



CUI Abbottabad

Department of Computer Science

Web Technologies

Lecture-4-Part1-[CLO-2]
HTML-Part3

Agenda

- Page Structure Elements
- Multimedia Controls
- Frames/IFrames

Page Structure Elements

Page Structure Elements meaningfully identify areas of a page, Following is the list of such elements:

- Header
- Navigation area
- Section
- Articles
- Aside
- Figure and figure caption
- Summary
- Meter
- Footer

Page Structure Elements.....

Header---<header></header>

- It creates header for the page that contains both text and graphics
- The header element can be used multiple times on a page and can include HTML headings (<h1> through <h6>), navigation, images and logos and more
- For an example, see the top of the front page of your favorite newspaper.
- In listing 4.1 line# (7 to 10) is representing header section in which we display website logo image, welcome message and time

Time---<time></time>

- It enables you to identify date or time or both
- Line# 10 is representing time element

navigation---<nav></nav>

- It groups the navigation links
- In listing 4.1, line#(13-37) is representing the nav element

Page Structure Elements.....

<figure> and <figcaption>

- The <figure> element at line# (44-48) in listing 4.1 describes a figure (such as image, chart or table) in the document, so that it could be moved to the side of page or to another page.
- <figure> element does not include any styling but you can style it using CSS
- <figcaption> element at line# 47 provides the caption for the image in the <figure> element

Article---<article></article>

- The <article> element in listing 4.1 , line# (49-82) is describing standalone contents that could potentially be used or distributed elsewhere such as a news article, forum post or blog entry.
- You can nest <article> element
- For example you might have reader comments about a magazine nested as an article within the magazine article

Page Structure Elements.....

<summary> and <detail>

- The <summary> element at line# 65 in listing 4.1 displays a right-pointing arrow next to a summary or caption when the document is displayed in the browser (figure-4.1c).
- When clicked the arrow points downwards and reveals the contents in <detail> element at line#(64-81)

Section---<section></section>

- The <section> elements in listing 4.1 are on line#(11-37), line#(40-93) and line#(95-104), usually with the heading for each section
- <section> can be nested
- For example you could have the <section> element for a book, then nested section for each chapter name in the book

Aside-----<aside></aside>

- <aside> element at line#83 describes content that's related to the surrounded content (such as article) but is somewhat separate from the flow of the text
- For example, an <aside> in the news story might include some background history

Page Structure Elements.....

Meter---<meter></meter>

- The <meter> element in listing 4.1 , line# 101 is describing the visual representation of a measure within the range(figure-4.1(e))
- In line#101 we are showing the result of a recent web survey we did, min attribute is 0 the max is 54—indicating the total number of responses to our survey. The value attribute is 14, representing the total number of people who responded “yes” to our survey question

Footer-----<footer></footer>

- <footer> element at line# (105-111) describes a footer-to describe the copyright notice and contact information
- You can use CSS to style the footer and position it on the page

<mark> and <wbr>

- The <mark> elements in listing 4.1 , line# 54,line#55 and line#56 are highlighting the text that enclose in <mark></mark>
- The <wbr> at line#10 6element indicates the appropriate place to break a word when the text wraps to multiple lines
- You might use <wbr> to prevent a word from breaking in an awkward place.

Page Structure Elements.....

```
1  <!DOCTYPE html>
2  <html>
3    <head> <meta charset="utf-8">
4    <title>New HTML5 Section Elements</title>
5    </head>
6    <body>
7      <header>
8        <img src = "deitellogo.jpg" alt = "Deitel logo" />
9        <h1>Welcome to the Deitel Buzz Online</h1>
10       <time>14-04-2021</time>    </header>
11     <section id="1">
12       <nav>
13       <h2> Recent Publications</h2>
14       <ul>
15         <li>    <a href = "http://www.deitel.com/books/iw3htp5">
16           Internet & World Wide Web How to Program, 5/e</a>
17         </li>
18         <li>    <a href = "http://www.deitel.com/books/androidfp/">
19           Android for Programmers: An App-Driven Approach</a>
20         </li>
21         <li>    <a href = "http://www.deitel.com/books/iphonefp">
22           iPhone for Programmers: An App-Driven Approach</a>
23         </li>
24         <li>    <a href = "http://www.deitel.com/books/jhtp9/">
25           Java How to Program, 10/e</a></li>
26         <li>    <a href = "http://www.deitel.com/books/cpphtp8/">
27           C++ How to Program, 8/e</a>
28         </li>
29         <li>    <a href = "http://www.deitel.com/books/vcsharp2010htp">
30           Visual C# 2010 How to Program, 4/e</a>
31         </li>
32         <li>    <a href = "http://www.deitel.com/books/vb2010htp">
33           Visual Basic 2010 How to Program</a>
34         </li>
35       </ul>
36     </nav>
37   </section>
```

