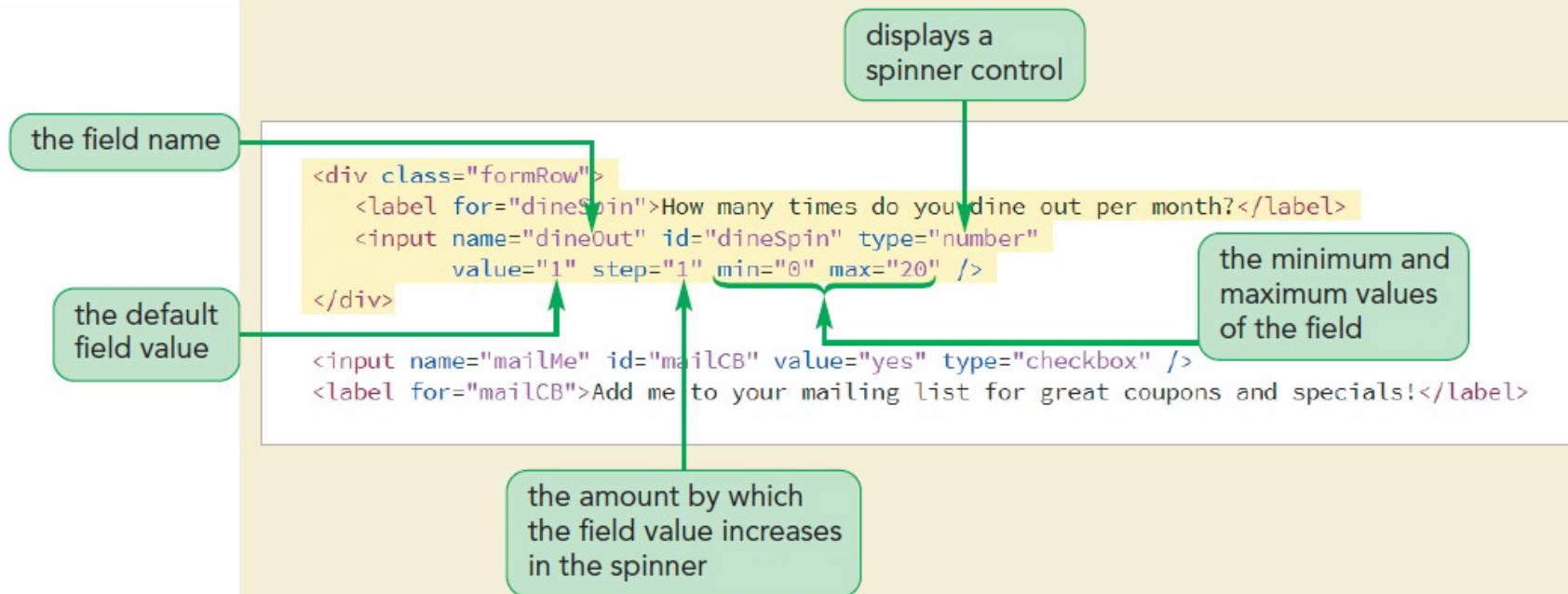
---

- **Creating a Spinner Control**
  - **Spinner control:** Displays an up or down arrow to increase or decrease the field value by a set amount
  - To create a spinner control, apply the `input` element using the `number` data type

