IE 4727 Web Application Design

Table and Form

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Table & Form

1 Objective

2 HTML table tags

3 Form elements

4 Validate forms

5 Summary

Objectives

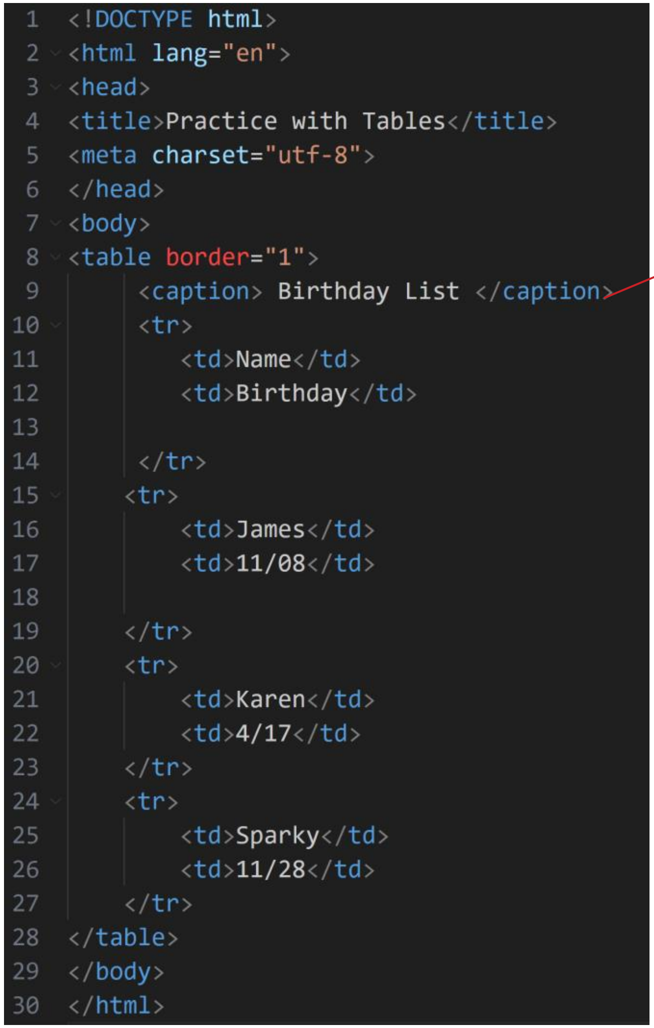
- Configure a basic table with the table, table row, table header, and table cell elements.
- Configure table sections with the thead, tbody, and tfoot elements.
- Create forms on web pages using the form, input, textarea, and select elements.
- Associate form controls and groups using label, fieldset, and legend elements.
- Understand the fundamental concepts of form validation.
- Style an HTML table with CSS.

HTML Table Elements

- Composed of rows and columns – similar to a spreadsheet.
  - <table> Element
    Contains the table
  - <tr> Element
    Contains a table row
  - <td> Element
    Contains a table data cell
  - <th> Element
    Contains a table header cell
  - <caption> Element
    Configures a description of the table

Exercise TAB01

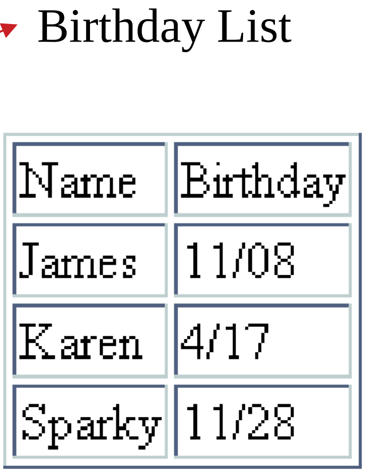
- Start with an HTML template, then type the following codes:
- Save it as “TAB01.html” and study the output in different browsers.



```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Practice with Tables</title>
<meta charset="utf-8">
</head>
<body>
<table border="1">
     <caption> Birthday List </caption>
     <tr>
        <td>Name</td>
        <td>Birthday</td>

     </tr>
    <tr>
        <td>James</td>
        <td>11/08</td>

    </tr>
    <tr>
        <td>Karen</td>
        <td>4/17</td>
    </tr>
    <tr>
        <td>Sparky</td>
        <td>11/28</td>
    </tr>
</table>
</body>
</html>
```



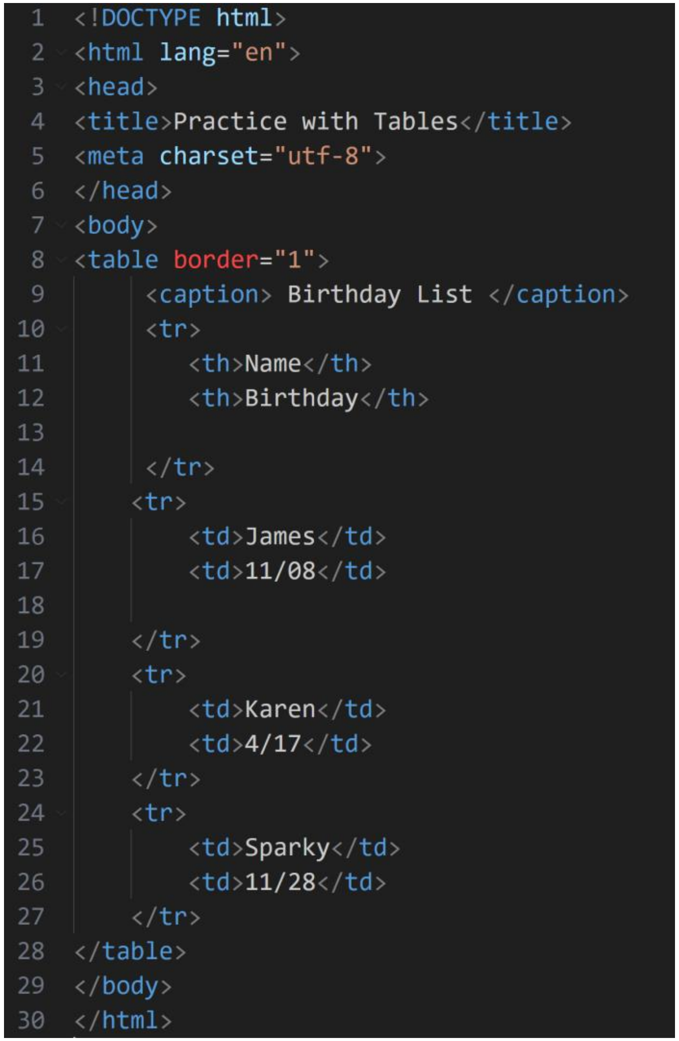
Birthday List

Name	Birthday
James	11/08
Karen	4/17
Sparky	11/28

Exercise TAB02

- Based on the previous exercise, change the following line to make the first row bold as shown using <th>:

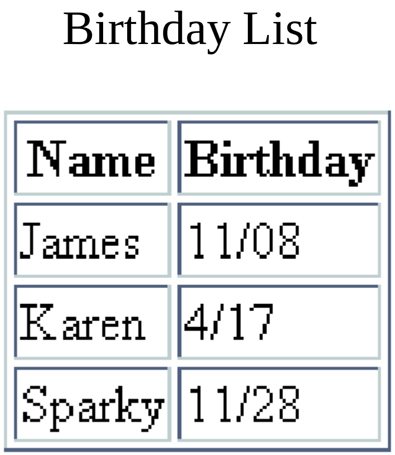
- Save it as “TAB02.html” and study the output in different browsers.



```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Practice with Tables</title>
<meta charset="utf-8">
</head>
<body>
<table border="1">
     <caption> Birthday List </caption>
     <tr>
        <th>Name</th>
        <th>Birthday</th>

     </tr>
    <tr>
        <td>James</td>
        <td>11/08</td>

    </tr>
    <tr>
        <td>Karen</td>
        <td>4/17</td>
    </tr>
    <tr>
        <td>Sparky</td>
        <td>11/28</td>
    </tr>
</table>
</body>
</html>
```