Listing 4.1(a)

Page Structure Elements.....

```
39
40 <section id = "2">
41   <h2>How to Program Series Books</h2>
42   <h3><em>Java How to Program, 10/e</em></h3>
43
44   <figure>
45     <img src = "javaHowToProgram.png" alt = "Java How to Program, 10/e" />
46
47     <figcaption><em>Java How to Program, 10/e</em> cover.</figcaption>
48   </figure>
49
```

Listing 4.1(b) PageStructureElements.html

Page Structure Elements.....

Listing 4.1(c)

```
49 <article>
50 <header><h5>Form <em><a href = "https://www.pearson.com/us/higher-education/product/Deitel-Power-Points-for
51 -Java-How-To-Program-Early-Objects-10th-Edition/9780133806984.html/">Java How to program, 10/e: </a></em>
52 </h5> </header>
53 <p>Features include:
54 <ul><li>Rich coverage of fundamentals, including <mark>two chapters on control statements.</mark></li>
55 <li>Focus on <mark>real-world examples.</mark></li>
56 <li><mark>Making a Difference exercises set.</mark></li>
57 <li>Early introduction to classes, objects, methods and strings.</li>
58 <li>Integrated exception handling.</li>
59 <li>Files, streams and object serialization.</li>
60 <li>Optional modular sections on language and library features of the new Java SE 7.</li>
61 <li>Other topics include: Recursion, searching, sorting, generic collections, generics, <br/>data
62 structures, applets, multimedia, multithreading, databases/JDBC<trade>; web-app development,<br/>
63 web services and an optional ATM Object-Oriented Design case study.</li> </ul>
64 <details>
65 <summary>Recent Edition Testimonials</summary>
66 <ul> <li>"Updated to reflect the state of the art in Java technologies; its deep and
67 crystal clear explanations make it indispensable. The social-consciousness
68 [Making a Difference] exercises are something really new and refreshing."
69 <strong>&mdash;Jos&eacute; Antonio Gonz&aacute;lez Seco, Parliament of
70 Andalusia</strong> </li>
71 <li>"Gives new programmers the benefit of the wisdom derived from many years of software development
72 experience."<strong> &mdash;Edward F. Gehringer, North Carolina State University</strong> </li>
73 <li>"Introduces good design practices and methodologies right from the beginning.
74 An excellent starting point for developing high-quality robust Java applications."
75 <strong>&mdash;Simon Ritter, Oracle Corporation</strong> </li>
76 <li>"An easy-to-read conversational style. Clear code examples propel readers to become proficient in Java."
77 <strong>&mdash;Patty Kraft, San Diego State University</strong> </li>
78 <li>"A great textbook with a myriad of examples from various application domains&mdash;
79 excellent for a typical CS1 or CS2 course."<strong>&mdash;William E. Duncan, Louisiana
80 State University</strong> </li> </ul>
81 </details>
82 </p>
83 </article>
<aside>The aside element is not formatted by the browsers.</aside>
```

Page Structure Elements.....

```
84      <h2>Deitel Developer Series Books</h2>
85      <h3><em>Android for Programmers: An App-Driven Approach </em></h3>
86      Click <a href = "http://www.deitel.com/books/androidfp/"> here</a>
87      for more information or to order this book.
88
89      <h2>LiveLessons Videos</h2>
90      <h3><em>C# 2010 Fundamentals LiveLessons</em></h3>
91      Click <a href = "http://www.deitel.com/Books/LiveLessons/"> here</a>
92      for more information about our LiveLessons videos.
93  </section>
94
95      <section id = "3"> <!-- Begin section 3 -->
96      <h2>Results from our Facebook Survey</h2>
97      <p>If you were a nonprogrammer about to learn Java for the first
98      time, would you prefer a course that taught Java in the
99      context of Android app development? Here are the results from
100     our survey:</p>
101     0 <meter min = "0" max = "54" value = "14"></meter> 54
102     <p>Of the 54 responders, 14 (green) would prefer to 159 learn Java
103     in the context of Android app development.</p>
104 </section>
105 <footer>
106 <h6>&copy; 1992-2012 by Deitel & Associates, Inc. All Rights Reserved.</h6>
107 <address>
108     Contact us at <a href = "mailto:deitel@deitel.com">
109     deitel@deitel.com</a>
110 </address>
111 </footer>
112 </body>
113 </html>
```

Listing 4.1(d) PageStructureElements.html

Page Structure Elements.....