# Entering Numeric Data – 2/4

Figure 7-39

Creating a spinner control for the dineOut field



# Entering Numeric Data – 3/4

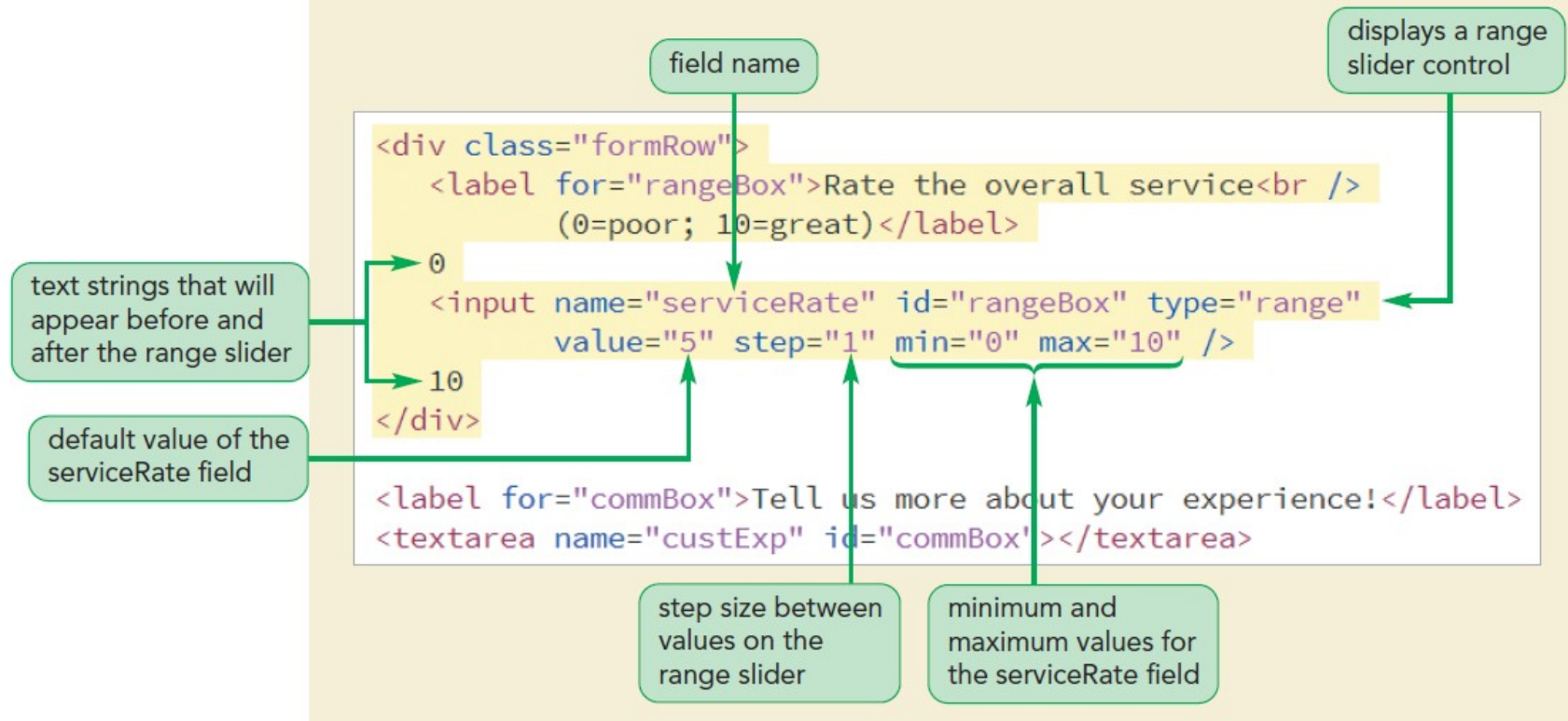
---

- **Creating a Range Slider**
  - **Slider control:** Limits a numeric field to a range of possible values
  - To create a slider control, apply the range data type in the `input` element

# Entering Numeric Data – 4/4

Figure 7-42

Creating a range slider control for the serviceRate field



# Suggesting Options with Data Lists – 1/2

- **Data list:** A list of possible data values that a form field can have
- Data lists are defined using the `datalist` element

```
<datalist id="id">
```

```
<option value="value" />
```

```
<option value="value" />
```

```
...
```

```
</datalist>
```



# Suggesting Options with Data Lists - 2/2

Figure 7-44

Applying a data list to the favDish field

```
<div class="formRow">
 <label for="dish">What's your favorite dish?</label>
 <input name="favDish" id="dish" type="text" list="dishType" />
 <datalist id="dishType">
 <option value="Anitpasto Pizza" />
 <option value="Big Kahuna Pizza" />
 <option value="BBQ Chicken Pizza" />
 <option value="Mediterranean Herb Pizza" />
 <option value="Pasta Rolls" />
 <option value="Pasto Artichoke Pizza" />
 </datalist>
</div>

<div class="formRow">
 <label for="dineSpin">How many times do you dine out per month?</label>
 <input name="dineOut" id="dineSpin" type="number"
 value="1" step="1" min="0" max="20" />
</div>
```

data list containing  
suggested values

links the favDish  
field to the dishType  
data list

# Working with Form Buttons

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- **Form buttons:** A type of form control that performs an action
- Actions performed
  - Run a command from a program linked to the web form
  - Submit the form to a program running on the web server
  - Reset the form fields to their default values