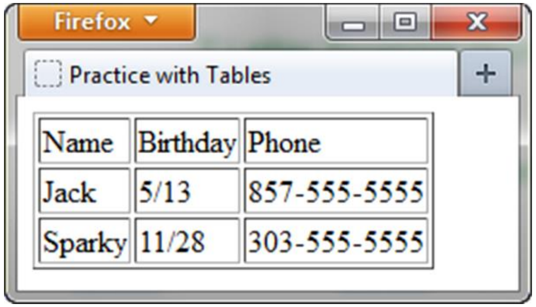


Birthday List

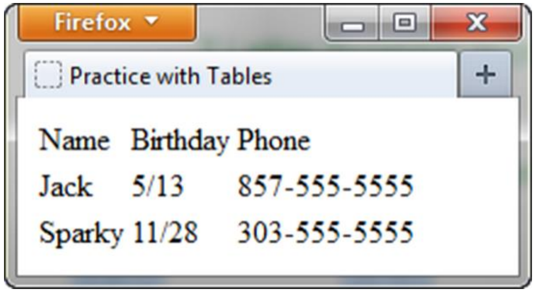
Name	Birthday
James	11/08
Karen	4/17
Sparky	11/28

HTML border Attribute

- Indicates the table is specifically not used for page layout
  - Optional
  - border=“1”
    Visible browser default border
  - border=“0”
    No visible browser default border.



Name	Birthday	Phone
Jack	5/13	857-555-5555
Sparky	11/28	303-555-5555

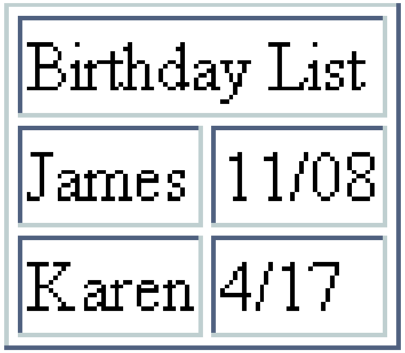


Name	Birthday	Phone
Jack	5/13	857-555-5555
Sparky	11/28	303-555-5555

HTML colspan Attribute

- Specifies the number of column that a cell will occupy, e.g. 2 columns in the following example

```
<table border="1">
<tr>
   <td colspan=“2”> Birthday List</td>
</tr>
<tr>
   <td>James</td>
   <td>11/08</td>
</tr>
<tr>
   <td>Karen</td>
   <td>4/17</td>
</tr>
</table>
```

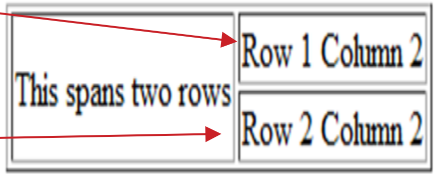


Birthday List	
James	11/08
Karen	4/17

HTML rowspan Attribute

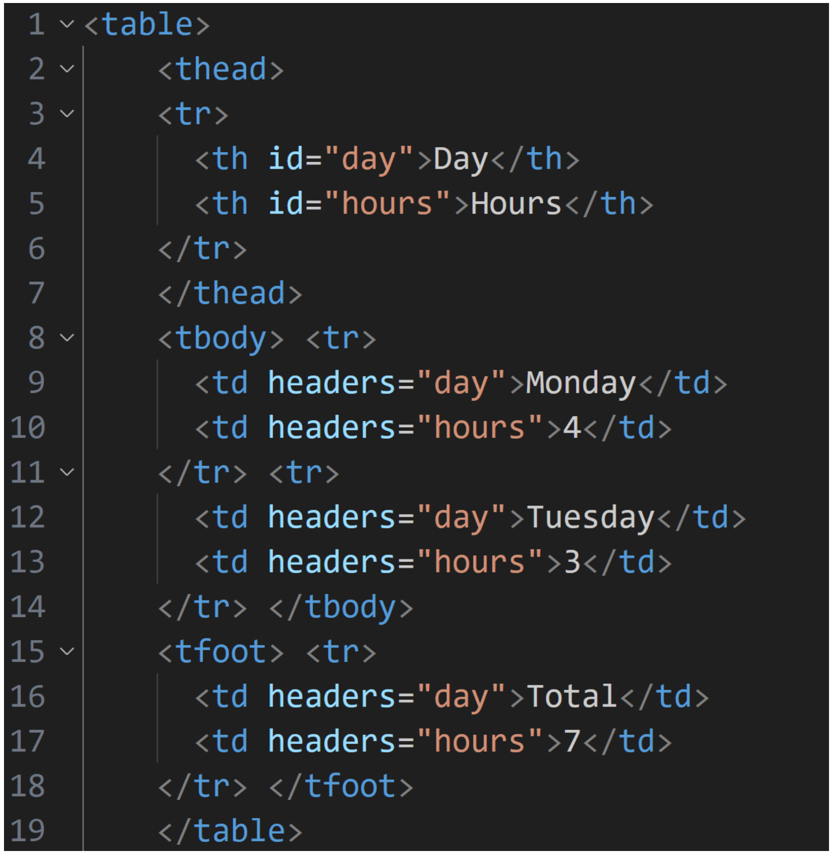
- Specifies the number of rows that a cell will occupy, e.g. 2 rows in the following example:

```
<table border="1“>
          <tr>
              <td rowspan="2">This spans two rows</td>
              <td>Row 1 Column 2</td>
          </tr>
          <tr>
              <td>Row 2 Column 2</td>
          </tr>
</table>
```



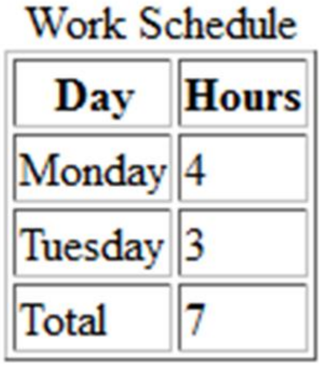
This spans two rows	Row 1 Column 2
	Row 2 Column 2

Table Row Groups



```
<table>
    <thead>
    <tr>
      <th id="day">Day</th>
      <th id="hours">Hours</th>
    </tr>
    </thead>
    <tbody> <tr>
      <td headers="day">Monday</td>
      <td headers="hours">4</td>
    </tr> <tr>
      <td headers="day">Tuesday</td>
      <td headers="hours">3</td>
    </tr> </tbody>
    <tfoot> <tr>
      <td headers="day">Total</td>
      <td headers="hours">7</td>
    </tr> </tfoot>
    </table>
```

- <thead>
  table head rows
- <tbody >
  table body rows
- <tfoot>
  table footer rows



