

Department of Computer Science

Web Technologies

Lecture-4-Part2-[CLO-2]

HTML-Part4

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Agenda

- HTML Form Element
- Basic Form Controls
 - Text input controls(text, password, textarea)
 - Label, Checkbox, Radio button
 - Selection box/drop down box
 - Hidden element, Buttons, Image button, Submit button, Reset button
- Program-1
- Program-2

HTML Form examples

Example Form-1

Here is an example of the simple form

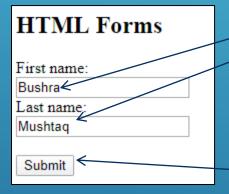
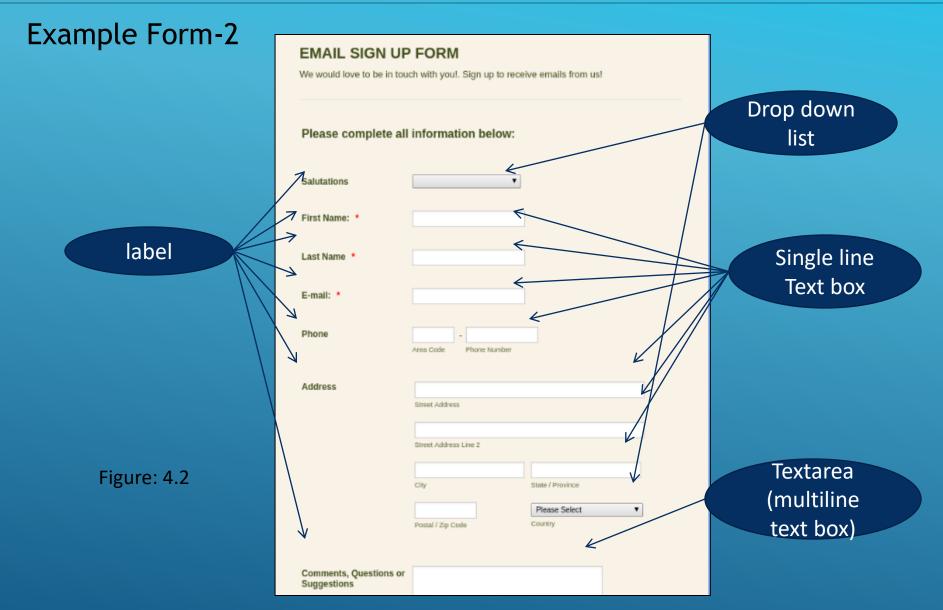


Figure: 4.1

Forms are used to collect data input by user from client and send it to server for processing

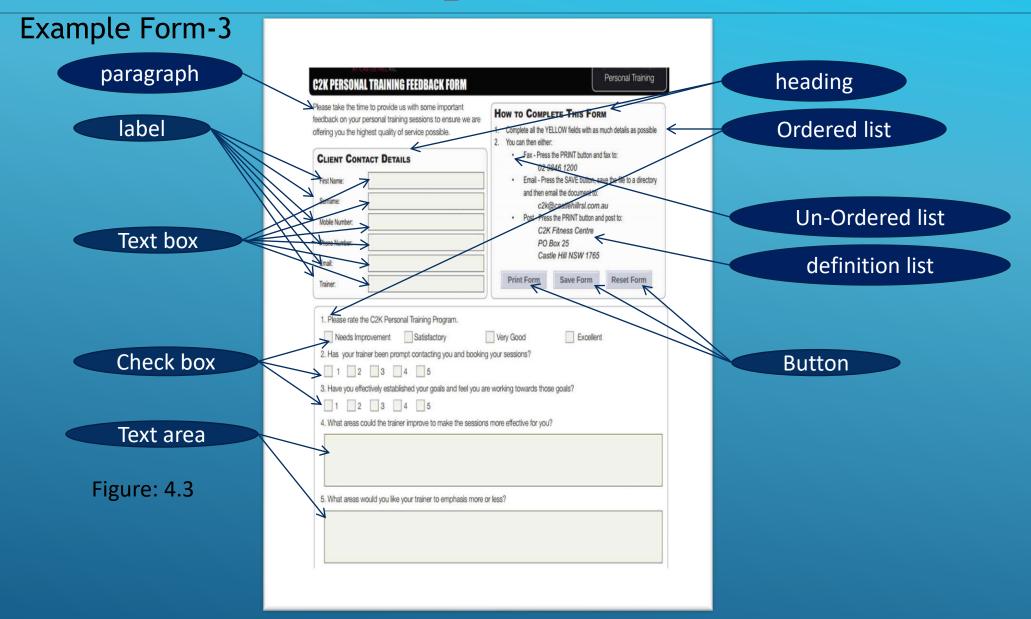
When user presses
"submit" button then data
form send to specified
page/method for further
processing

HTML Form examples



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HTML Form examples....



HTML Form/s

- Collect data/information from a USER
- Forms are made up of such elements through which we become able to enter text, check or uncheck boxes (or tick), radio buttons, select options and such more controls. Some are shown in figure 4.1,4.2 and 4.3 oval shapes in purple color..
- In html, forms are created using **<form></form>** tag, all form elements like textboxes, check boxes, radio button, lists, buttons etc are to be inserted after starting tag of <form> and before closing tag of </form>.
- Once users have entered information into a form, they usually have to click submit button to send information to sever(as shown in Figure 4.1)
- Other html markup e.g. paragraphs, headings, lists, tables etc can be inserted between <form> and</form> as shown blue color oval shapes flowchart labels in figure 4.3.
- One form may not contain another <form> element
- More than one forms can be created on one web page

Creating a Form

- Every < form > element should carry at least two attributes:
- 1. action
- 2. method

action

- Defines the action to be performed when the form is submitted
- Its value could be: 1)a page address(on web server) to which form data is to be submitted or 2)a user-defined method to be called in the current document

```
< form action="http://www.example.org/membership/login.aspx" >
```

method

- Data can be sent to the server in two ways, each corresponding to following HTTP methods:
 - 1. The get method, it appends form data directly to end of target page URL
 - 2. The post method, which hides data in something known as the HTTP headers (not display in address bar of browser)

Form tag Attributes

Example: Get Method

When the form in figure 4.1 submitted using get method then the form data will be visible in the page's address bar field as follows:

/action_page.php?firstname=Bushra&lastname=Mushtaq

Note: Detail discussion on http-get and http-post will be done in last slides in this document.