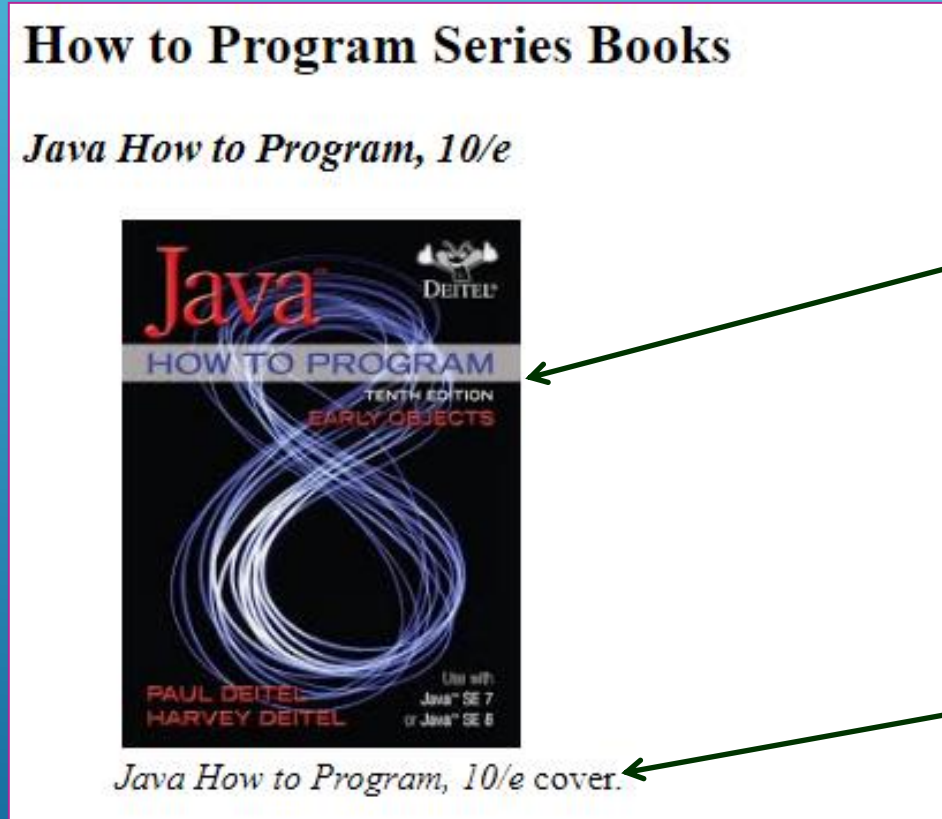
Output-listing 7.1(a)----line#(1-38)



Figure 4.1(a) -pageStructureElements.html

Page Structure Elements.....

Output-listing 4.1(b)----line#(39-49)



<figure>

<figcaption>

Figure 4.1(b) -pageStructureElements.html

Page Structure Elements.....

Output-listing 7.1(c)----line#(50-83)

<mark>
(yellow highlighted
text)

Form *Java How to program, 10/e:*

Features include:

- Rich coverage of fundamentals, including two chapters on control statements.
- Focus on real-world examples.
- Making a Difference exercises set.
- Early introduction to classes, objects, methods and strings.
- Integrated exception handling.
- Files, streams and object serialization.
- Optional modular sections on language and library features of the new Java SE 7.
- Other topics include: Recursion, searching, sorting, generic collections, generics, data structures, applets, multimedia, multithreading, case study.

► Recent Edition Testimonials

The aside element is not formatted by the browsers.

<summary>

Showing arrow: when it is clicked
then contents <detail> from
line#66 to 79 will be displayed

structureElements.html

ad Campus

Page Structure Elements.....

Output-listing 4.1(d)----line#(84-93)

Deitel Developer Series Books

Android for Programmers: An App-Driven Approach

Click [here](#) for more information or to order this book.

LiveLessons Videos

C# 2010 Fundamentals LiveLessons

Click [here](#) for more information about our LiveLessons videos.

Figure 4.1(d) -pageStructureElements.html

Page Structure Elements.....