Work Schedule

Day	Hours
Monday	4
Tuesday	3
Total	7

Exercise TAB03

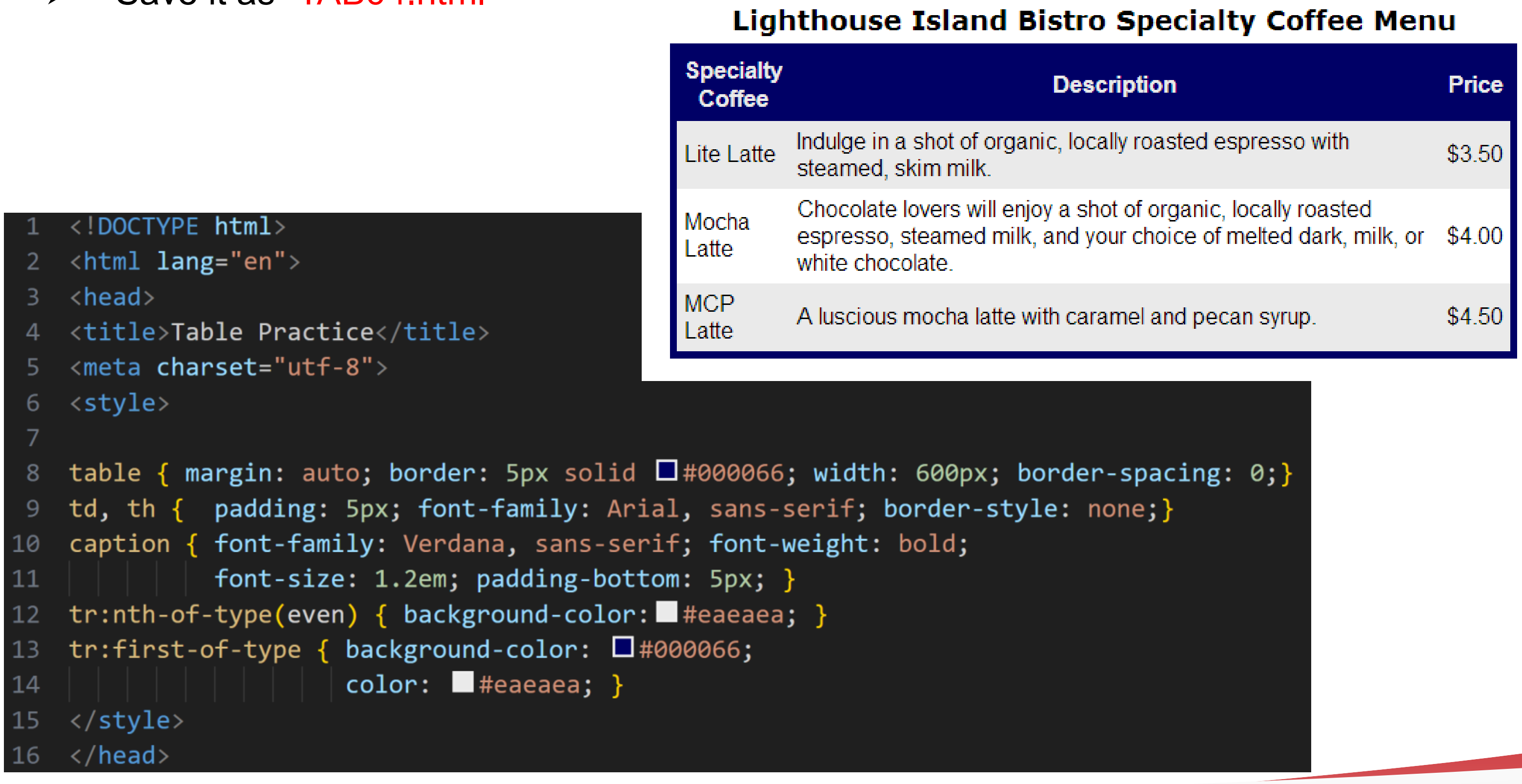
- Try out the attributes on previous 4 slides (border; colspan; rowspan; table row groups) by repeating the tables in the same html file.
- Save the file as “TAB03.html”.

Using CSS to Style a Table

HTML Attribute	CSS Property
align	Align a table: table { width: 75%; margin: auto; } Align within a table cell: text-align
bgcolor	background-color
cellpadding	padding
cellspacing	border-spacing or border-collapse
height	height
valign	vertical-align
width	width
border	border, border-style, or border-spacing
bg image	background-image
caption position	caption-side

Exercise TAB04

- Type the codes without the <style> …. </style>. Study the output in the browser.
- Then, add the codes for <style> ….</style>. Study the output by refreshing the browser. Make some minor changes to the styles & observe their effects.
- Save it as “TAB04.html”



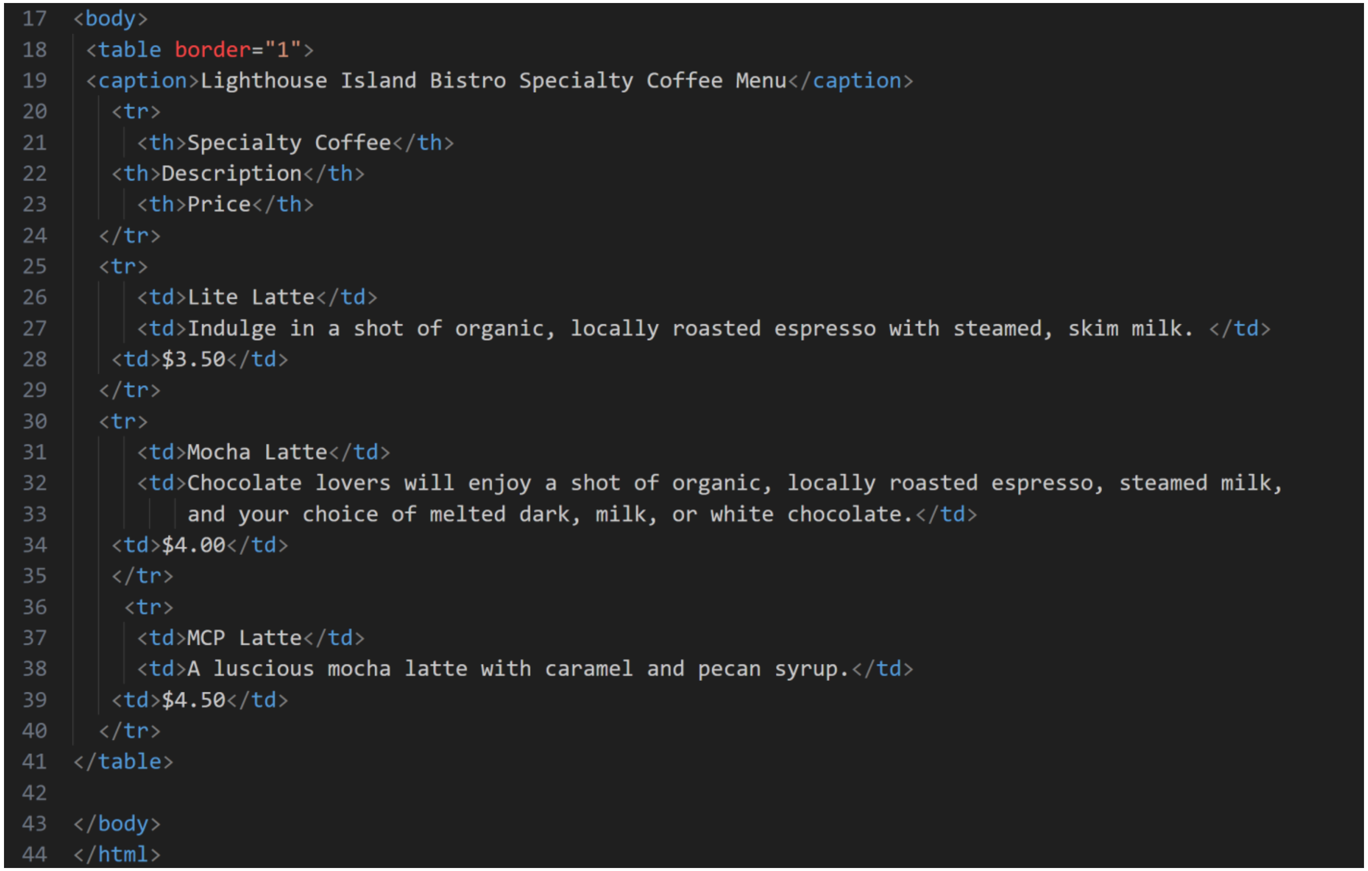
Lighthouse Island Bistro Specialty Coffee Menu

Specialty Coffee	Description	Price
Lite Latte	Indulge in a shot of organic, locally roasted espresso with steamed, skim milk.	$3.50
Mocha Latte	Chocolate lovers will enjoy a shot of organic, locally roasted espresso, steamed milk, and your choice of melted dark, milk, or white chocolate.	$4.00
MCP Latte	A luscious mocha latte with caramel and pecan syrup.	$4.50

