CUI Abbottabad

Department of Computer Science

Web Technologies

Lecture-4-Part3-[CLO-2]
HTML-Part5
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Agenda

❖ HTML5 and its features

❖ New Attributes in HTML

❖ HTML5 Form Input Types

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BASIC FEATURES OF HTML

Dear Students: here are basic features of Html till HTML 4.0 you have that already learned so far:

HTML:

▸ Consist of tags in angle brackets <>

▸ Tags are building blocks for website development

▸ Web browser process Html tags and display web page accordingly

▸ Allows to embed images, CSS, client side scripting and server side scripting,

▸ Does not have built-in support for animation, dynamic objects, multimedia, audio/video, embedded games, exception handling

▸ Is supported fully by all browsers till html4.0

▸ Not able to run with cross platform mobile devices

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HTML5

- is fifth revision of Html

- supports all tags already build till html4.0

- introduces number of new tags/elements too

- added more attributes in existing tags/elements

- Build to run with cross platform mobile devices

- Now lets see in detail about some major features of html5 which are not supported by earlier versions of html.

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FEATURES AND COMPARISON OF HTML 5 WITH EARLIER VERSIONS

1. **Clear Syntax**

Unlike Html 4.0 you don't have to write a longer doctype declaration as shown in figure 10.1.

Html 4.0 DOCTYPE declaration

Figure 4.1

In html5 ,You just need to write <!DOCTYPE html> in start of html source code before <html> tag start.

2. Compatibility with browsers

- Html 5.0 is still not supported by number of browsers because it is not standardized yet.

- Except IE(Internet Explorer) most other started supporting major functionality of Html 5.0.

Figure 4.2

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3. New Tags/Elements

- Html 5.0 introduces number of new types of tag.
- These tags related to:
  - Form Input controls
  - Datalist control
  - Page Structure Elements
  - image :unmatchedstyle.com

4. Addition of new attributes in existing Tags/Elements

- Html 5.0 introduces number of new attributes for the performance of existing tag.

Note: Details of new tags and attributes will be discussed in current and upcoming lecture

FEATURES AND COMPARISON OF HTML 5 WITH EARLIER VERSIONS

5. Error/Exception Handling

- In html 4.0 we have concept of tag soup where we can write code with errors and later correct it into a valid document. The only problem is that it is not standardized, so you need to test it on different browsers.

- However in Html 5 we have detailed rules for lexing and parsing of document(proper syntax checking), so that different browsers will give same error in case of error or incorrect code.

- For HTML 5 The World Wide Web Consortium (W3C) provides a **validation service** (at validator.w3.org) for checking a document's syntax. Sample of such validation process is given in figure 4.3

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FEATURES AND COMPARISON OF HTML 5 WITH EARLIER VERSIONS

Error checking in validator.w3.org

Figure 4.3

6. Multimedia and Dynamic Contents

▶ Html 5 includes inbuilt features of multimedia and dynamic contents, which include audio, video, video games etc that can be directly played within the webpages

Figure 4.4

▶ Hence in html 5 we do not need third party software like Flash, adobe photoshope etc for the audio/video or dynamic objects.

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FEATURES AND COMPARISON OF HTML 5 WITH EARLIER VERSIONS

- ▶ Html 5 still has a way to go and definitely it is the future for dynamic and interactive web pages.

- ▶ As more and more apps are getting built for smartphone and handheld devices , it is a future technology every web developer should be equipped with.

- ▶ Once Html 5 will be standardized more and more browser start supporting it and make developer job easier with coding and compatibility.

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IMPORTANT TO KNOW

Dear Students: Before we start details of new input types, attributes and page structures elements, you must be aware that:

▶ supports for these feature varies among browsers

▶ Some feature may be supported by one browser but may be not by other browser, hence

▶ For sample outputs I used variety of browsers

▶ As new elements in html are increasing day by day, here I am presenting recent and most required list of features till html5

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IMPORTANT TO KNOW

Dear Students:

▸ We do not study yet java script or server side script like PHP so we cannot write any target program in java script or php to capture the form data in target program.

▸ But as forms are submitted to either client side scripting page(example mypage.js) or server side scripting page(example mypage.php etc). So I only give name of php page. Actual page is not created.

ONE ASSUMPTION

IMPORTANT TO KNOW

Dear Students:

▶ Hence in all sample example I put the target file name as "action.php".

<form action="/action.php" method="post">

▶ but all of you must remember that on pressing the submit button "page cannot found" page will be displayed at this stage. But in future we will put proper coding of java script or php for its processing.

ONE ASSUMPTION

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NEW FORM INPUT TYPES IN HTML5

1. color
2. date
3. datetime
4. datetime-local
5. email
6. month
7. number
8. range
9. search
10. tel
11. time
12. url
13. Week
14. file

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COMMON ATTRIBUTES

▶ Here are attributes which can be used in number of Form Input Types in the same manner:

  ▶ **id:** is used to identify the input field in client side scripting and in CSS

  ▶ **name:** is used to identify the input field at server side after form submission

  ▶ **value:** is used to specify an initial value for an input field

  ▶ **min:** specify the minimum value for an input field

  ▶ **max:** specify the maximum value for an input field

  ▶ **autofocus:** specifies that an input field should automatically get focus when the page loads

  ▶ **autocomplete:** specifies whether a form or an input field should have autocomplete on or off

  ▶ **disabled:** specifies that an input field should be disabled

  ▶ **readonly:** specifies that an input field is read-only

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COMMON ATTRIBUTES

- **size:** specifies a regular expression that the input field's value is checked against, when the form is submitted

- **multiple:** specified that a user is allowed to enter more than one value in an input field.

- **required:** specifies that an input field must be filled out before submitting the form

- **step:** specifies the legal number intervals for an input field

- **placeholder:** specifies short a hint that describes the expected value of an input field (a sample value or a short description of the expected format).

- **pattern:** specifies a regular expression that the input field's value is checked against, when the form is submitted

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COMMON ATTRIBUTES ⟶ INPUT TYPES

Attribute Name	Form Input Type Names
id	All form input types
Name	All form input types
value	color, date, range, search, tel
min	number, range, date, datetime-local, month, time, week
multiple	Email, file
max	number, range, date, datetime-local, month, time, week
autofocus	All form elements but in one form apply to only on form element
Autocomplete	Form, Text, color, search, url, tel, email, password, datepicker, range

Table-4.1

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Common attributes ⟶ Input types

Attribute Name	Form Input Type Names
Disabled	All form input types
readonly	All form input types
size	Text, search, tel, url, email, password
required	Text, search, tel, url, email, password,date picker, number, checkbox, radio, file
step	Number, date, range, datetime-local, month, time, week
Placeholder	Text, search, tel, url, email, password
Pattern	Text, date, search, url, tel, email, password

Table-4.2

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1. FORM INPUT TYPE- COLOR

- The color type is used for input fields that should contain a color

- The color input type enables the user to enter a color

Syntax:

<input type="color" value="number in hexadecimal">

- Depending on browser support, a color picker may/may not appear in the input field.

- Other common attributes id, name, value, autofocus, autocomplete, disabled and readonly can be used in input type color (as shown in table 4.1 and 4.2)

- Now in next, I write a simple program for color display and run in two browsers.