Other Attributes:

id

- Uniquely identify the < form > element within a page, it is helpful when more than one forms are used in a page.
- The value of the id attribute should be unique within the document example: id="frmLogin"

Form Attributes

target

- The target attribute specifies whether the resultant page(the address of which specified in action attribute of <form>) will be opened in:
 - the current window
 - a new tab in same browser
 - the new window.
- The default value is "_self" which means the form will be submitted in the current window.
- To make the form result open in a new tab in current browser, use the value "_tab".
- To make the form result open in a new browser tab, use the value "_blank".

Example:

Here, the action.php(after form submittion) will be open in a new browser window:

<form action="/action_page.php" target="_blank">

Other Form attributes

| Attribute | Description |
|----------------|---|
| accept-charset | Specifies the charset used in the submitted form (default: the page charset). |
| action | Specifies an address (url) where to submit the form (default: the submitting page). |
| autocomplete | Specifies if the browser should autocomplete the form (default: on). |
| enctype | Specifies the encoding of the submitted data (default: is url-encoded). |
| method | Specifies the HTTP method used when submitting the form (default: GET). |
| name | Specifies a name used to identify the form (for DOM usage: document.forms.name). |
| novalidate | Specifies that the browser should not validate the form. |
| target | Specifies the target of the address in the action attribute (default: _self). |

novalidate: This option is used when we want to stop the client browser for checking the validity of data entered by user, so that the data should be checked through user defined method in client-side scripting language.

Basic Form Elements till html4

- Text Input Controls
- Label Element
- Checkboxes
- Radio Buttons
- Select Element
- Hidden Element
- Button Element
- Submit Button
- Reset Button

Common Attributes of All form controls

Before going in details of the form controls and their basic attributes, you should know meaning and use of some attributes which will be used almost in all form controls:

- id: this attribute is used to identify the html element through document object model via (java script or CSS)
 - Id of element is expected to be unique within the page
 - Id is used at client side ----in CSS or in java script
 - Id has nothing to do with data contained within the element
 - Id is not mandatory attribute for form controls access on server side:
 - It means at server-side id of element is not used to collect data from that element.
- name: this attribute is used to identify the html element at server side, hence:
 - it is used in the http request send by browser to the server as a variable name associated with data contained in the **value** attribute
 - From above point, it is concluded that all form controls elements must have a name otherwise their value/data will not accessible at server side.
- Type: this attribute is used to mention the type of element e.g text or password or radio button, check boxes etc.

There are number of controls/elements which can be used inside the <form> and </form>

1. Text input controls

Three types of text input are:

Single - line text input controls

General syntax

<input type="text" name="anyName" value="text to be displayed" size="number value"
maxlength="number">

type: is used to mention the element type e.g text/checkbox/buttons etc

name: is used to locate the text box in order to access its data

value: will display predefined text in that text box on display in browser, it is optional attribute

size: specify number of characters visible in text field

maxlength: Limits the number of characters input into the text field, it is also optional attribute

Example:

< input type="text" name="txtSearch" value="Search for" size="20" maxlength="64" / >

Password input controls

Collect sensitive data such as passwords and credit card information.

Example:

```
<input type = "password" name = "email_pin" size = "25">
```

- Multi line text input controls (<textarea>)
 - Used to input text in multiple lines
 - Its attributes are: name, rows and columns

Syntax-1---example:

<textarea name = "comments" rows="4" cols="36">Enter comments here</textarea>

Here "Enter comments here" is the **Default text** that will be displayed inside textarea box when the form displayed in broswer

Multi - line text input controls (<textarea>)

Syntax-2---example:

";" to combine more then one attribute: value pairs

<textarea name = "comments" style="width:200px; height:600px">Enter comments here</textarea>

Use of css "style" attribute to set more then one attributes and their value, for example here width is set to 200 pixels and height 600px

Dear Students:

We study CSS in detail after html section

2. Label Element

```
Let check the following html code for Figure 7.1 form
<!DOCTYPE html>
                                                                       Label tag
<html>
<body>
<h2>HTML Forms</h2>
<form action="/action_page.php">
 <label for="fname">First name;</label><br>
 <input type="text" id="fname" name="fname" value="John"><br>
 <label for="lname">Last name:</label><br>
 <input type="text" id="lname" name="lname" value="Doe"><br><br><
 <input type="submit" value="Submit">
</form>
If you click the "Submit" button, the form-data will be sent to a page called "/action page.php".
</body>
</html>
                                                      Listing 4.1
```

Listing 4.1

2. Label Element

- Notice the use of the <label> element in above listing.
- The <label> tag defines a label for many form elements.
- The <label> element is useful for screen-reader users, because the screen-reader will read out load the label when the user is focused on the input element.
- The <label> element also help users who have difficulty clicking on very small regions (such as radio buttons or checkboxes) because when the user clicks the text within the <label> element, it toggles the radio button/checkbox.
- The for attribute of the <label> tag should be equal to the id attribute of the <input> element to bind them together.