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Table Practice</title>
<meta charset="utf-8">
<style>

table { margin: auto; border: 5px solid #000066; width: 600px; border-spacing: 0;}
td, th {  padding: 5px; font-family: Arial, sans-serif; border-style: none;}
caption { font-family: Verdana, sans-serif; font-weight: bold;
          font-size: 1.2em; padding-bottom: 5px; }
tr:nth-of-type(even) { background-color: #eaeaea; }
tr:first-of-type { background-color: #000066;
                   color: #eaeaea; }
</style>
</head>
```

Exercise TAB04 (cont.)

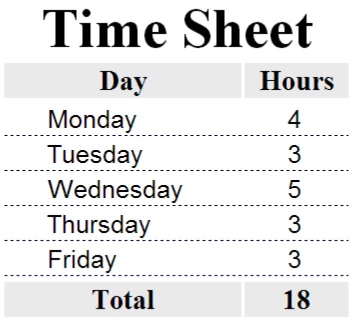


```
<body>
 <table border="1">
 <caption>Lighthouse Island Bistro Specialty Coffee Menu</caption>
   <tr>
     <th>Specialty Coffee</th>
   <th>Description</th>
     <th>Price</th>
  </tr>
  <tr>
     <td>Lite Latte</td>
     <td>Indulge in a shot of organic, locally roasted espresso with steamed, skim milk. </td>
   <td>$3.50</td>
  </tr>
  <tr>
     <td>Mocha Latte</td>
     <td>Chocolate lovers will enjoy a shot of organic, locally roasted espresso, steamed milk,
         and your choice of melted dark, milk, or white chocolate.</td>
   <td>$4.00</td>
   </tr>
    <tr>
     <td>MCP Latte</td>
     <td>A luscious mocha latte with caramel and pecan syrup.</td>
   <td>$4.50</td>
  </tr>
</table>

</body>
</html>
```

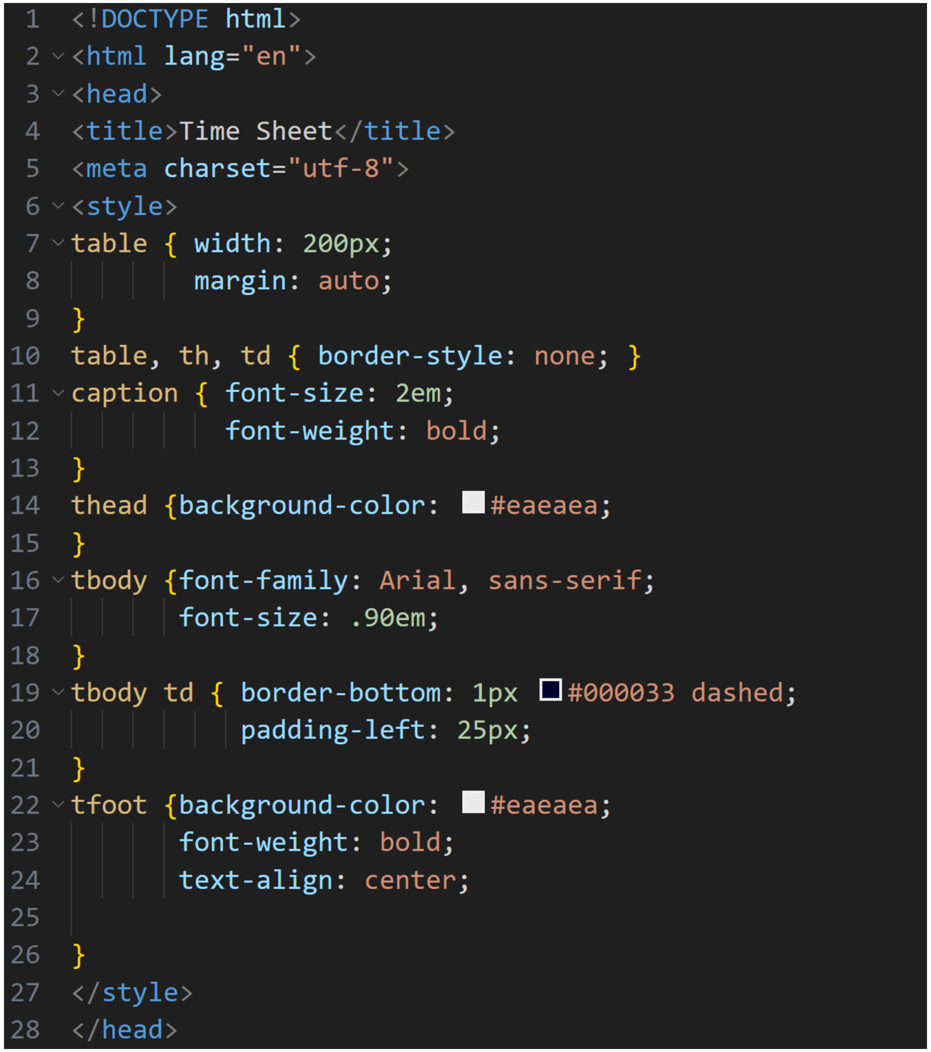
Exercise TAB05

- Type the codes. Study the output in the browser.
- Make some minor changes to the styles & observe their effects.
- Save it as “TAB05.html”



Time Sheet

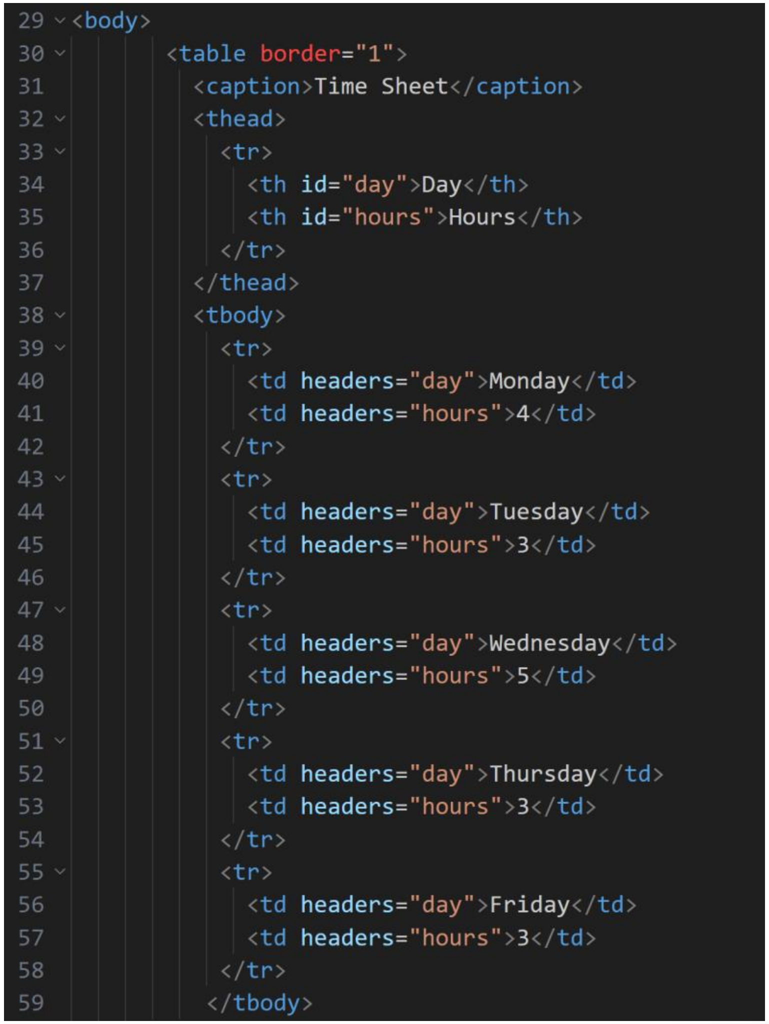
Day	Hours
Monday	4
Tuesday	3
Wednesday	5
Thursday	3
Friday	3
Total	18



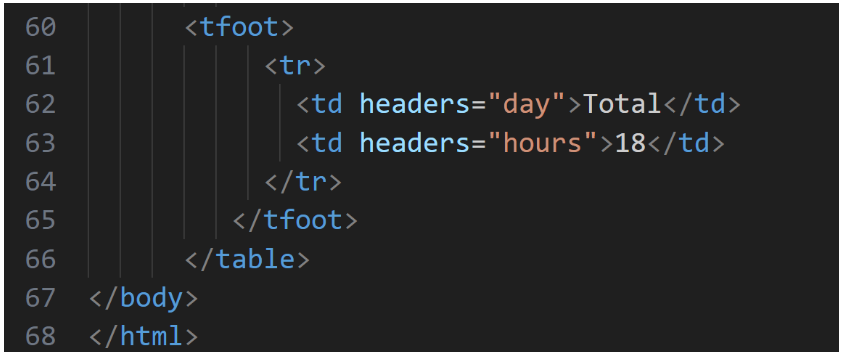
```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Time Sheet</title>
<meta charset="utf-8">
<style>
table { width: 200px;
        margin: auto;
}
table, th, td { border-style: none; }
caption { font-size: 2em;
          font-weight: bold;
}
thead {background-color: #eaeaea;
}
tbody {font-family: Arial, sans-serif;
       font-size: .90em;
}
tbody td { border-bottom: 1px #000033 dashed;
           padding-left: 25px;
}
tfoot {background-color: #eaeaea;
       font-weight: bold;
       text-align: center;