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1. FORM INPUT TYPE- COLOR

Google Chrome supports color input type

Hexadecimal number value for color to be displayed

```
colorPicker - Notepad

File  Edit  Format  View  Help

<!DOCTYPE html>
<html>
<body>

<h2>Show a Color Picker</h2>

<p>The <strong>input type="color"</strong> is used for input fields that should contain a color.</p>

<form action="/action_page.php">
  <label for="favcolor">Select your favorite color:</label>

      <input type="color" id="favcolor" name="favcolor" value="#1E90FF">

<input type="submit" value="Submit">
</form>

<p><b>Note:</b> type="color" is not supported in Internet Explorer 21H1 or Safari 9.1 (or earlier).</p>

</body>
</html>
```

Listing 4.1-colorPicker.html

Recent Internet Explorer 21H1 does not support input type color

2. FORM INPUT TYPE- DATE

▸ The input type date is used for input fields that should contain a date

▸ The date input type enables the user to enter a date in yyyy-mm-dd pattern through up-down spinner control

Syntax:

<input type="date" value="number in hexadecimal">

▸ Depending on browser support, a date picker may/may not appear in the input field.

▸ Other common attributes id, name, value, autofocus, min, max, disabled, readonly, required, step and pattern can be used in input type date (as shown in table 10.1 and 10.2)

▸ Now in next I write a simple program for date display and run in google chrome and IE browsers.

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2. FORM INPUT TYPE- DATE

*datePicker - Notepad

File Edit Format View Help

```html
<!DOCTYPE html>
<html>
<body>

<h2>Show a Date Picker</h2>

<p>The <strong>input type="date"</strong> is used for input fields that should contain a date.</p>

<form action="/action_page.php">
 <p> <label for="birthDate">Enter your Date of Birth:</label>

        <input type="date" id="birthDate" name="birthDate" />YYYY-MM-DD</label></p>

<input type="submit" value="Submit">
</form>

<p><b>Note:</b> type="date" is not supported in Internet Explorer version 21H1 or Safari 9.1 (or earlier).</p>

</body>
</html>
```

> Chrome and Microsoft Edge supports "date" input type but both IE version 21H1 and Safari 9.1 or earlier does not support it

Listing 4.2-datePicker.html

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2. FORM INPUT TYPE- DATE

Listing 4.3 --- Date with max and min attribute restriction

```
date-with-restriction - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Date Field Restrictions</h2>

<p><font color="red">Use the min and max attributes to add restrictions to dates:</font></p>

<form action="/action_page.php">
  <label for="datemax">Enter a date before 1995-01-01:</label>
      <input type="date" id="datemax" name="datemax" max="1994-12-31"><br/><br/>

  <label for="datemin">Enter a date after 2010-01-01:</label>
      <input type="date" id="datemin" name="datemin" min="2010-01-02"><br/><br/>

  <input type="submit" value="Submit">
</form>

<p><strong>Note:</strong> type="date" is not supported in Safari or Internet Explorer 11 (or earlier).</p>

</body>
</html>
```

Date with max restriction

Validation check error of max and min date restriction

Date with min restriction

Listing 4.3 date-with-restriction.html

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SELF VALIDATION IN FORM INPUT TYPES

▶ The new HTML 5 input types are self validating on the client side, eliminating the need to add complicated JavaScript code to your web pages to validate user input.

▶ Self validation is reducing the amount of invalid data submitted

▶ Hence, consequently reducing Internet traffic between the server and the client to correct invalid input.

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HOW TO AVOID SELF VALIDATION?

Dear Students:

▸ If you want that no validation done by form input controls at client side, that is if you want to bypass validation process at client side and you want that validation done at server side then:

▸ You have to put **formnovalidate** attribute inside input type **submit:**

<input type = "submit" value="Submit" formnovalidate />

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3. FORM INPUT TYPE- DATETIME

i. The datetime input type enables the user to enter a date (year, month, day),time (hour, minute, second, fraction of a second) and the time zone set to UTC (Coordinated Universal Time or Universal Time, Coordinated).

Syntax:

<input type="datetime" value="number in hexadecimal">

▸ Depending on browser support, a date/time picker may/may not appear in the input field.

▸ Other common attributes id, name, value, autofocus, min, max, disabled, readonly, required, step and pattern can be used in input type datetime (as shown in table 4.1 and 4.2)

▸ Currently, IE, google chrome, Firefox and safari do not support datetime, hence they render datetime as a text field

▸ Now in next I write a simple program for datetime display and run in google chrome browser.

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3. FORM INPUT TYPE- DATETIME


```
*dateTimePicker - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Show a Date Time Picker</h2>

<p>The <strong>input type="datetime"</strong> is used for input fields that should contain a date and time.</p>

<form action="/action_page.php">
 <p> <label for="DateTime">Enter your Date and Time of Cricket Match:
      <input type="datetime" id="DateTime" name="DateTime" />
(yyyy-mm-ddThh:mm+ff:gg, such as 2012-01-27T03:15)</label></p>

<input type="submit" value="Submit">
</form>

<p><b>Note:</b> type="datetime" is not supported by Google chrome,| Internet Explorer 21H1 or Safari 9.1 (or earlier).</p>

</body>
</html>
```

Google Chrome version 106, Microsoft Edge and IE 21H1 or earlier does not support it

Listing 4.4 dateTimePicker.html

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4. FORM INPUT TYPE- DATETIME-LOCAL

▶ The datetime-local input type enables the user to enter a date and time in a single control.

▶ The date is selected through up-down spinner   as year,day,month hour, minutes, seconds and fraction of seconds(yyyy-mm-dd hh:mm AM/PM)

Syntax:

<input type="datetime-local" value="number in hexadecimal">

▶ Depending on browser support, a date/time picker may/may not appear in the input field.

▶ Other common attributes id, name, value, autofocus, min, max, disabled, readonly, required and step   can be used in input type datetime-local (as shown in table 4.1 and 4.2)

▶ Currently, IE, Firefox and Safari do not support datetime-local hence they render datetime as a text field

▶ Now in next I write a simple program for datetime-local display and run in google chrome browser.

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4. FORM INPUT TYPE- DATETIME-LOCAL

Chrome and Microsoft Edge supports "datetime-local" input type but both IE version 21H1 and Safari 9.1 or earlier does not support it

```
*dateTimelocalPicker - Notepad

File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Local Date Field</h2>

<p>The <strong>input type="datetime-local"</strong> specifies a date and time input field, with no time zone.</p>
<p>
<form action="/action_page.php">
  <label for="birthdaytime">Birthday (date and time):

  <input type="datetime-local" id="birthdaytime" name="birthdaytime">
(yyyy-dd-mm hh:mm AM/PM)
</label></p>
  <input type="submit" value="Submit">
</form>

<p><strong>Note:</strong> type="datetime-local" is not supported in Firefox, Safari or Internet Explorer 21H1 (or earlier).</p>

</body>
</html>
```

Listing 4.5 dateTimelocalPicker.html

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5. FORM INPUT TYPE-EMAIL

▸ The email input type enables the user to enter an e-mail address or a list of e-mail addresses separated by commas (if the multiple attribute is specified).