3. Checkboxes

- Little boxes on page which can be checked or unchecked by click or press the spacebar key
- Allow users to select several values for the same property
- Can be used individually or in a group
 - Individually: For this, each check box must have different name
 - Group: For this, each check box must have same name
- Helpful when we want to:
 - Provide a simple yes or no response with one control
 - Select several items from a list of possible options

3. Checkboxes Example html code

5 check boxes with different value but all have same name

```
<html>
<head></head>
<body>< form action="http://www.example.com/cv.aspx" method="get" name="frmCV" >
    Which of the following skills do you_possess? Select all that apply.
  < input type="checkbox" name="chkSkills" id ="ch1" value="xhtml" / > XHTML < br / >
  < input type="checkbox" name="chkSkills" \id = "ch2" value="CSS" / > CSS < br / >
    < input type="checkbox" nam="chkSkills" id = "ch3" value="JavaScript" / > JavaScript < br /</pre>
    < input type="checkbox" name="chkSkills" id = "ch4" value="aspnet" / > ASP.Net < br / >
    < input type="checkbox" name="chkSkilfs" id = "ch5" value="php" / > PHP
    </form
                                                       same name indicates that
    </body></html>
                                                      these checkboxes are belong
                            Listing 4.2
                                                               same group
```

• Its attributes are type, name (several checkboxes may share the same name), id, value (send to server) and checked (indicate selection)

3. Checkboxes

Following is the output of listing checkbox.html

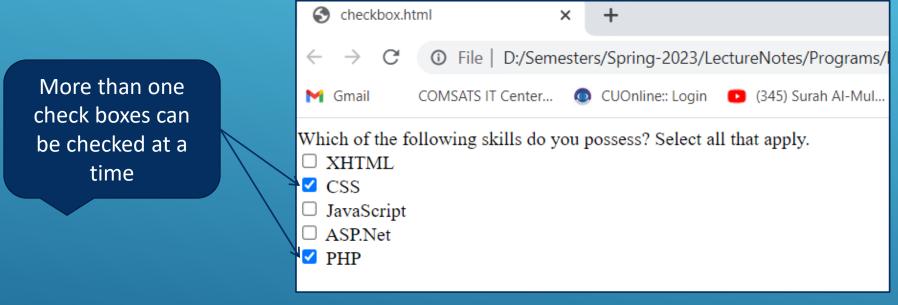


Figure- 4.4-checkbox.html

3. Checkboxes

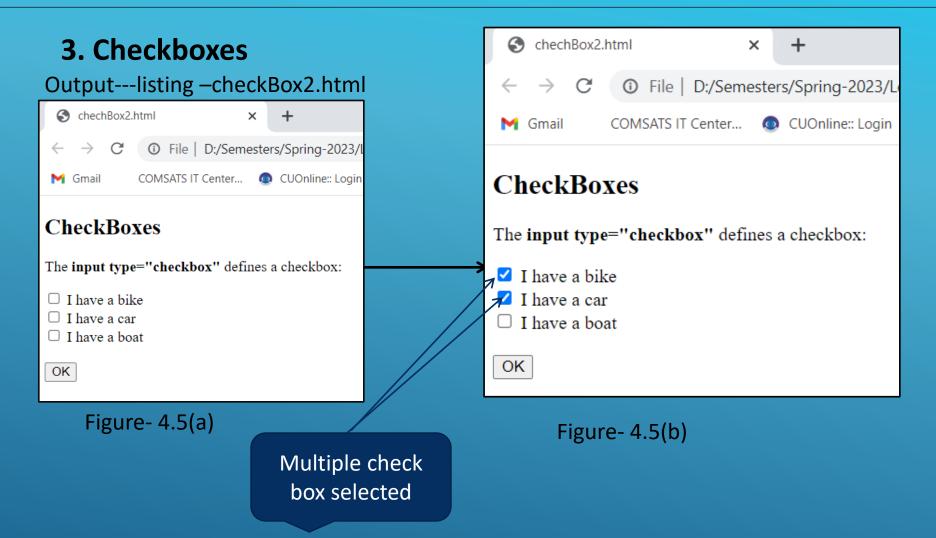
Note: Although it is more convenient to have same name for one group of check boxes but: It is not necessary to have same name for one group of check box, you can take different names too. As shown in the following program

```
chechBox2 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>
<h2>Checkboxes</h2>
The <strong>input type="checkbox"</strong> defines a checkbox:
<form action="/action page.php">
 <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">
 <label for="vehicle1"> I have a bike</label><br/>
 <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">
 <label for="vehicle2"> I have a car</label><br/>
 <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">
 <label for="vehicle3"> I have a boat</label><br/><br/>
 <input type="submit" value="Submit">
</form>
</body>
</html>
```

Check boxes with Different names but same group

Listing 4.3

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4. Radio Buttons

- They let a user select any ONE of a limited number of choices.
- Name attribute in radio button must have same value for one group of radio buttons
- Similar to checkboxes but when you have a group of radio buttons that share the same name, only one of them can be selected

Same name

4. Radio Buttons

- Radio buttons let a user select any ONE of a limited number of choices.
- Similar to checkboxes but when you have a group of radio buttons that share the same name, only one of them can be selected
- < html><head></head><body>
- <form action="http://www.example.com/flights.aspx" name="frmFlightBooking"
 method="get" > Please select which class of travel you wish to fly: < br / >
- < input type="radio" name=/radClasz id ="r1" value="First" / > First class < br / >
- <input type="radio" name="radClass" \ d = "r2" value="Business" / > Business class < br / >
- < input type="radio" name="radClass" |d ="r3" value="Economy" / > Economy class < br / >
- </body>< /form ></html>

Output

Only one radio button can be selected at a time

Please select which class of travel you wish to fly?