}
</style>
</head>
```

Exercise TAB05 (cont.)



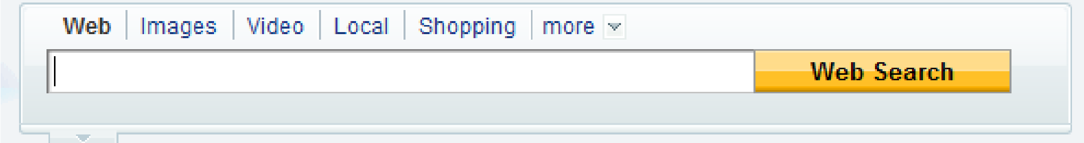
```html
<body>
      <table border="1">
        <caption>Time Sheet</caption>
        <thead>
          <tr>
            <th id="day">Day</th>
            <th id="hours">Hours</th>
          </tr>
        </thead>
        <tbody>
          <tr>
            <td headers="day">Monday</td>
            <td headers="hours">4</td>
          </tr>
          <tr>
            <td headers="day">Tuesday</td>
            <td headers="hours">3</td>
          </tr>
          <tr>
            <td headers="day">Wednesday</td>
            <td headers="hours">5</td>
          </tr>
          <tr>
            <td headers="day">Thursday</td>
            <td headers="hours">3</td>
          </tr>
          <tr>
            <td headers="day">Friday</td>
            <td headers="hours">3</td>
          </tr>
         </tbody>
```



```html
        <tfoot>
          <tr>
            <td headers="day">Total</td>
            <td headers="hours">18</td>
          </tr>
        </tfoot>
      </table>
</body>
</html>
```

Overview of Forms

- Types of forms:
  - Search form, Order form, Newsletter sign-up form, Survey form, Add to Cart form, and so on…



- Two Components of Using Forms

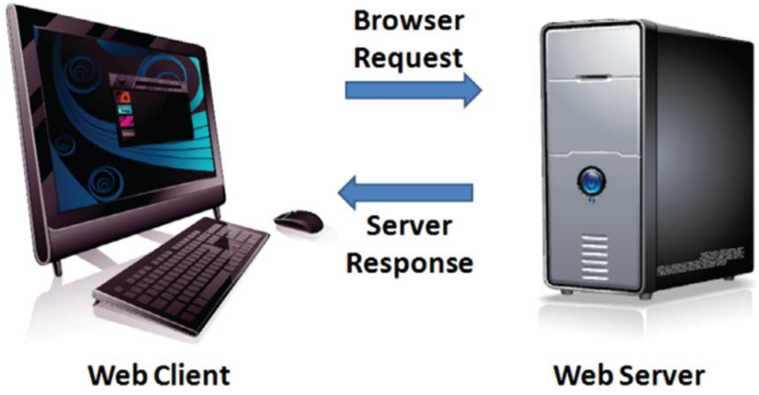
1. The web page form

   An HTML element that contains and organizes form controls such as text boxes, check boxes, and buttons that can accept information from website visitors.

2. The server-side processing

   Server-side processing works with the form data and sends e-mail, writes to a text file, updates a database, or performs some other type of processing on the server.

Server-Side Processing



- Your web browser requests web pages and their related files from a web server.
- The web server locates the files and sends them to your web browser.
- The web browser then renders the returned files and displays the requested web pages for you to use.

Server-Side Scripting

- One of many technologies in which a server-side script is embedded within a web page document saved with a file extension such as:
  - .php (PHP)
  - .cfm (Adobe ColdFusion)
  - .js (Node.js with Express.js)
  - .aspx (ASP.Net).

- Uses direct execution — the script is run either by the web server itself or by an extension module to the web server.

HTML Form Elements

- <form> tag
  - Contains the form elements on a web page
  - Container tag
- <input> tag
  - Configures a variety of form elements including text boxes, radio buttons, check boxes, and buttons
  - Stand alone tag
- <textarea> tag
  - Configures a scrolling text box
  - Container tag
- <select> tag
  - Configures a select box (drop down list)
  - Container tag
- <option> tag
  - Configures an option in the select box
  - Container tag

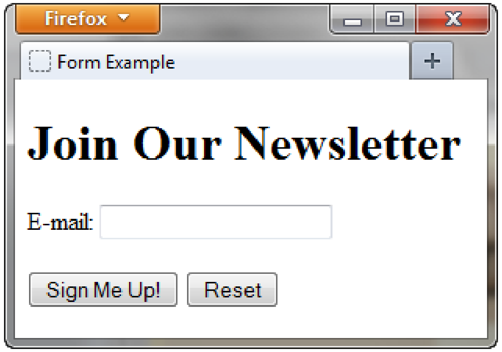
Syntax of a Form

```
<h1>Join Our Newsletter</h1>
<form method="get“ action=“sign_up.php”>
E-mail: <input type="text" name="email" id="email" > <br><br>
<input type="submit" value="Sign Me Up!"> <input type="reset">
</form>
```

Next page

How to send form data?
get | post?

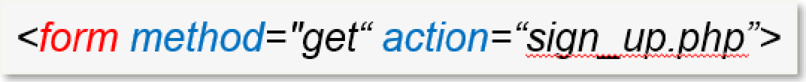
Where to send form data?



Join Our Newsletter

E-mail:

The Form Element <form>



```
<form method="get" action="sign_up.php">
```

- The form element attributes:
  - action
    - Specifies the server-side program or script that will process your form data
  - method
    - get – default value,
      form data passed in URL
    - post – more secure,
      form data passed in HTTP Entity Body
  - Name
    - Identifies the form
  - id
    - Identifies the form

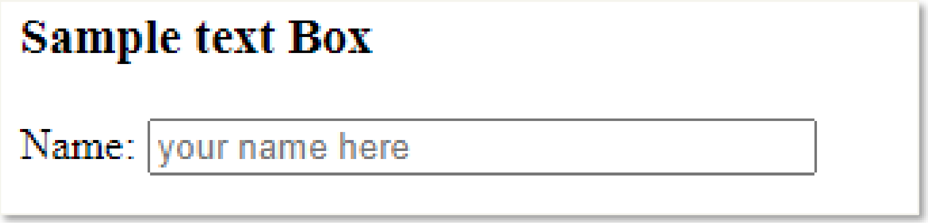
Syntax of Form Element: input