▸ Depending on browser's support the email address is automatically validated (check its format only) when submitted. Figure 4.1

▸ Browser cannot check whether the entered email is exists or not

Syntax:

<input type="email" >

▸ Other common attributes id, name, multiple, autofocus, autocomplete, disabled, readonly, required, size, placeholder and pattern   can be used in input type email (as shown in table 4.1 and 4.2)

▸ Some smartphones recognize the email type, and add ".com" to the keyboard to match email input.

▸ Both IE-11 and google chrome support email type

▸ Now in next I write a simple program for email display and run in google chrome and IE-11 browser

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5. FORM INPUT TYPE-EMAIL

```
email - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Email Field</h2>

<p>The <strong>input type="email"</strong> is used for input fields that should contain an e-mail address:</p>

<form action="/action_page.php">
  <label for="email">Enter your valid email address email:
<input type="email" id="email" name="email"> linke: name@domain.com</label><br/><br/>

  <input type="submit" value="Submit">
</form>

</body>
</html>
```

Listing 4.6 email.html

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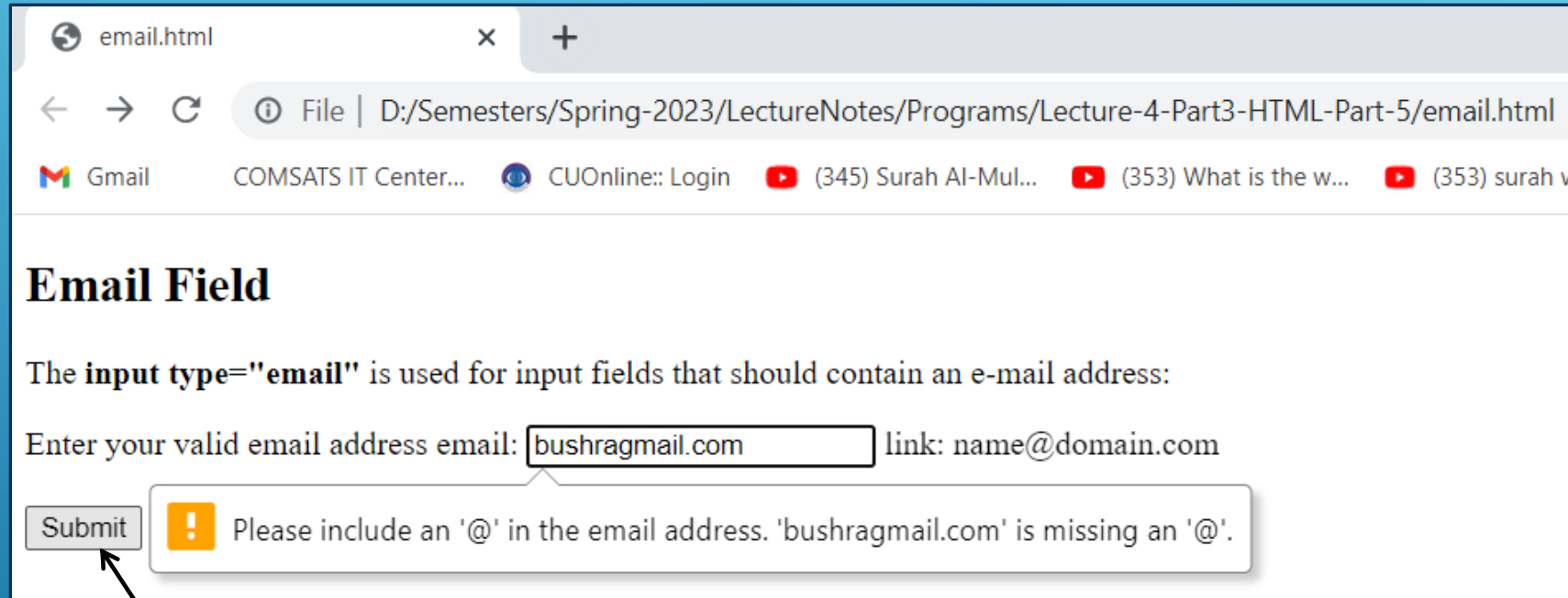
5. FORM INPUT TYPE-EMAIL

Output by Google chrome-listing 4.6

Figure 4.1

User clicked submit button then browser check the invalid email format and displayed the error message

5. FORM INPUT TYPE-EMAIL

Listing-4.7 use of "**placeholder**", "**multiple**" and "**required**" attributes in **email** input type.

```
email_with_other_attributes - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Email Field with <font color="green">placeholder, multiple</font> and<font color="green"> required</font> attributes</h2>

<p>The <strong>input type="email" </strong> is used for input fields that should contain an e-mail address:</p>

<form action="/action_page.php">
  <label for="email">Enter your valid email address email:

<input type="email" id="email" name="email" placeholder="name@domain.com" multiple required> linke: name@domain.com</label><br/><br/>

  <input type="submit" value="Submit">
</form>

</body>
</html>
```
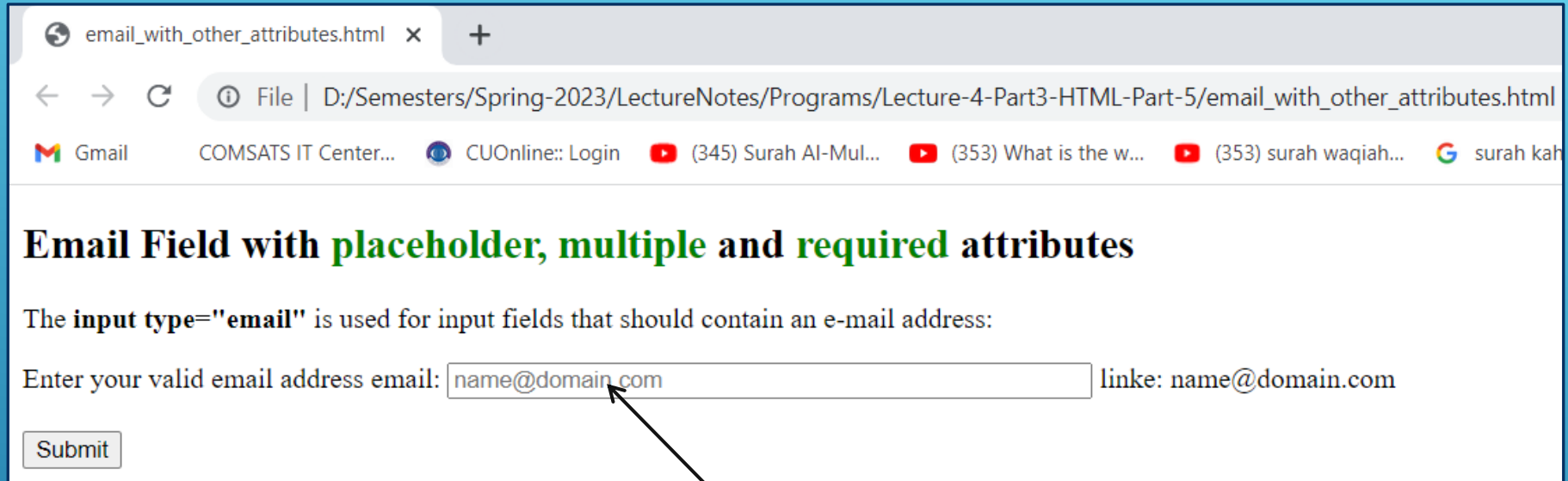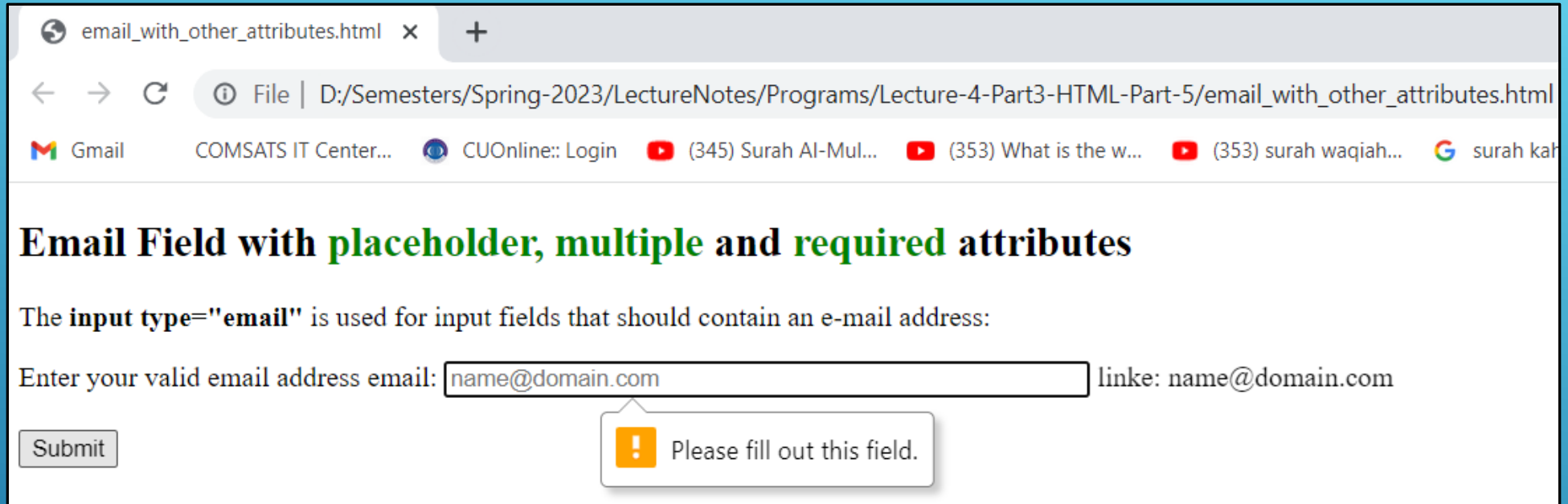
Listing 4.7-email_with_other_attributes.html