- First Class
- Business Class
- Economy Class

5. Select Boxes

- < select > </select>element is used to define a drop down list
- <select> element also called select box
- Common attributes of <select> tag are:
 - name
 - size (# of visible rows with scrolling)-----(Example-3)
 - multiple---allow the user to select more than one value (Example-4)
- <select> tag allows users to select an option from list of options
- List of options are defined through <option> tags

General Syntax

Size, multiple, and id attribute are optional if needed then used

5. Select Boxes

- Each individual option within that list is contained within an <option></option>
 element
- Common attributes of <option> tag are:
 - value
 - selected
 - label (replace by element content)
- By default, the first item in the drop-down list is selected(Example-1)
- To change the default selected option, add the selected attribute to the that option which you want to be displayed as selected on page output in browser window(Example-2)

5. Select Boxes

Example-1

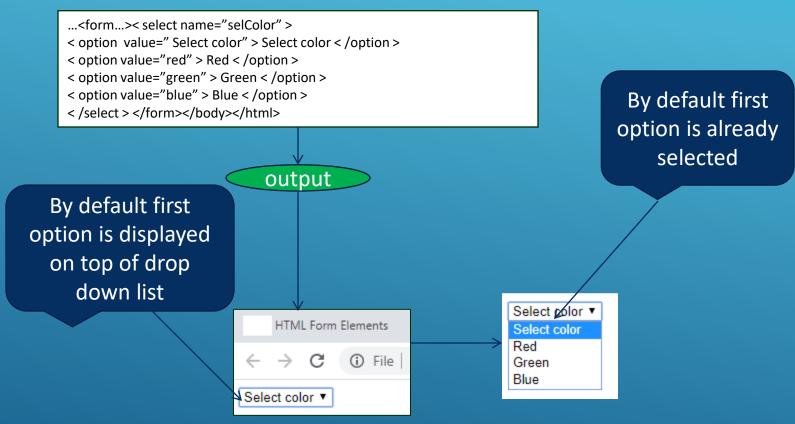


Figure- 4.7-dropDown1.html

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5. Select Boxes

Example-2

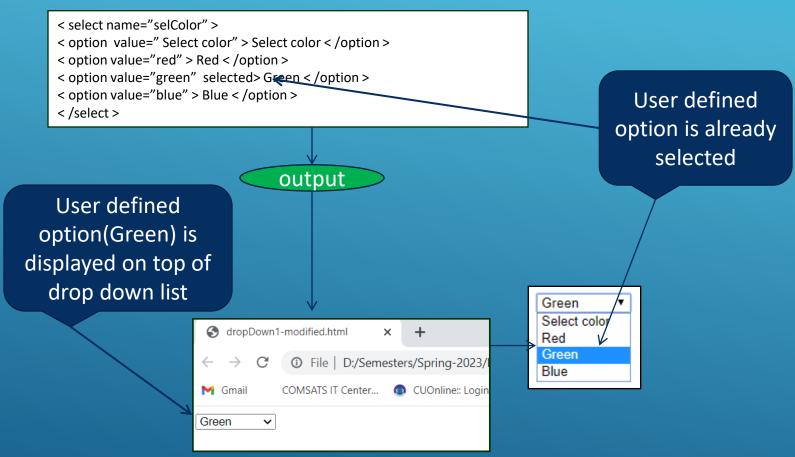


Figure- 4.8-dropDown1-modified.html

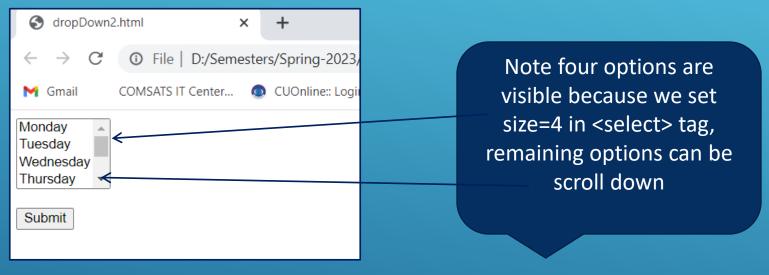
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5. Select Boxes

Example-3-dropDown2.html

```
< form action="http://www.example.org/days.aspx"
name="frmDays" method="get" >
< select size="4" name="selDay" >
< option value="Mon" > Monday < /option >
< option value="Tue" > Tuesday < /option >
< option value="Wed" > Wednesday < /option >
< option value="Thu" > Thursday < /option >
< option value="Fri" > Friday < /option >
< option value="Sat" > Saturday < /option >
< option value="Sun" > Sunday < /option >
</select > < br / > < input type="submit"
value="Submit" / >
</form
```