```
<input type="text" name="email" id="email" >
```

Attributes	Description
type (More details on next section)	Specify element type: text, checkbox, radio, submit, reset, file, hidden, image, button, default is text.
name	Specify name of element
value	Initial element value, when type is radio, must specify a value
size	Specify the width of a form element. When type is text or password, the element sizes are in characters, for other types, sizes are in pixel.
maxlength	When type is text or password, the maximum number of characters for input.
checked	When type is radio or checkbox, specify if the button is selected.

The input Element <input>: Text Box

- Accepts text information
- Common Attributes:
  - type="text"
  - name
  - id
  - size
  - maxlength
  - value
  - required (HTML5)
  - placeholder (HTML5)



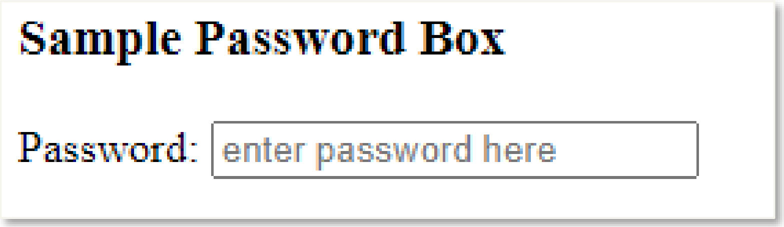
Sample text Box

Name: your name here

The input Element <input>: Password Box

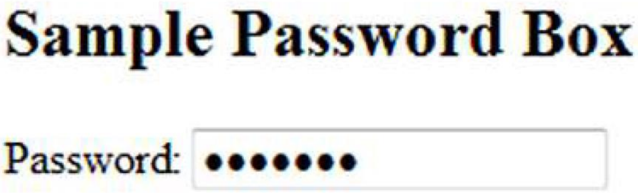
- Accepts text information that needs to be hidden as it is entered

- Common Attributes:
  - type="password"
  - name
  - id
  - size
  - maxlength
  - value
  - required (HTML5)
  - placeholder (HTML5)



Sample Password Box

Password: enter password here



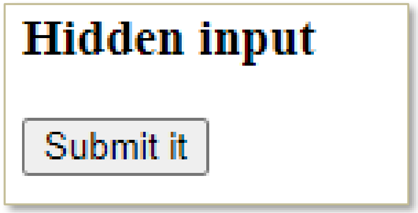
Sample Password Box

Password: •••••••

➢ You should use method="post".

The Input Element <input>: Hidden Field

- This form control is *not* displayed on the Web page.
- Hidden form fields
  - Can be accessed by both client-side and server-side scripting
- Common Attributes:
  - type=“hidden”
  - name
  - id
  - Value



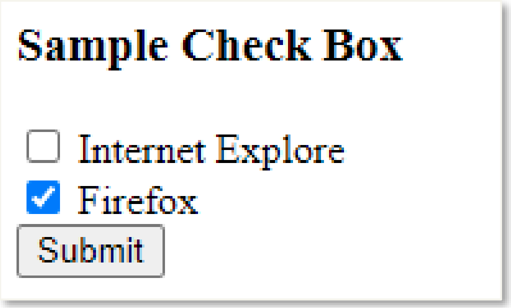
Hidden input

- eg. <input type="hidden" name="sendto" value=“order@site.com">

The input Element <input>: Check box

- Allows the user to select one or more of a group of predetermined items

- Common Attributes:
  - type="checkbox"
  - name
  - id
  - checked
  - Value



Sample Check Box

☐ Internet Explore
☑ Firefox

```
<h2>Slide 24a</h2>
<h3>checkbox</h3>
<form action="show_get" method="get">
   <input type="checkbox" name="browser" value="ie"> Internet Explore<br>
   <input type="checkbox" name="browser" value="moz" checked> Firefox<br>
 <input type="submit">
</form>

<h2>Slide 24b</h2>
<h3>checkbox multivalue</h3>
<form action="show_get" method="get">
   <input type="checkbox" name="browser[]" value="ie"> Internet Explore<br>
   <input type="checkbox" name="browser[]" value="moz" checked> Firefox<br>
 <input type="submit">
</form>
```

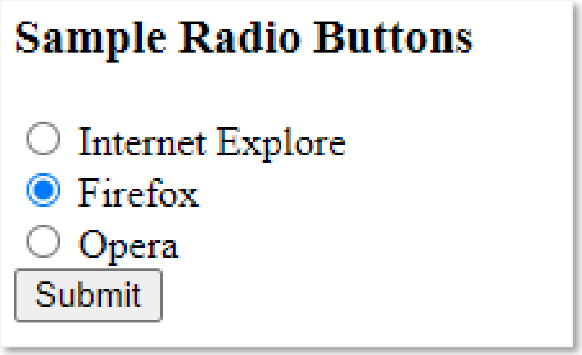
Array allows multiple choices

The input Element <input>: Radio Button

- Allows the user to select exactly ONE from a group of predetermined items

- Each radio button in a group is given the same name and a unique value

- Common Attributes:
  - type="radio"
  - name
  - id
  - checked
  - value



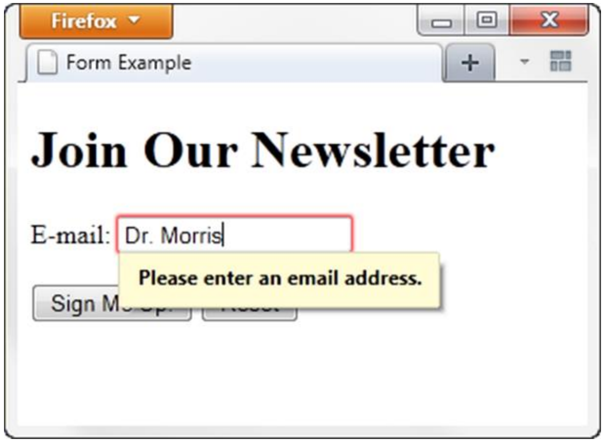
Sample Radio Buttons

○ Internet Explore
● Firefox
○ Opera

The Input Element <input>: Email Text Box

- Accepts text information in e-mail address format

- Common Attributes:
  - type="email"
  - name
  - id
  - size
  - maxlength
  - value
  - placeholder
  - required



Join Our Newsletter

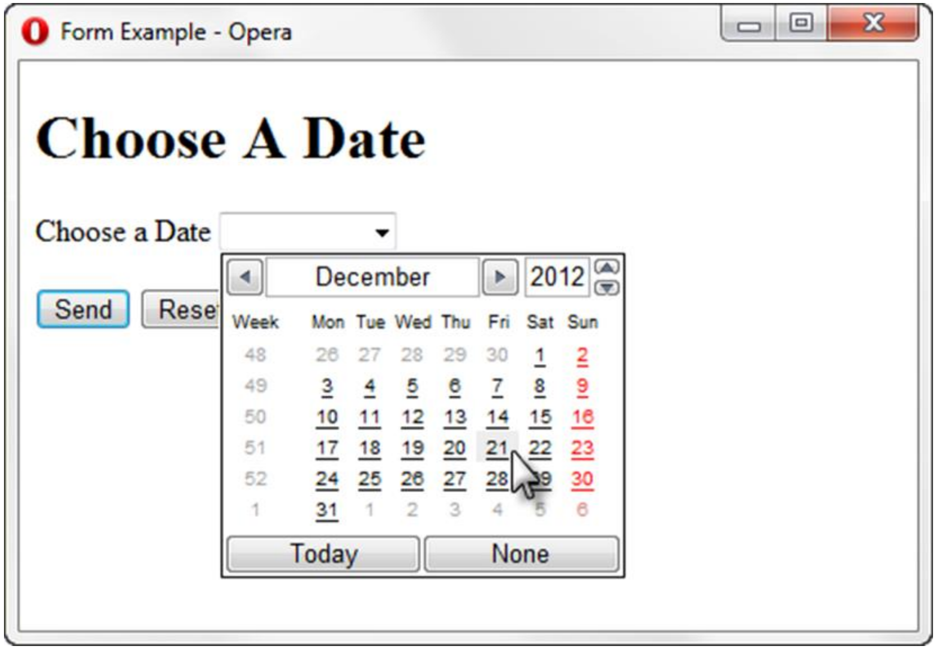
E-mail: Dr. Morris

Please enter an email address.