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5. FORM INPUT TYPE-EMAIL

Output-Listing-4.7 use of "**placeholder**" attribute in **email** input type.

Figure 4.2

- Placeholder allows us to place temporary text in email input field.
- It is only used to give an example of text which user should be entered in this field
- When the user bring the control in this field then placeholder text disappeared.
- Note that when user clicks the "submit" button, Placeholder text does not submitted

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5. FORM INPUT TYPE-EMAIL

Output-Listing-4.7 use of "**multiple**" attribute in **email** input type.

"multiple" attribute allows the user to enter more than one email addresses separated with comma ","

Figure 4.3

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5. FORM INPUT TYPE-EMAIL

Output-Listing-4.7 use of "**required**" attribute in **email** input type.

When user clicked the submit button then "required" attribute does not allow us to leave email field blank because it is required

Figure 4.4

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6. FORM INPUT TYPE-MONTH

▶ The email input type enables the user to select a month and year

▶ Depending on browser's support the month and year up-down spinner can show up in this field

Syntax:

<input type="month" >

▶ Other common attributes id, name, autofocus, **min**, **max** and **step** can be used in input type month (as shown in table 4.1 and 4.2)

▶ IE-21H1, Safari and Firefox do not support month input type

▶ Now in next I write a simple program for month display and run in google chrome browser

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6. FORM INPUT TYPE-MONTH

```
month - Notepad                                                   —    □    ✕
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Month Field</h2>

<p>The <strong>input type="month"</strong> allows the user to select a <strong><font color="purple">month</font></strong> and
<strong><font color="purple">year</font></strong>.</p>

<form action="/action_page.php">
  <label for="bdaymonth">Birthday (month and year):</label>

       <input type="month" id="bdaymonth" name="bdaymonth">

<br/><br/><input type="submit" value="Submit">
</form>

<p><strong>Note:</strong> type="month" is not supported in Firefox, Safari, or Internet Explorer 21H1 (or earlier).</p>

</body>
</html>
```

Listing 4.8-month.html

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7. FORM INPUT TYPE-NUMBER

- The number input type defines a numeric input field
- If browser supports then it enables the user to select a number through up-down spinner
- Mobile browsers typically display a numeric keypad for number input type

Syntax:

<input type="number" >

- Other common attributes id, name, autofocus, required, **min**, **max** and **step** can be used in input type number (as shown in table 4.1 and 4.2)
- IE-21H1, Safari and Firefox display a text field in which user can input number
- Google chrome support number type and show up-down spinner , Now in next I write a simple program for number selection and run in google chrome browser

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7. FORM INPUT TYPE-NUMBER

```
number_with_restrictions - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Number Field</h2>

<p>The <strong>input type="number"</strong> defines a numeric input field.</p>

<p>You can use the <strong><font color="red">min</font></strong> and <strong><font color="red">max</font></strong>
 attributes to add numeric restrictions in the input field:</p>

<form action="/action_page.php">
  <label for="quantity">Quantity (between 1 and 15):</label>

       <input type="number" id="quantity" name="quantity" min="1" max="15">

<br/><br/><input type="submit" value="Submit">
</form>

</body>
</html>
```

Input restriction for minimum value

Input restriction for maximum value

Listing 4.9 number_with_restrions.html

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7. FORM INPUT TYPE-NUMBER

The following program displays a numeric input field, where you can enter a value from 0 to 150, in steps of 5. The default value is 20:

```
number_with_restrictions2 - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Number Field</h2>

<p>The <strong>input type="number"</strong> defines a numeric input field.</p>

<p>displays a numeric input field, where you can enter a value from <strong><font color="red">0</font></strong> to
<strong><font color="purple">150</font></strong>, in steps of <strong><font color="red">5</font></strong>.
The default value is <strong><font color="green"> 20</font></strong>:

<form action="/action_page.php">
  <label for="quantity">Quantity (between 0 and 150 with interval 5):</label>

    <input type="number" id="quantity" name="quantity" min="0" max="150"  step="5" value="20" >

<br/><br/><input type="submit" value="Submit">
</form>

</body>
</html>
```

Input restriction for: → **minimum value** **maximum value** **Interval gap** **default value**

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Listing 4.10 number_with_restrictions2.html

8. FORM INPUT TYPE-RANGE

▶ The range input type display a slider control

▶ The range control is used for entering a number whose exact value is not important(slider control)

▶ Default range is 0 to 100

▶ However we can set restriction with **min, max** and **set** attributes

▶ Default value which will displayed by slider is set by **value** attribute

Syntax:

<input type="range" >

▶ Other common attributes id, name, value, autofocus, autocomplete disabled, readonly, **min, max** and **step** can be used in input type range (as shown in table 4.1 and 4.2)