5. Select Boxes



Output-Example-3-dropDown2.html

Figure- 4.9

5. Select Boxes

Example-4

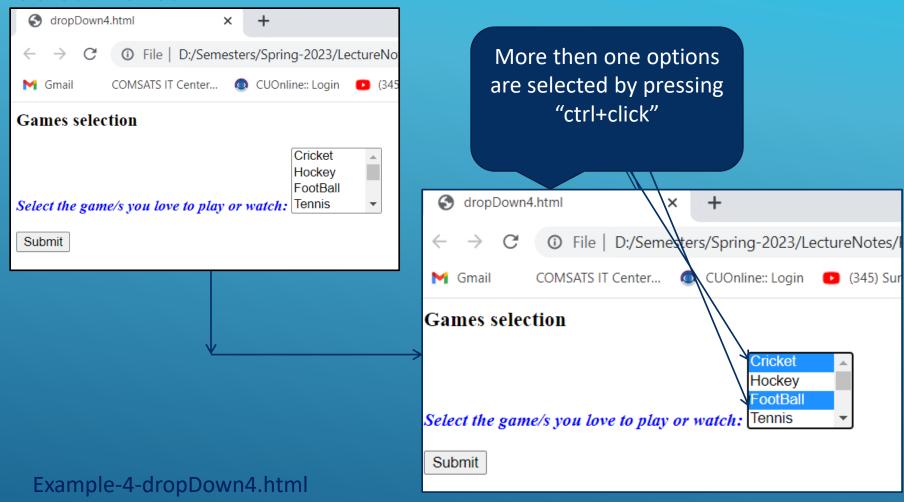
"multiple" attribute for selection of more than one options

```
*dropDown4 - Notepad
File Edit Format View Help
<html><head></head>
<body>
<h3>Games selection</h3>
<form action="http://www.example.org/day/s.aspx" name="frmDays" method="get" >
<label for="selGame"><em><b><font color≠"blue">
Select the game/s you love to play or/watch:</font></b></em>
<select size="4" name="selGame" multiple>
        <option value="cr" > Cricket </option >
        <option value="hk" > Hockey </option >
        <option value="fb" > FootBall </option >
        <option value="ts" > Tennis </option >
        <option value="tts" > Table Tennis </option >
        <option value="Sq" > Squash </option >
        <option value="Pl" > Polo </option >
        <option value="rl"> Wrestling</option>
        <option value="bx"> Boxing</option>
</select></label>
<br /> <br / >
<input type="submit" value="Submit" /></form>
</body>
</html>
```

Listing 4.4

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5. Select Boxes



6. Hidden Controls

- Pass information between pages without the user seeing it
- Not visible in form when displayed in the browser but still hidden information submitted
- You may have come across forms on the Web that span more than one page. Long forms can be confusing and splitting them up can help a user.
- Create a hidden control using the < input > element whose type attribute has a value of hidden

Genaral Syntax:

<input type="hidden" name="fieldName" value="value to be submitted">

Attributes:

type: used to describe the type of input control

name: is used to locate the hidden box in order to access its value

value: the text value stores in this attribute will be submitted in hidden

web page/method mentioned in action attribute of form

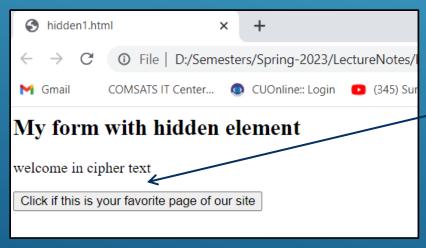
manner to target

6. Hidden Controls

Example

```
1 ▼ <html>
   <head></head>
3 ▼ <body>
   <h2>My form with hidden element</h2>
         <!-- protocol----for web access
6
          example.com----host name
           vote.aspx----target file, where form data will be submitted-->
   <form action="https://cuonline.cuiatd.edu.pk/" method="post" name="fromVote">
9
       welcome in cipher text
       <input type="hidden" name="hidePageSentFrom" value="home page" />
10
11
12
       <input type="submit" value="Click if this is your favorite page of our site" />
    </form >
    </body>
   </html>
```

<u>Output</u>



No hidden value displayed when form displayed in browser

7. Button Control

- <Input type="button"> defines a button
- is used to do an action when the user press this button
- Action may be usually call to a method

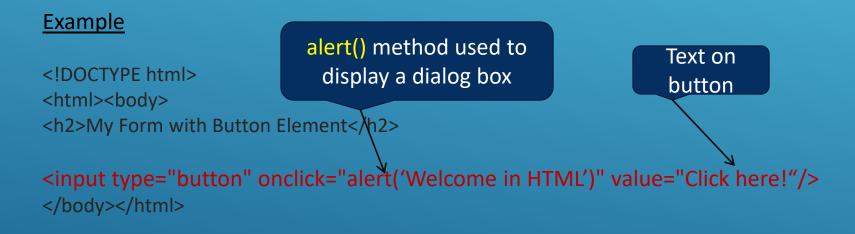
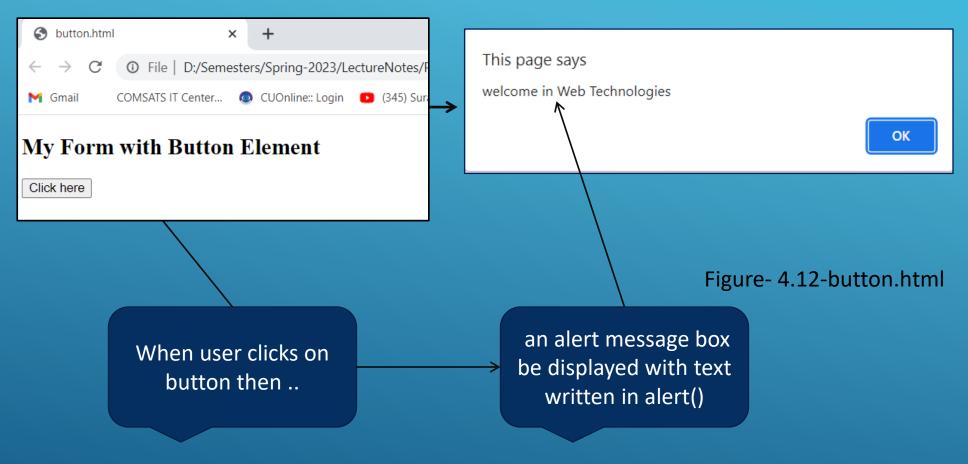


Figure- 4.12-button.html

7. Button Control

<u>Output</u>



8. Image Button Control

- <Input type="image"> defines a fancy button
- is used to do an action when the user press this image button
- Action may be usually call to a method