```
<h1>Join Our Newsletter</h1>
<form method="get">
<label for="email">E-mail:</label>
<input type="email" name="email" id="email" ><br><br>
<input type="submit" value="Sign Me Up!"> <input type="reset">
</form>
```

The Input Element <input>: Calendar Control

- *<label for="myDate">Choose a Date</label>*
  <input type="date" name="myDate" id="myDate">



Choose A Date

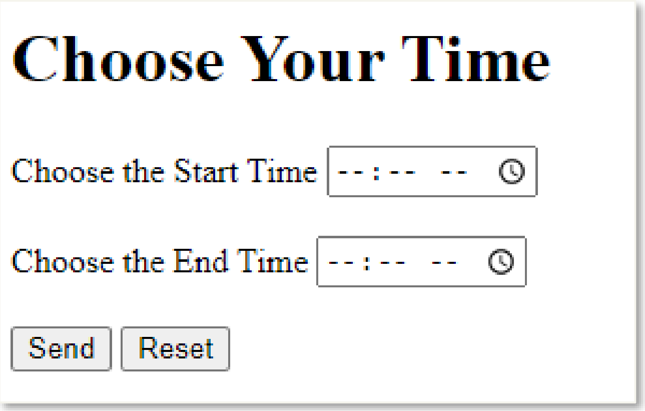
Choose a Date

December 2012

Week	Mon	Tue	Wed	Thu	Fri	Sat	Sun
48	26	27	28	29	30	1	2
49	3	4	5	6	7	8	9
50	10	11	12	13	14	15	16
51	17	18	19	20	21	22	23
52	24	25	26	27	28	29	30
1	31	1	2	3	4	5	6

The Input Element <input>: Time

```
<label for="mySartTime">Choose the Start Time</label>
<input type="time" name="myStarttime" id="myStartTimeID"> <br><br>
<label for="myEndTime">Choose the End Time</label>
<input type="time" name="myEndTime" id="myEndTimeID">  <br><br>
<input type="submit" value="Send"> <input type="reset">
```



Choose Your Time

Choose the Start Time -- : -- --

Choose the End Time -- : -- --

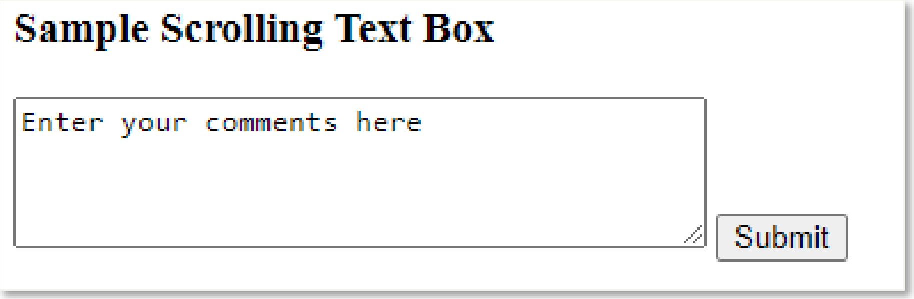
The Textarea Element <textarea>

- Configures a scrolling text box

  <textarea name="comments" id="comments" rows="4" cols="40">

  </textarea>

- Common Attributes:
  - name
  - id
  - cols
  - rows



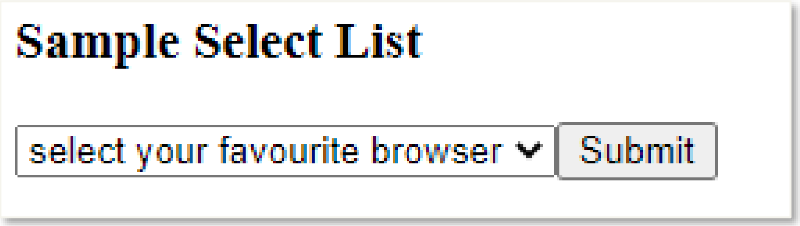
Sample Scrolling Text Box

```
Enter your comments here
```

The Select Element <select>

- Configures a select list (along with <option> tags)
- Also known as: Select Box, Drop-Down List, Drop-Down Box, and Option Box.
- Allows the user to select one or more items from a list of predetermined choices.

- Common Attributes:
  - name
  - id
  - size
  - multiple



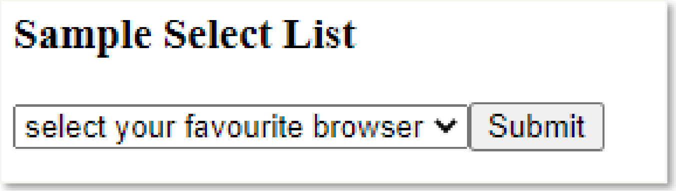
Sample Select List

select your favourite browser

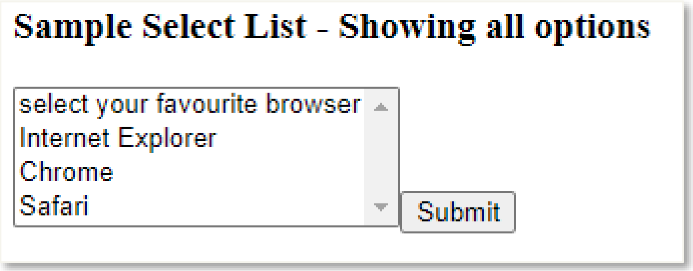
The Option Element <option>

- Configures the options in a Select List
- Attributes:
  - value
  - selected

Size="1"

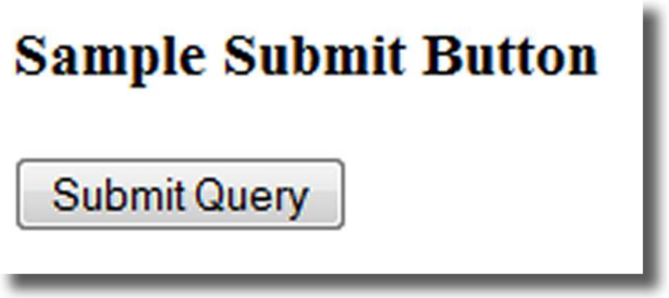

Sample Select List