▶ IE-21H1, Safari, Firefox and google chrome all support range input type

▶ Now in next I write a simple program for range selection and run in both google chrome and IE browsers

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8. FORM INPUT TYPE-RANGE

Listing 4.11 range.html

9. FORM INPUT TYPE-SEARCH

▶ The search input type is used for search fields

▶ The search field behaves like regular text field

<u>Syntax:</u>

<input type="search" >

▶ Other common attributes id, name, value, autofocus, autocomplete, disabled, readonly, **size**, required, placeholder and **pattern** can be used in input type search (as shown in table 4.1 and 4.2)

▶ IE-21H1, Safari, Firefox and google chrome support search input type

▶ Now in next I write a simple program for search and run in google chrome browser

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9. FORM INPUT TYPE-SEARCH

```
search - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h2>Search Field</h2>

<p> <strong>The input type "search"</strong> is used for search field </p>

<form action="/action_page.php" >
 <p> <label for="gsearch">Search Google:

        <input type="search" id="gsearch" name="gsearch" >

        </label></p>

<br/><br/> <input type="submit" value="Submit">
</form>


</body>
</html>
```

Listing 4.12 search.html

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10. FORM INPUT TYPE-TEL

- The tel input type enables the user to input telephone numbers

- Mobile browsers typically display a keypad specific to entering phone numbers for tel input type

Syntax:

<input type="tel" >

- As length and format of telephone numbers varies according to location, hence: **HTML5 does not self validate the tel input type**

- **Pattern** attribute is used to validate the telephone number

- User put regular expression of relevant format of telephone number in **Pattern** attribute, so the browser checks the user's entered telephone number according to that format and display error message if not matched with regular expression in the **pattern**

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10. FORM INPUT TYPE-TEL

- Other common attributes id, name, value, autofocus, autocomplete, disabled, readonly, required, placeholder and **pattern** can be used in input type tel (as shown in table 4.1 and 4.2)

- IE-21H1, Safari, Firefox and google chrome support tel input type

- Now in next I write a simple program for input telephone and run in google chrome browser

10. FORM INPUT TYPE-TEL

Listing 4.13-tel.html

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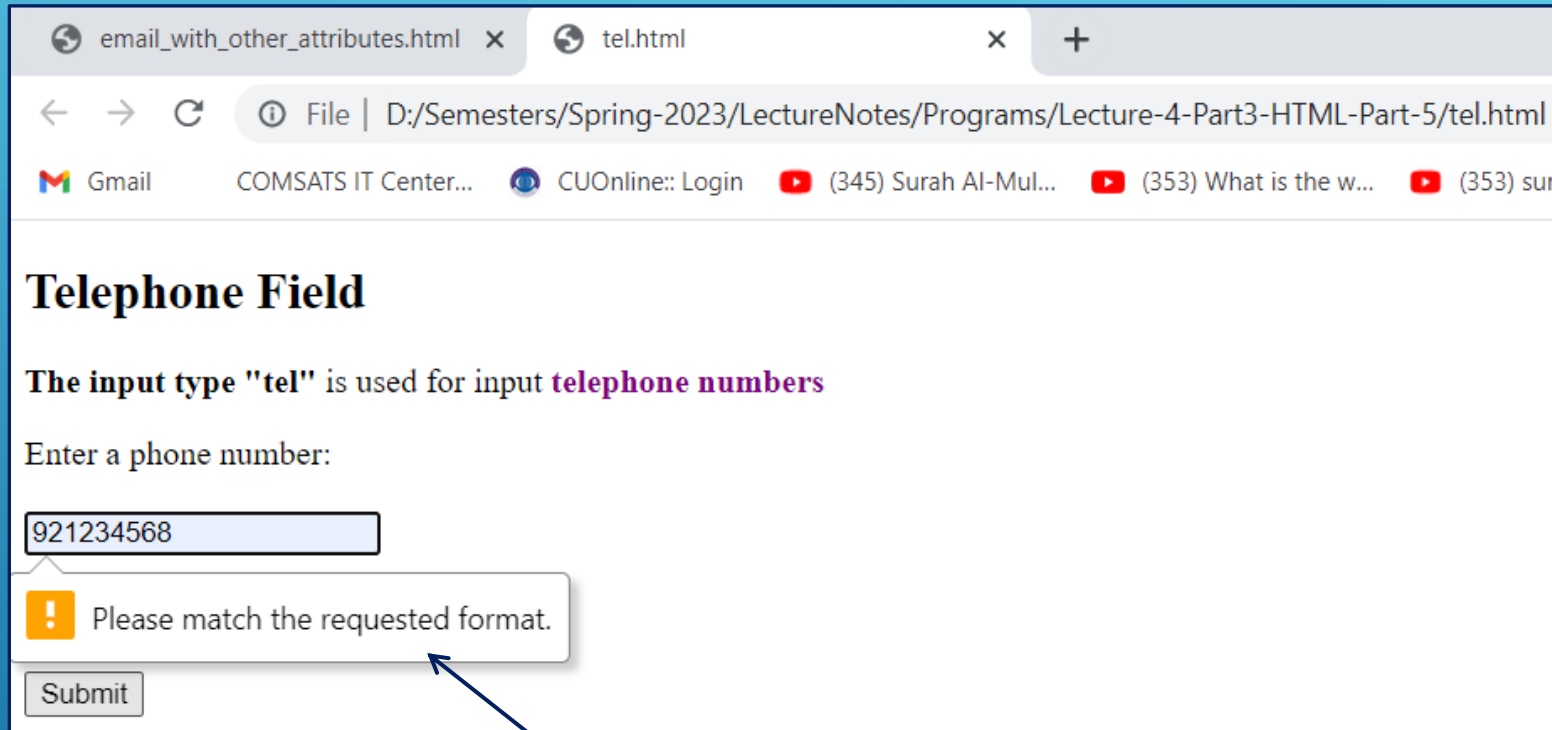
10. FORM INPUT TYPE-TEL

Output of listing 4.13 by Google chrome

Figure 4.5-tel.html

As user input telephone number which does not match to the given pattern hence error message displayed after click of submit button

11. FORM INPUT TYPE-TIME

▸ The time input type allows the user to select the time(no time zone)

▸ Time is entered in either hh:mm AM/PM or hh:mm:ss.ff formats

▸ Depending on browser may or may not display up-down spinner control for time selection

Syntax:

<input type="time" >

▸ Other common attributes id, name, value, autofocus, autocomplete, size, disabled, required, placeholder and pattern can be used in input type time (as shown in table 4.1 and 4.2)

▸ IE-11 and later, Safari, Firefox and google chrome support time input type

▸ Now in next I write a simple program for input time and run in google chrome browser

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11. FORM INPUT TYPE-TIME

```
time - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h1><font color="purple">Show a Time Input Control</font></h1>

<p>The <strong><font color="red">input type="time"</font></strong> allows the user to select a time (no time zone):</p>

<p>If the browser supports it, a time picker pops up when entering the input field.</p>

<form action="/action_page.php">
 <p> <label for="appt">Select a time:</label>

<input type="time" id="appt" name="appt">

</label></p>
<br/><br/><input type="submit" value="Submit">
</form>

<p><strong>Note:</strong> type="time" is not supported in Safari or Internet Explorer 12 (or earlier).</p>

</body>
</html>
```

Listing 4.14 time.html

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12. FORM INPUT TYPE-URL

▶ The url input type allows the user to enter the url

▶ Depending on browser support, the url can be automatically validated when submitted

▶ Some smartphones recognize the url type, and adds ".com" to the keyboard to match url input.