Output-listing 4.1(e)----line#(94-113)

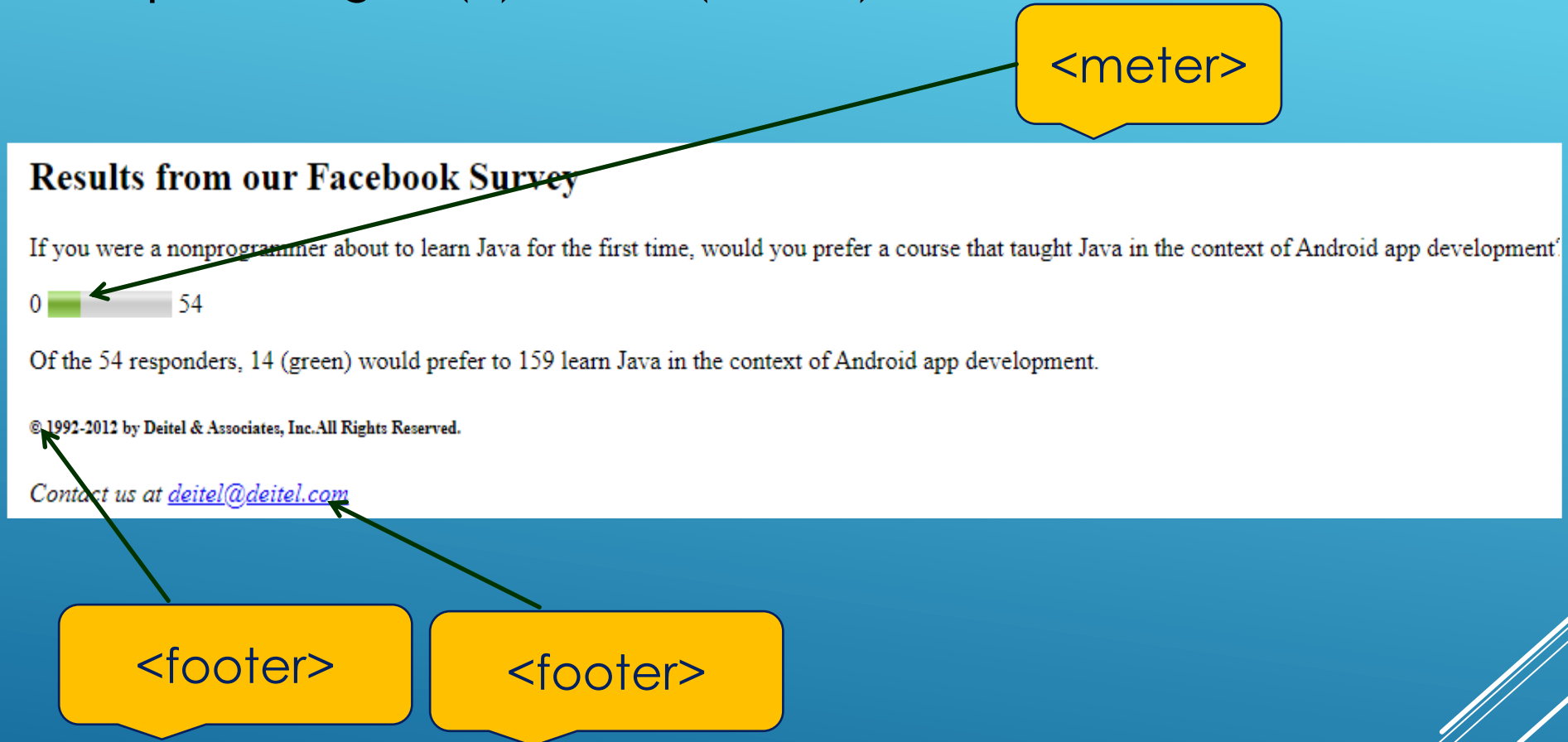


Figure 4.1(e) -pageStructureElements.html

Multimedia in HTML

- Multimedia on the web is sound, music, videos, movies, and animations.
- Web pages often contain multimedia elements of different types and formats.
- The first web browsers had support for text only, limited to a single font in a single color.
- Later came browsers with support for multiple colors, fonts, and images!
- Audio, video, and animation have been handled differently by the major browsers. Different formats have been supported, and some formats require extra helper programs (plug-ins) to work.
- HTML5 multimedia promises an easier future for multimedia.

Multimedia in HTML

- Multimedia elements (like audio or video) are stored in media files.
- Multimedia files have formats and different extensions like: .swf, .wav, .mp3, .mp4, .mpg, .wmv, and .avi.