Example

```
<!DOCTYPE html>
<html><body>
<h2> Image Button Test</h2>
```

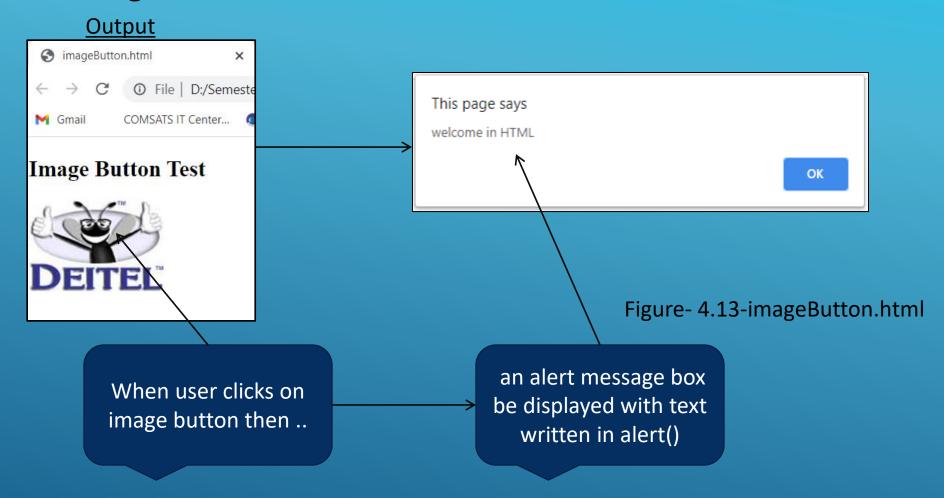
<input type="image" name="imagebutton" src="logo.jpg" onclick="alert('Welcome in HTML')" >

</body></html>

Figure- 4.13-imageButton.html

alert() method used to
 display a dialog box

8. Image Button Control



9. Submit button

- An input type submit is used to define a button for submitting form data to a form-handler
- form-handler is specified in form action attribute.

Syntax

<input type="submit" value="ok"> <

Text to be displayed on submit button

10. Reset button

An input type "reset" is used to clear/reset the form entries.

Syntax

<input type="reset" value="cancel">

Text to be displayed on reset button

<form action="url/methodCall" method=get/post>

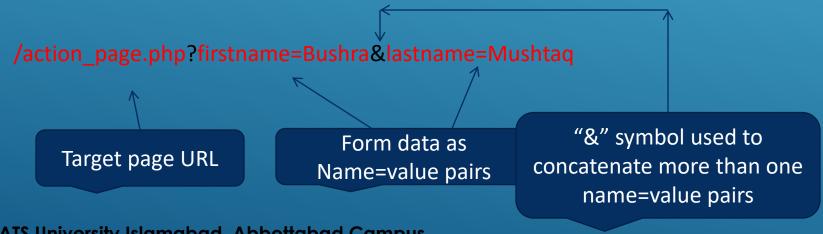
- There are two methods that a browser can use to send form data to the server HTTP get and HTTP post
- If the < form > element does not carry a method attribute, then by default the get method will be used.

1. HTTP get

 When you send form data to the server using the HTTP get method, the form data is appended to the URL that is specified in the action attribute of the < form > element.

Example: Get Method

When the form in figure 8.1 submitted using get method then the form data will be visible in the page's address bar field as follows:



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- HTTP get request
 - You should not use the HTTP get method when:
 - You are dealing with sensitive information, such as passwords or credit card details (because the sensitive form data would be visible as part of a URL).
 - You are updating a data source such as a database or spreadsheet (because someone could make up URLs that would alter your data source).
 - Your form contains a file upload control (because uploaded files cannot be passed in the URL).
 - Your users might enter non ASCII characters such as Hebrew(block script alphabets not known to browser or Cyrillic characters(used for various languages in Eurasia).

This point explaining that if user input such characters which are not listed in ASCII chart then those characters should not be submitted by HTTP get request because browser may take these alphabets in wrong manner.

HTTP Get Request

Notes on GET:

- The length of a URL is limited (2048 characters, hence it is better to do not submit form data in large quantity through HTTP-Get request.
- GET is better for non-secure data, like query strings in Google

Sending Form Data to the Server

- HTTP post
 - The form data is sent transparently in what is known as the HTTP headers
 - If you are sending sensitive information such as credit card details, the data should be sent under a Secure Sockets Layer

Http Post Request

Always use POST if the form data contains sensitive or personal information.
 The POST method does not display the form data in the page address field.

Notes on POST:

- POST has no size limitations, and can be used to send large amounts of data.
- Form submissions with POST cannot be bookmarked

Where to submit form data at this stage?

Dear students:

- As we are in the initial phase of web technologies and not yet studied client side scripting language nor server side scripting language,
- hence the following two programs will not send data to server side scripting/client side scripting to process or capture data(given in action attribute of form)
- rather at current stage the target page is simple html document which will display only simple acknowledge message by target web page.

Example complete programs

ExampleProgram-1

The first program related to input user feed back it has following two programs:

- 1. FeebackForm.html----source document
- 2. Receiver.html-----target page

Note: the line numbering in the following program is just for reference, you do not have to write it in your code.

Program---FeedBackform.html

FeedBackForm.html

- 1. <html><head><meta charset="utf-8"><title>Form</title></head><body>
- 2. <h1>Feed Back Form</h1>
- 3. Please fill up this form to help us improve our site
- 4. <form name="input" action="receiver.html" method="post" target="_tab">
- 5. <input type = "hidden" name = "recipient" value = "deitel@deitel.com">
- 6. <input type = "hidden" name = "subject" value = "Feedback Form">
- 7. <input type = "hidden" name = "redirect" value = "main.html">
- 8. First name: <input type="text" name="firstname">

- 9. Last name: <input type="text" name="lastname">
- 10. Password: <input type="password" name="pwd">
- 11. Gender:<input type="radio" name="gender" value="male">Male

- 12. <input type="radio" name=" gender " value="female">Female

- 13. <input type="radio" name="gender" value="other">Other

FeedBackform.html....