Syntax:

<input type="url" >

▶ Other common attributes id, name, value, autofocus, autocomplete, size, disabled, required, placeholder and pattern can be used in input type url (as shown in table 4.1 and 4.2)

▶ IE-11 and later, Safari, Firefox and google chrome support url input type

▶ Now in next I write a simple program for input url and run in google chrome browser

12. FORM INPUT TYPE-URL

```
url - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<h1><font color="orange">Display a URL Input Field</font></h1>

<p>The <strong><font color="green">input type="url"</font></strong> allows the user to enter url address</p>


<form action="/action_page.php">
 <p> <label for="homepage">Add your HomePage:</label>

<input type="url" id="homepage" name="homepage" size="50">

</label></p>
<br/><br/><input type="submit" value="Submit">
</form>


</body>
</html>
```
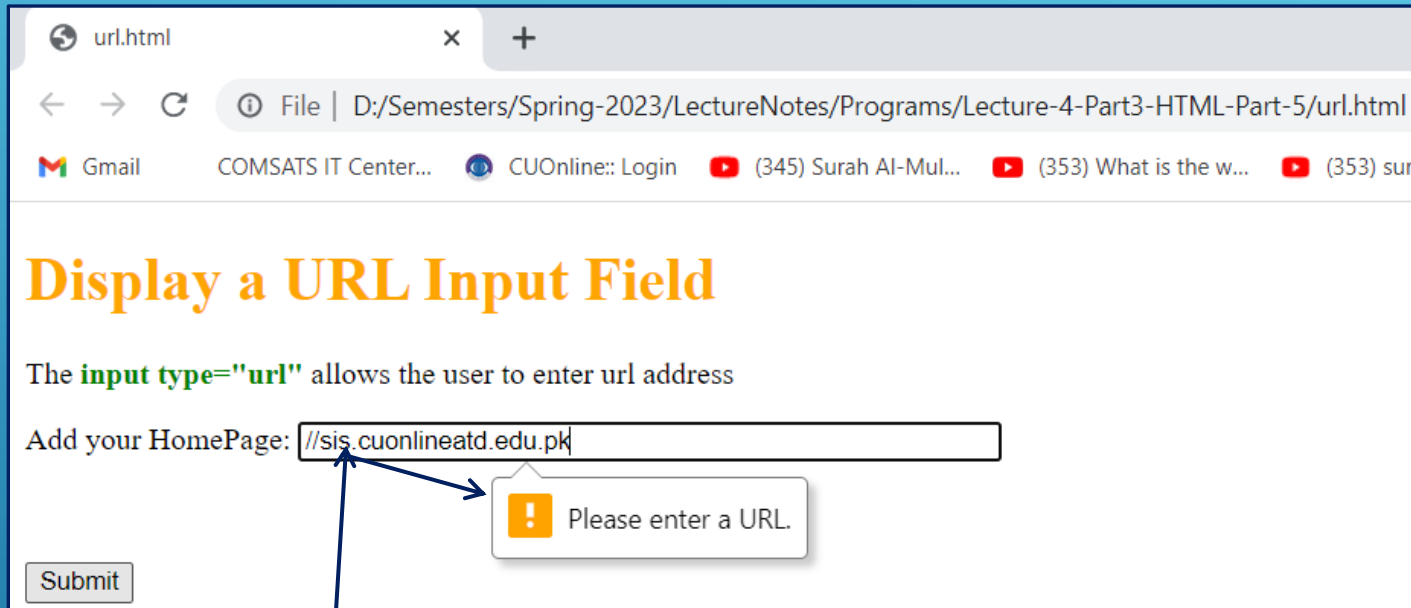
Listing 4.15 url.html

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12. FORM INPUT TYPE-URL

Output of listing 4.15 by Google chrome

Figure 4.27-url.html

Figure 4.6

On click of submit button browsers checks the format of url, if not valid then gives error message

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13. FORM INPUT TYPE-WEEK

▶ The week input type allows the user to select a week and year

▶ Depending on browser support, up-down spinner control ⇕ or(date picker) can show up in the field

▶ Week and year is selected as yyyy-Wnn, where nn is 01-53 for example 2020-W17 represents 17th week of year 2020

Syntax:

<input type="week" >

▶ Other common attributes id, name, autofocus, disabled, required, min, max and step can be used in input type url (as shown in table 4.1 and 4.2)

▶ IE-11, Safari and Firefox display a text field for week input type

▶ Google chrome show week and year picker control   to select year and week

▶ Now in next I write a simple program for input week and run in google chrome browser

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13. FORM INPUT TYPE-WEEK

*week - Notepad

File   Edit   Format   View   Help

```
<!DOCTYPE html>
<html>
<body>

<h1><font color="Green">Display a Week Input Control</font></h1>

<p>The <strong><font color="orange">input type="week"</font></strong> allows the user to select a
<font color="green"> week</font> and <font color="green">year</font>.</p>

<p>If the browser supports it, a date picker pops up when entering the input field.</p>

<form action="/action_page.php">
  <label for="week">Select a week:</label>
  <input type="week" id="week" name="week" min="1990" max="2020">

  <input type="submit" value="Submit">
</form>

<p><strong>Note:</strong> type="week" is not supported in Firefox, Safari or Internet Explorer 21H1 (or earlier).</p>

</body>
</html>
```

Listing 4.16 week.html

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14. FORM INPUT TYPE-FILE

▶ The file input type defines a file-select field and browse button for file upload

▶ It allows the user to select a file from file-select field and also can select from browse button

Syntax:

<input type="file" >

▶ Other common attributes id, name, autofocus, disabled, required and **multiple** can be used in input type file (as shown in table 4.1 and 4.2)

▶ IE-11, Safari, Firefox and google chrome supports file input type

▶ Now in next I write a simple program for input/select file and run in google chrome browser