# Creating a Command Button

- **Command button:** Runs a program that affects the content of a page or the actions of a browser
- Created using the `input` element with the `type` attribute set to `button`  

```
<input value="text" onclick="script"
type="button" />
```

  - *text* is the text that appears on the button
  - *script* is the name of the program code that is run when the button is clicked by the user

# Creating Submit and Reset Buttons – 1/3

- **Submit button:** Submits a form to the server for processing when clicked
- Submit button is created using input elements with the `type` attribute set to “submit” and “reset” respectively

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

where *text* is the text string that appears on the button

## Creating Submit and Reset Buttons – 2/3

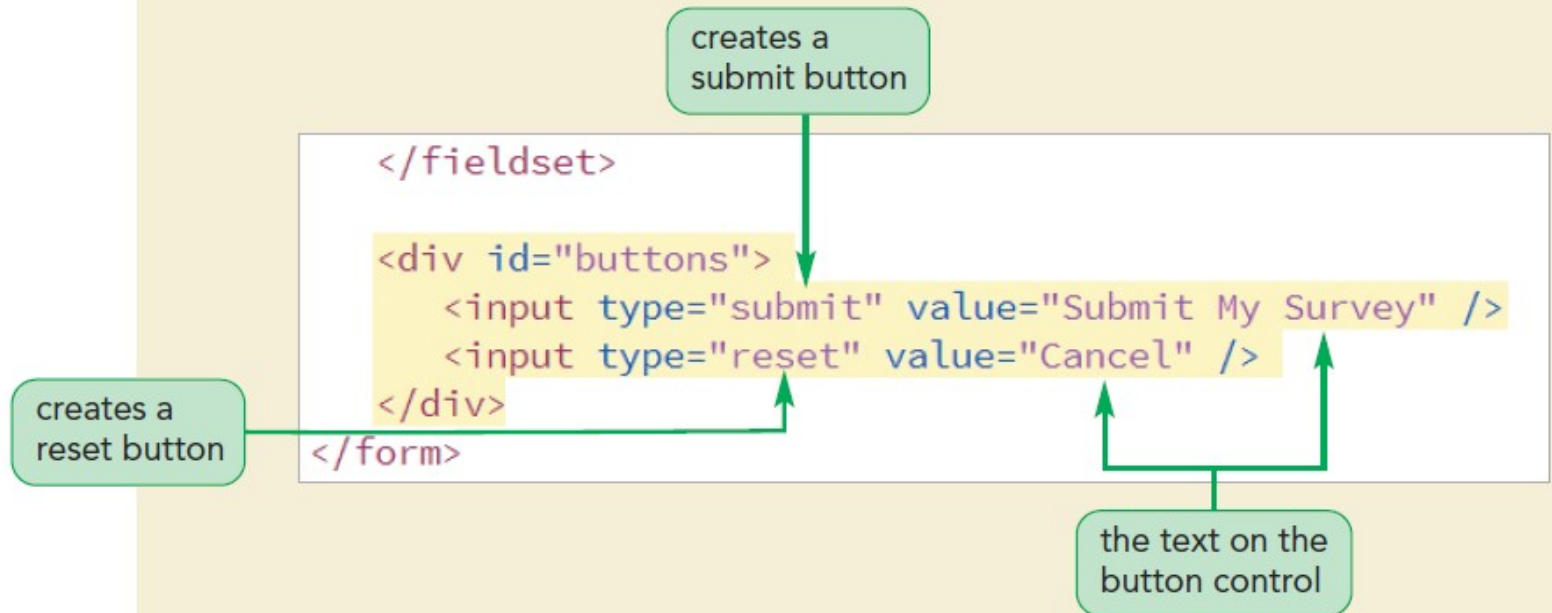
- **Reset button:** Resets a form, changing all fields to their default values and deleting any field values that a user has entered
- Reset button is created using input elements with the `type` attribute set to “reset”  

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

where *text* is the text string that appears on the button

# Creating Submit and Reset Buttons – 3/3

**Figure 7-46** Creating submit and reset buttons



# Designing a Custom Button

- The appearance of a command, submit, and reset button is determined by the browser
- For more control over a button's appearance use the `button` element

```
<button type="text">
```

```
 content
```

```
</button>
```

- `type` attribute specifies the button type
- `content` are HTML elements placed within the button

# Validating a Web Form

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- **Validation:** Process of ensuring that a user has supplied valid data
- Types of validation
  - **Server-side validation** – validation occurs on the web server
  - **Client-side validation** – validation occurs in the user's browser