- 14. In which programming languages you love to work?
- 15. <input type="checkbox" name="plang" value="python">Python

- 16. <input type="checkbox" name=" plang " value="Cpp">C++

- 17. <input type="checkbox" name=" plang " value="Chash">C#

- 18. <input type="checkbox" name=" plang " value="java">JAVA

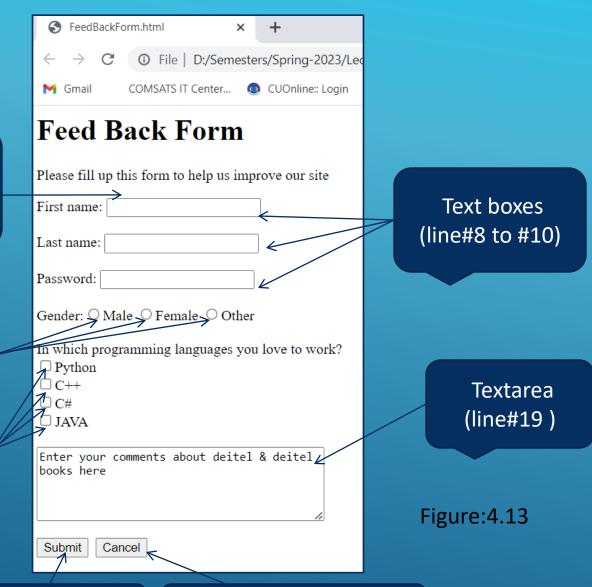
- 19. <textarea name="comments" rows="5" cols="40">Enter your comments about deitel & deitel books here </textarea>
- 20. <input type="submit" value="Submit">
- 21. <input type="reset" value="Cancel">
- 22. </form>
- 23. /body>
- 24. /html>

Output web page---feedbackform.html

No hidden fields line#5 to #7) displayed here in form

Radio buttons (line#11 to #13)

check boxes (line#15 to #18)



submit button (line#20)

reset button (line#21)

Target web page receiver.html

After submit button pressed (Figure: 8.13) then receiver. html will launch in the new tab. This is done according to line#4 (given below) in FeedBackForm. html

<form name="input" action="receiver.html" method="post" target="_tab">

Target web page

Target web page will be displayed in new tab of current browser

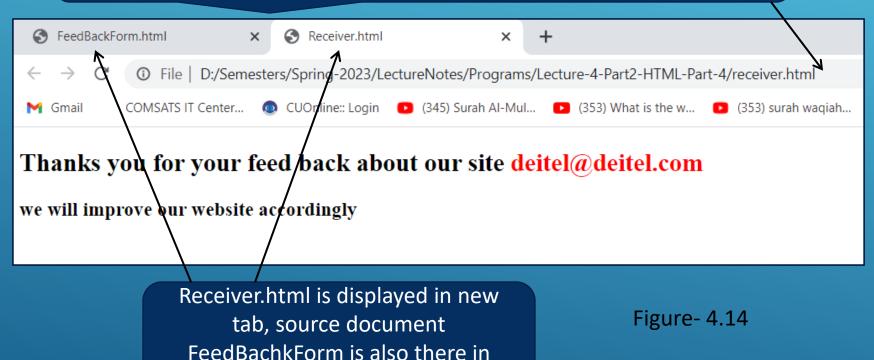
target web page receiver.html

receiver.html

- 1. <!DOCTYPE html>
- 2. <html><head><meta charset="utf-8">
- <title>Feed Back Receiver</title>
- 4. <body>
- 5. <h2>Thanks you for your feed back about our site
- 6. deitel@deitel.com</h2>
- 7. <h3> we will improve our website accordingly</h3>
- 8. </body>
- 9. </html>

Output---receiver.html

No name=value pairs of FeedBackForm.html form data appended at end of target page URL: this is due to "post" method mentioned in <form> tag of FeedBackForm.html



previous tab

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Example complete programs

ExampleProgram-2

The second program is also related to input user feed back but with more form elements with more attributes for creating more complex form also the target page is website address:

it has following two programs:

- 1. FeebackForm2.html----source document
- 2. deitel.com-----target web site page

Note: the line numbering in the following program is just for reference, you do not have to write it in your code.

Program---FeedBackform2.html

FeedBackForm2.html

- <html><head><meta charset="utf-8"><title>Form</title></head><body>
- 2. <h1>Feed Back Form</h1>
- 3. Please fill up this form to help us improve our site
- 4. <form name="input" action="https://deitel.com" method="post" target="_blank">
- 5. <input type = "hidden" name = "recipient" value = "deitel@deitel.com">
- 6. <input type = "hidden" name = "subject" value = "Feedback Form">
- 7. <input type = "hidden" name = "redirect" value = "main.html">
- 8. <label>Name:<input name="name" type="text" size=25></label>
- 9. <label>Comments:

- 10. <textarea name="comments" rows="4" cols="36">Enter comments here</textarea>
- 11. </label>
- 12. <label>Email Address:

- 13. <input name="email" type="password" size="25">
- 14. </label>

```
15. 
16. <strong>Things you liked:</strong><br>
17. <label>Site design
18. <input name = "thingsliked" type = "checkbox" value="Design"></label>
19. < label>Links
20. <input name = "thingsliked" type = "checkbox" value="Links"></label>
21. < label > Ease of use
22. <input name = "thingsliked" type = "checkbox" value="Ease"></label>
23. < label > Images
24. <input name = "thingsliked" type = "checkbox" value="Images"></label>
25. < label > Source code
26. <input name = "thingslikeon" type = "checkbox" value="Code"></label>
27.
```