```
<select size="4" name="favbrowser">
<option> select your favourite browser  </option>
<option value="ie"> Internet Explorer  </option>
<option value="chrome"> Chrome  </option>
<option value="safari"> Safari </option>
```


Sample Select List - Showing all options

The Input Element <input>: Submit Button

- Submits the form information
- When clicked:
  - Triggers the action method on the <form> tag
  - Sends the form data (the name=value pair for each form element) to the web server.



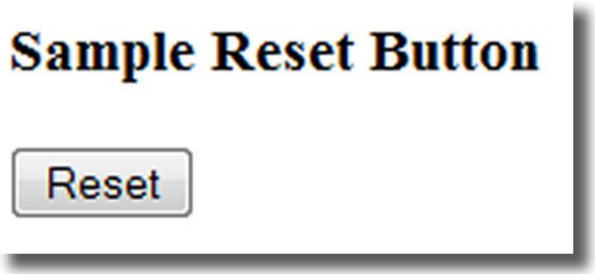
Sample Submit Button

- Attributes:
  - type="submit"
  - name
  - id
  - value
- eg. < input type = "submit" value="Submit Query">

The Input Element <input>: Reset Button

- Resets the form fields to their initial values

- Attributes:
  - type="reset"
  - name
  - id
  - value
- eg. < input type = "reset" >



Sample Reset Button

The Label Element <label>

- Associates a text label with a form control

- Two Different Formats:

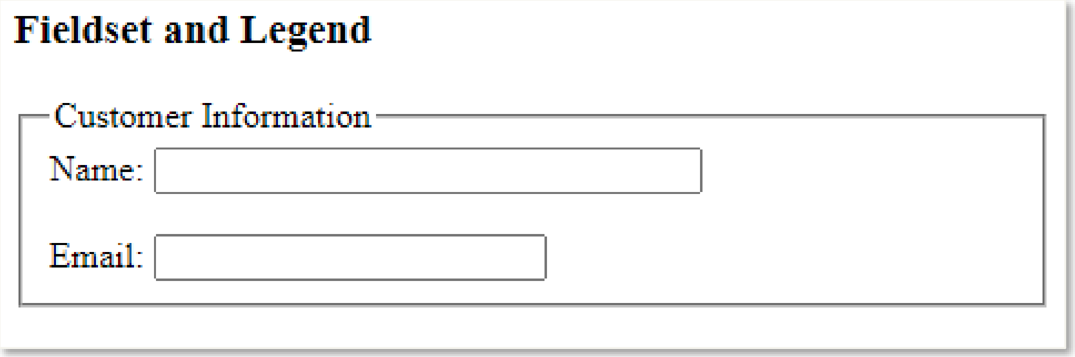
```
<label>Email: <input type="text" name="CustEmail"  id="CustEmail"></label>
```

Or

```
<label for="email">Email: </label>
<input type="text" name="CustEmail" id= "email”>
```

The Fieldset & Legend Elements

- The Fieldset Element <fieldset>
  - Container tag
  - Creates a visual group of form controls on a web page
- The Legend Element <legend>
  - Container tag
  - Creates a text label within the fieldset

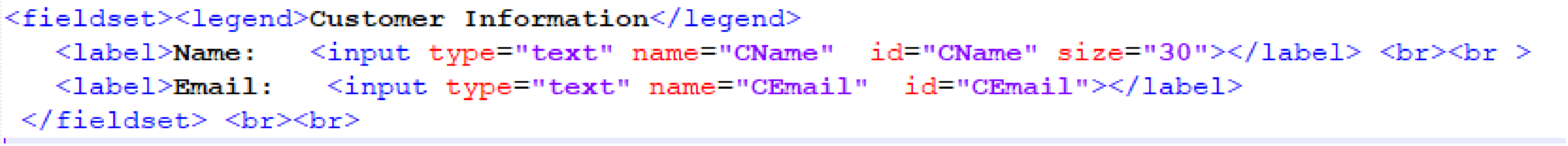


Fieldset and Legend

Customer Information

Name:

Email:

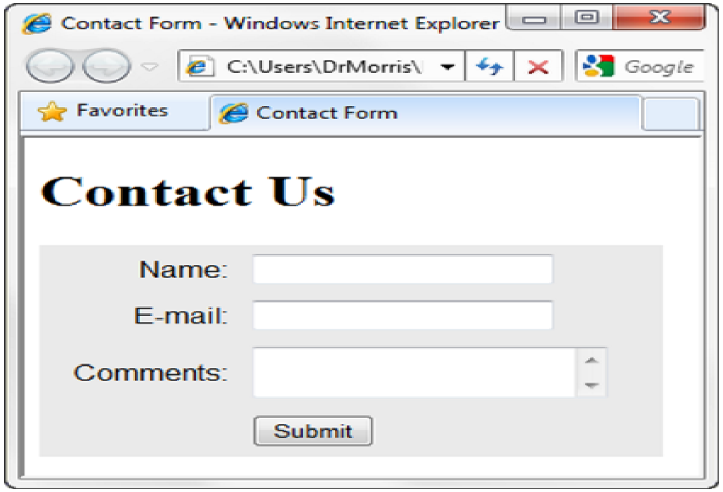


```
<fieldset><legend>Customer Information</legend>
   <label>Name:   <input type="text" name="CName"  id="CName" size="30"></label> <br><br >
   <label>Email:   <input type="text" name="CEmail"  id="CEmail"></label>
 </fieldset> <br><br>
```

Using CSS to style a Form

- Use a table to format the form but configure styles instead of HTML table attributes.

```
table { background-color: #eaeaea;
             width: 20em;
            font-family: Arial, sans-serif; }
td { padding: 5px; }
label { display: block;
              text-align: right; }
```



Contact Us

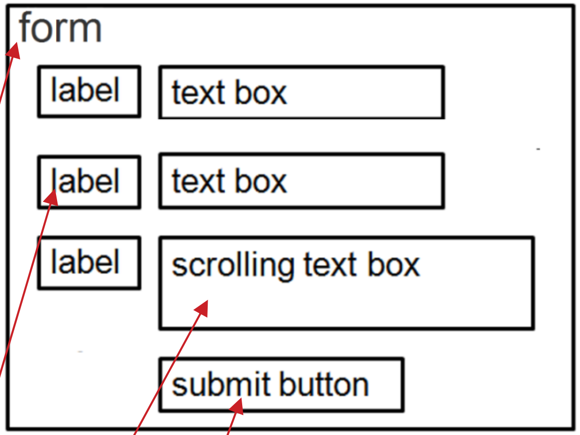
Name:

E-mail:

Comments:

Using CSS to style a Form

"Pure" CSS Approach : Do not use a table to format the form. Use CSS to configure the form elements. Add div selectors when needed.



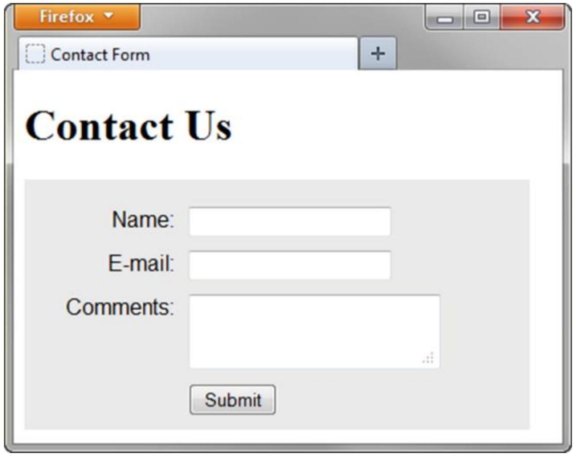
form

label | text box

label | text box

label | scrolling text box

submit button



```
form { background-color:#eaeaea; font-family: Arial, sans-serif;
            width: 350px; padding: 10px;}
label { float: left; clear: left;  display: block; width: 100px;
              text-align: right;  padding-right: 10px;  margin-top: 10px; }
input, textarea { margin-top: 10px;  display: block;}
#mySubmit { margin-left: 110px; }
```

Summary

Table & Form

- **Table:**
  - **Create table: <table>, <tr>, <td>**
  - **rowspan & colspan**
  - **Structural elements: header, section**
- **Form:**
  - **Form element <form >attributes: action, method, name, id, etc.**
  - **Type of input element: text, password, checkbox, radio, textarea, select, option, submit button, reset button, calender, time.**
  - **Advanced application: hidden field, readonly, label element, fieldset, legend element.**
  - **Basic form validation: placeholder, required.**
- **Using CSS to Style a Table and Form**

Practice with HTML5 Forms

- The form display and functioning varies with browser support.
- Study examples in Forms.zip. Note that the action of the form is to invoke either *show_get.php* or show_post.php which displays in the browser the variables and values passed to the php scripts. This shows those variables passed from the client-side to the server-side.
- The *show_get.php* and *show_post.php* scripts show how you can debug your web applications when you need to know what has been sent from the client computer to the server.
- Try out all the form types, make changes and show the changes in your edited files.
- Copy the source codes of all the exercises for tables and all examples/exercises to week04 folder for progress assessments.
- More about CSS3: http://www.w3schools.com/

Thanks

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