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14. FORM INPUT TYPE-FILE

file - Notepad

File   Edit   Format   View   Help

```
<!DOCTYPE html>
<html>
<body>

<h1><font color="purple">File upload</font></h1>

<p><font color="red">Show a file-select field which allows a file to be chosen for upload:</font></p>

<form action="/action_page.php">
  <label for="myfile">Select a file:</label>

      <input type="file" id="myfile" name="myfile"><br><br>

<br><br><input type="submit" value="Submit">
</form>

</body>
</html>
```
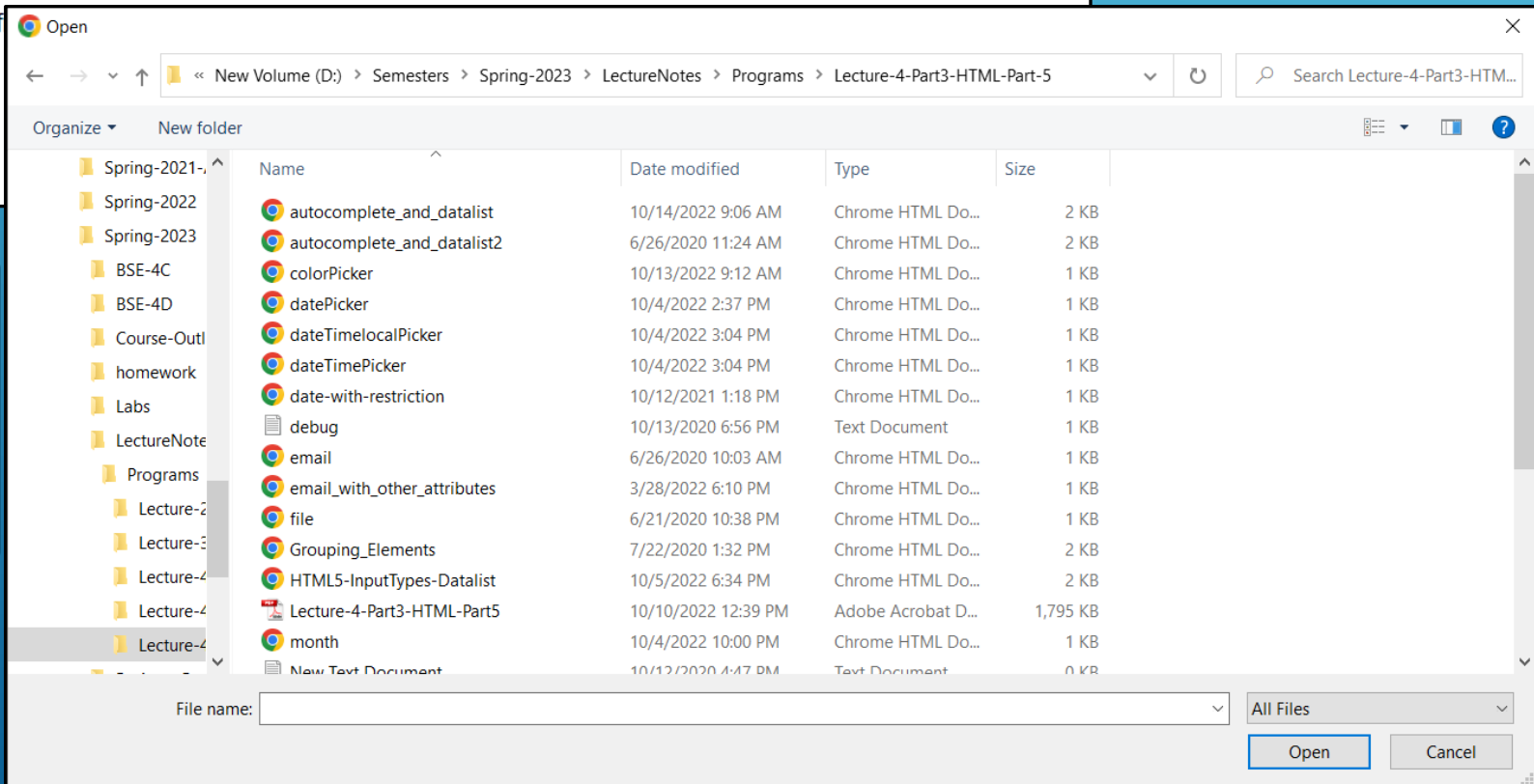
Listing 4.17

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When user clicks "choose File" button then browse dialogue for file upload become opened

AUTOCOMPLETE ATTRIBUTE

▸ The autocomplete attribute can be used on almost all input types you study so far in **Lecture-4-Part2-HTML-Part4 and in current Lecture** to automatically fill in the user's information based on previous input— such as name, address or e-mail.

▸ You can also enable autocomplete for an **entire form** or just for specific elements.

▸ For entire form you have to write autocomplete="on" in form tag as shown in line#17 in Listing-4.8(a)

▸ To disable autocomplete in any of input control like password field: write autocomplete="off" in tag of that input field.

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DATALIST INSERTION IN TEXT FIELD

► Datalist element is a new form element provided by html5 for list of values.

► Datalist provides input options for a **text input field.**

<u>**How to put datalist in text field:**</u>

1. First create a text input field and assign the datalist id name in the **list** attribute of text field—line#31 in listing 4.18(b)

2. Secondly create a datalist with same id as gave in list attribute in text field. Put all options in this datalist.---line#(33-46) in listing 4.18(b)

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AUTOCOMPLETE ATTRIBUTE

```html
1    <!DOCTYPE html>
2
3    <!-- Listing. 4.18: autocomplete_and_datalist.html -->
4     <!-- New HTML5 form autocomplete attribute and datalist element. -->
5 ▼  <html>
6 ▼  <head> <meta charset="utf-8">
7    <title>New HTML5 autocomplete Attribute and datalist Element</title>
8    </head>
9
10 ▼ <body>
11   <h1><font color="blue">Autocomplete and Datalist Demo</font></h1>
12 ▼ <p><h3><font color="red">This form demonstrates the new HTML5 autocomplete attribute
13       and the datalist element</font></h3>
14       </p>
15
16   <!-- turn autocomplete on -->
17 ▼ <form method = "post" autocomplete="on">
18 ▼    <p><label for="firstName">First Name:
19      <input type = "text" id = "firstName" placeholder = "First name" /> (First name)
20      </label></p>
21
22 ▼    <p><label>Last Name:
23      <input type = "text" id = "lastName"  placeholder = "Last name" /> (Last name)
24      </label></p>
25
26 ▼    <p><label>Email:
27      <input type = "email" id = "email"  placeholder = "name@domain.com" /> (name@domain.com)
28      </label></p>
```

Autocomplete="on" for entire form elements

Value of "placeholder" will be displayed in input fields when form displayed in browser

Listing-4.18(a)

DATALIST ELEMENT

```
29
30      <p><label for = "txtList">Birth Month:
31      <input type = "text" id = "txtList" placeholder = "Select a month" list = "months" />
32
33      <datalist id = "months">
34          <option value = "January">
35          <option value = "February">
36          <option value = "March">
37          <option value = "April">
38          <option value = "May">
39          <option value = "June">
40          <option value = "July">
41          <option value = "August">
42          <option value = "September">
43          <option value = "October">
44          <option value = "November">
45          <option value = "December">
46      </datalist>
47      </label></p>
48
49      <p><input type = "submit" value = "Submit" />
50      <input type = "reset" value = "Clear" /></p>
51  </form>
52  </body>
53  </html>
```

datalist "id" name is placed in "list" attribute of text input field

In this way datalist options will be inserted as drop down list in text field

Listing-4.18-autocomplete_and_datalist.html(b)

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AUTOCOMPLETE AND DATALIST ELEMENT

Output of listing-4.18 in google chrome

Form displayed in google chrome before the user interact with it

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AUTOCOMPLETE DEMO

AUTOCOMPLETE AND DATALIST ELEMENT

Figure-4.18(d)