Note "same name" for one group of check boxes

This option will be displayed as already selected on form display due to "checked" attribute

```
28.
```

- 29. How did you get to our site?:

- 30. < label > Search engine
- 31. <input name = "howtosite" type = "radio" value="search engine" checked></label>
- 32. < label>Links from other sites
- 33. <input name = "howtosite " type = " radio" value="Link"></label>
- 34. < label > deitel.com web site
- 35. <input name = " howtosite " type = " radio" value="deitel.com"></label>
- **36.** < label > Reference in a book
- 37. <input name = " howtoste " type = " radio" value="book"></label>
- 38. <label>Other
- 39. <input name = " howtosite " type = " radio" value="other"></label>
- **40.**

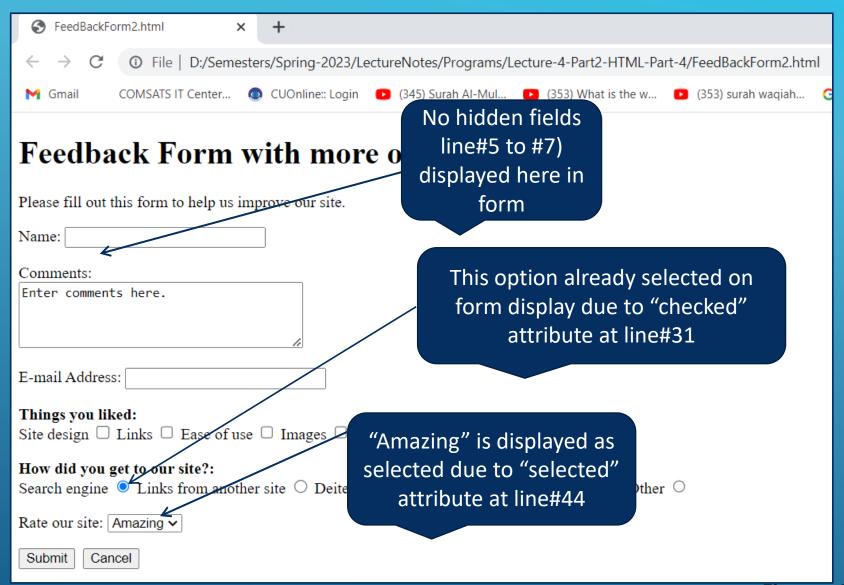
Note "same name" for one group of radio buttons

```
41. 
42. <label><strong>Rate our site:</strong><br>
43. <select name = "rating">
        <option selected>Amazing
44.
        <option>10</option>
45.
        <option>9</option>
46.
47.
        <option>8</option>
48.
        <option>7</option>
        <option>6</option>
49.
        <option>5</option>
50.
51.
        <option>4</option>
52.
        <option>3</option>
53.
        <option>2</option>
54.
        <option>1</option>
55.
        <option>Awful
56. </select></label>
57.
```

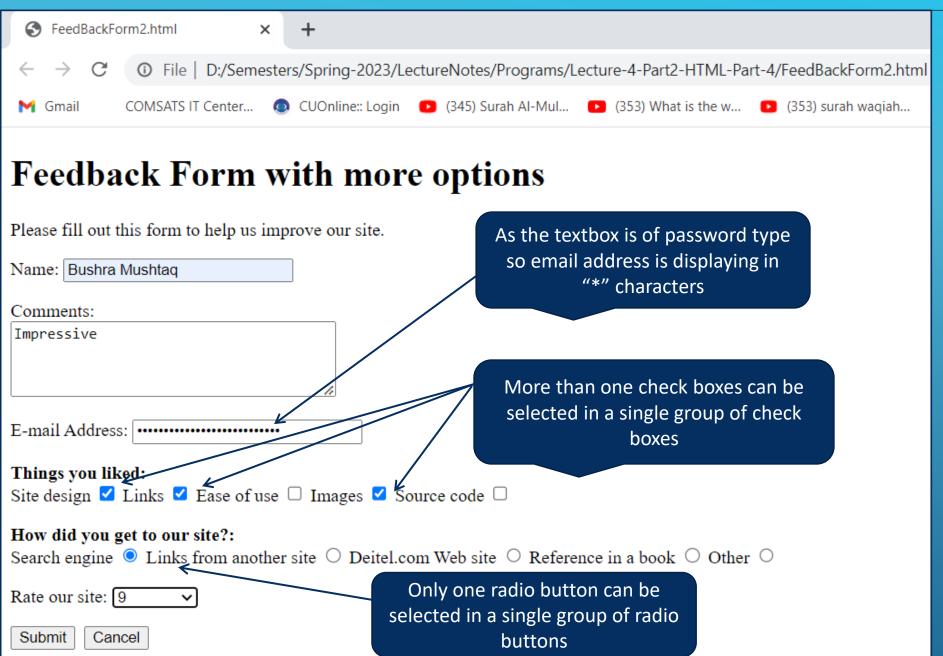
Drop down list with name "rating"

"Amazing" will be displayed as selected

```
58. <input type = "submit" value = "Submit">
59. <input type = "reset" value = "Clear">
60. 
61. </form>
62. </body>
63. </html>
```



Filled FeedbackForm2 and submitted



target web page deitel.com

After submit button pressed (Figure:4.16)then deitel.com will be launched in the new window of browser. This is done according to line#4 (given below)in FeedBackForm2.html

<form name="input" action="https://deitel.com" method="post" target="_blank">

Target web page

Target web page will be displayed in new window of browser

https://deitel.com/books site