# Identifying Required Values

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- The first validation test is to verify if data is supplied for all the required data fields
- Add the `required` attribute to the control to identify the required data fields
- If a required field is left blank, the browser will not submit the form returning an error message to indicate the unavailability of data

# Validating Based on Data Type

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- A form fails the validation test if the data values entered into a field do not match the field type
- Example:
  - A data field with the `number` type will be rejected if nonnumeric data is entered
  - Fields with `email` and `url` types will be rejected if a user provides an invalid e-mail address or text that does not match the format of a URL

# Testing for a Valid Pattern – 1/2

- To test whether a field value follows a valid pattern of characters, test the character string against a regular expression
- **Regular expression** or **regex** is a concise description of a character pattern
- To validate a text value against a regular expression, add the `pattern` attribute to the `input` element

# Testing for a Valid Pattern – 2/2

- Example: The value of the custZip field against the regular expression pattern `^\d{5}$`

```
<input name="custZip" pattern="^\d{5}$" />
```

where regular expression `^\d{5}$` represents any string of five numeric characters

# Defining the Length of the Field Value

- The syntax to define the `maxlength` attribute is `<input maxlength="value" />`  
where *value* is the maximum number of characters in the field value
- Example:  
`<input name="custZip" maxlength="5" />`
- The `maxlength` attribute does not distinguish between characters and digits

# Applying Inline Validation – 1/3

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- **Inline validation:** The technique of immediate data validation and reporting of errors
- The `focus` pseudo-class is used to change the display style of fields that currently contain invalid data
- **Focus:** The state in which an element has been clicked by the user, making it the active control on the form

# Applying Inline Validation – 2/3

**Figure 7-54** Pseudo-classes for form controls and fields

| Pseudo-Class               | Matches                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <code>checked</code>       | A check box or option button that is selected or checked                                                                |
| <code>default</code>       | A default control, such as the default option in a selection list                                                       |
| <code>disabled</code>      | A control that is disabled                                                                                              |
| <code>enabled</code>       | A control that is enabled                                                                                               |
| <code>focus</code>         | A control that has the focus (is actively selected) in the form                                                         |
| <code>indeterminate</code> | A check box or option button whose toggle states (checked or unchecked) cannot be determined                            |
| <code>in-range</code>      | A field whose value lies within the allowed range (between the <code>min</code> and <code>max</code> attribute values)  |
| <code>invalid</code>       | A field whose value fails the validation test                                                                           |
| <code>optional</code>      | A field that is optional (not required) in the form                                                                     |
| <code>out-of-range</code>  | A field whose value lies outside the allowed range (outside the <code>min</code> and <code>max</code> attribute values) |
| <code>required</code>      | A field that is required in the form                                                                                    |
| <code>valid</code>         | A field whose value passes the validation test                                                                          |

# Applying Inline Validation – 3/3

- Example: To create styles for all of the checked option buttons in the form, apply the checked pseudo-class

```
input[type="radio"]:checked {
 styles
}
```

- *styles* are the CSS styles applied to checked option buttons



# Pseudo-Classes for Valid and Invalid Data – 1/3

- The `valid` and `invalid` pseudo-classes are used to format controls based on whether their field values pass/fail a validation test
- Example: To display `input` elements containing valid data with a light green background, use the following style rule:

```
input:valid {
 background-color: rgb(220, 255, 220);
}
```

## Pseudo-Classes for Valid and Invalid Data – 2/3

- Example: To display `input` elements containing invalid data with a light red background with focus, use the following style rule:

```
input:focus:invalid {
 background-color: rgb(255, 232,
233) ;
}
```

# Pseudo-Classes for Valid and Invalid Data – 3/3

Figure 7-57

Creating styles for valid and invalid field values

style for valid data values in the selected fields that have the focus

style for invalid data values in the selected fields that have the focus

```
input:focus, select:focus, textarea:focus {
 background-color: rgb(220, 255, 220);
}

input#name:focus:valid,
input#zip:focus:valid,
input#phone:focus:valid,
input#mail:focus:valid {
 background: rgb(220, 255, 220) url(rb_valid.png) bottom right/contain no-repeat;
}

input#name:focus:invalid,
input#zip:focus:invalid,
input#phone:focus:invalid,
input#mail:focus:invalid {
 background: rgb(255, 232, 232) url(rb_invalid.png) bottom right/contain no-repeat;
}
```

display a green check mark image in the input box background

display a red X image in the input box background