COMPLETE PROGRAM OF FORM INPUT TYPES

Listing-4.19

```
1    <!DOCTYPE html>
2
3    <!-- Fig. 4.19: HTML5-InputTypes-Datalist.html -->
4    <!-- New HTML5 form autocomplete attribute and datalist element. -->
5 ▼  <html>
6 ▼  <head>
7    <meta charset="utf-8">
8    <title>New HTML5 autocomplete Attribute and datalist Element</title>
9    </head>
10
11 ▼ <body>
12   <h1>Autocomplete and Datalist Demo</h1>
13 ▼ <p>This form demonstrates the new HTML5 autocomplete attribute
14   and the datalist element.
15   </p>
16
17   <!-- turn autocomplete on -->
18 ▼ <form method = "post" autocomplete = "on">
19 ▼    <p><label>First Name:
20         <input type = "text" id = "firstName"
21             placeholder = "First name" /> (First name)
22      </label></p>
23 ▼    <p><label>Last Name:
24         <input type = "text" id = "lastName"
25             placeholder = "Last name" /> (Last name)
26      </label></p>
27 ▼    <p><label>Email:
28         <input type = "email" id = "email"
29             placeholder = "name@domain.com" /> (name@domain.com)
30      </label></p>
```

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```
31
32 ▼        <p><label for = "txtList">Birth Month:
33              <input type = "text" id = "txtList"
34                  placeholder = "Select a month" list = "months" />
35 ▼          <datalist id = "months">
36                  <option value = "January">
37                  <option value = "February">
38                  <option value = "March">
39                  <option value = "April">
40                  <option value = "May">
41                  <option value = "June">
42                  <option value = "July">
43                  <option value = "August">
44                  <option value = "September">
45                  <option value = "October">
46                  <option value = "November">
47                  <option value = "December">
48              </datalist>
49              </label></p>
50      <p><input type = "submit" value = "Submit" />
51      <input type = "reset" value = "Clear" /></p>
52      </form>
53      </body>
54      </html>
```
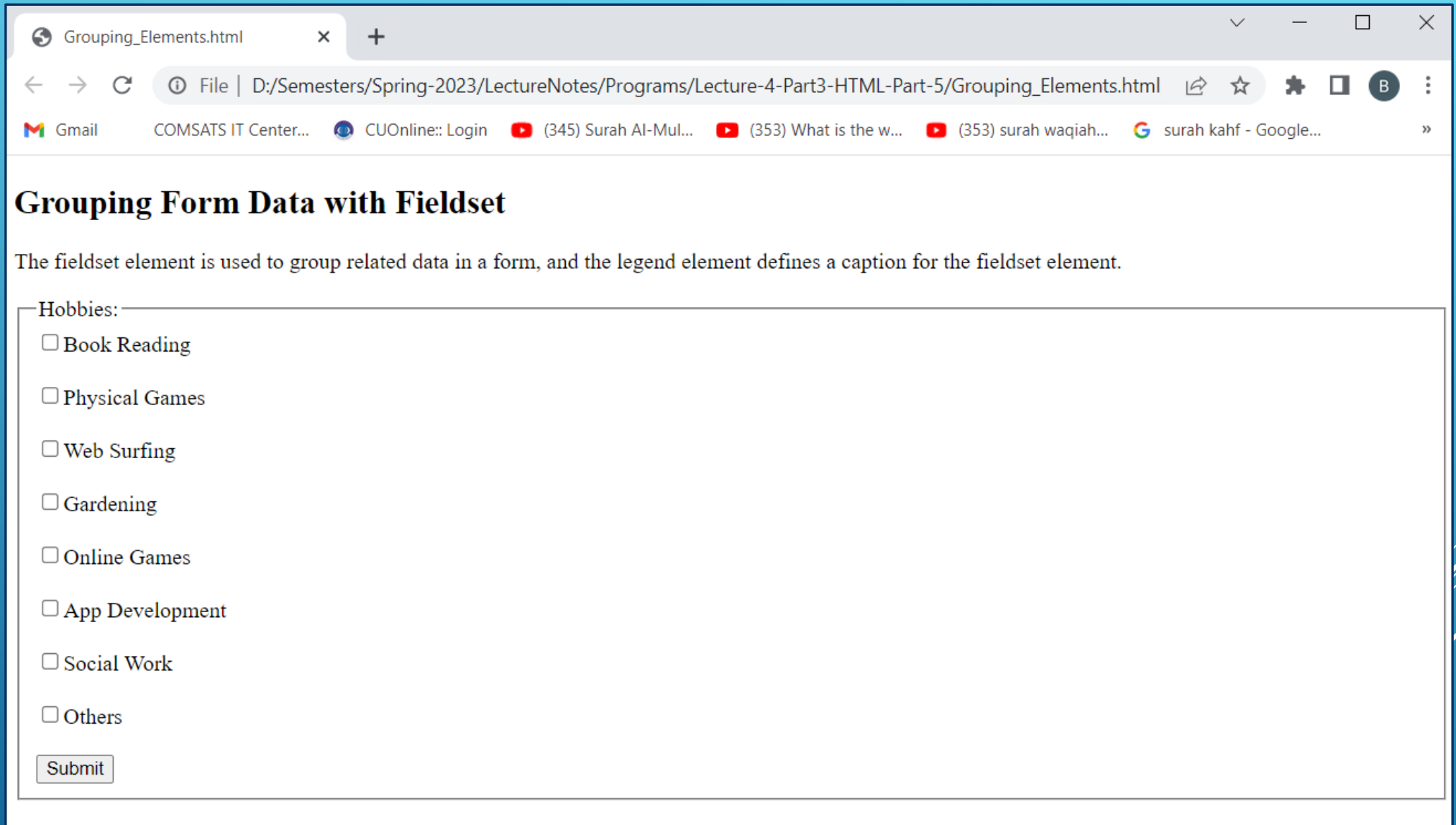
FIELDSET AND LEGEND ELEMENT

The <fieldset> and <legend> Elements

▶ The <fieldset> element is used to group related data in a form.

▶ The <legend> element defines a caption for the <fieldset> element.

▶ Listing-4.20 is grouping the hobbies in one fieldset under one heading

FIELDSET AND LEGEND ELEMENT

```html
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h2>Grouping Form Data with Fieldset</h2>
6
7  <p>The fieldset element is used to group related data in a form,
8      and the legend element defines a caption for the fieldset element.</p>
9
10 <form action="/action_page.php">
11   <fieldset>
12     <legend>Hobbies:</legend>
13     <input type="checkbox" id="hobbies" name="hobbies" value="Book Reading">Book Reading<br/><br/>
14     <input type="checkbox" id="hobbies" name="hobbies" value="Physical Games">Physical Games<br/><br/>
15     <input type="checkbox" id="hobbies" name="hobbies" value="Web Surfing">Web Surfing<br/><br/>
16     <input type="checkbox" id="hobbies" name="hobbies" value="Gardeneing">Gardening<br/><br/>
17     <input type="checkbox" id="hobbies" name="hobbies" value="Online Games">Online Games<br/><br/>
18     <input type="checkbox" id="hobbies" name="hobbies" value="App Development">App Development<br/><br/>
19     <input type="checkbox" id="hobbies" name="hobbies" value="Social Work">Social Work<br/><br/>
20     <input type="checkbox" id="hobbies" name="hobbies" value="Others">Others<br/><br/>
21
22     <input type="submit" value="Submit">
23   </fieldset>
24 </form>
25
26 </body>
27 </html>
```

Listing-4.20-Grouping_Elements.html

FIELDSET AND LEGEND ELEMENT

Output-Listing-4.20-Grouping_Elements.html