Common Video Formats

- MP4 is the new format for internet video.
- MP4 is recommended by YouTube
- MP4 is supported by flash player
- MP4 is supported by HTML5

Video Formats

Table-4.1

Format	File	Description
MPEG	.mpg .mpeg	MPEG. Developed by the Moving Pictures Expert Group. The first popular video format on the web. Not supported anymore in HTML.
AVI	.avi	AVI (Audio Video Interleave). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
WMV	.wmv	WMV (Windows Media Video). Developed by Microsoft. Commonly used in video cameras and TV hardware. Plays well on Windows computers, but not in web browsers.
QuickTime	.mov	QuickTime. Developed by Apple. Commonly used in video cameras and TV hardware. Plays well on Apple computers, but not in web browsers.
RealVideo	.rm .ram	RealVideo. Developed by Real Media to allow video streaming with low bandwidths. Does not play in web browsers.
Flash	.swf .flv	Flash. Developed by Macromedia. Often requires an extra component (plug-in) to play in web browsers.
Ogg	.ogg	Theora Ogg. Developed by the Xiph.Org Foundation. Supported by HTML.
WebM	.webm	WebM. Developed by Mozilla, Opera, Adobe, and Google. Supported by HTML.
MPEG-4 or MP4	.mp4	MP4. Developed by the Moving Pictures Expert Group. Commonly used in video cameras and TV hardware. Supported by all browsers and recommended by YouTube.

Only MP4, WebM, and Ogg video are supported by the HTML5 standard.

Audio Formats

Table-4.2

Format	File	Description
MIDI	.mid .midi	MIDI (Musical Instrument Digital Interface). Main format for all electronic music devices like synthesizers and PC sound cards. MIDI files do not contain sound, but digital notes that can be played by electronics. Plays well on all computers and music hardware, but not in web browsers.
RealAudio	.rm .ram	RealAudio. Developed by Real Media to allow streaming of audio with low bandwidths. Does not play in web browsers.
WMA	.wma	WMA (Windows Media Audio). Developed by Microsoft. Plays well on Windows computers, but not in web browsers.
AAC	.aac	AAC (Advanced Audio Coding). Developed by Apple as the default format for iTunes. Plays well on Apple computers, but not in web browsers.
WAV	.wav	WAV. Developed by IBM and Microsoft. Plays well on Windows, Macintosh, and Linux operating systems. Supported by HTML.
Ogg	.ogg	Ogg. Developed by the Xiph.Org Foundation. Supported by HTML.
MP3	.mp3	MP3 files are actually the sound part of MPEG files. MP3 is the most popular format for music players. Combines good compression (small files) with high quality. Supported by all browsers.
MP4	.mp4	MP4 is a video format, but can also be used for audio. Supported by all browsers.

Only MP3, Wav, and Ogg audio are supported by the HTML5 standard.




Playing a video

- Before HTML5, a video could only be played in a browser with a plug-in (like flash).
- The HTML5 `<video>` element specifies a standard way to embed a video in a web page.

Browser Support

- The numbers in the below table specify the first browser version that fully supports the `<video>` element.

Table-4.3

Element					
<code><video></code>	4.0	9.0	3.5	4.0	10.5

Playing a video

To show a video in HTML, use the `<video>` element:

Syntax:

```
<video width="number" height="number" controls >  
  <source src="movie1.mp4" type="video/mp4">  
  <source src="movie1.ogg" type="video/ogg">  
  .....so on  
  <source src="movien.mp4" type="video/mp4">  
  <source src="movien.ogg" type="video/ogg">  
  Your browser does not support the video tag  
</video>
```

Video Element....

- The controls attribute is a boolean attribute: When present, it specifies that video controls should be displayed.

The **controls** attribute adds video controls, like:

- play
- pause
- volume
- full screen toggle
- captions/subtitles(when available)
- Track(when available)
- It is recommended to always include width and height attributes. If height and width are not set, the page might flicker while the video loads.
- The **<source>** element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.
- The text between the **<video>** and **</video>** tags will only be displayed in browsers which do not support the **<video>** element.

Video Example-1

```
play_movie1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>
<h1><font color="orange"> Movie1 Playing</font></h1>

<video width="320" height="240" controls>

  <source src="movie1.mp4" type="video/mp4">
  <source src="movie1.ogg" type="video/ogg">

  Your browser does not support the video tag.
</video>

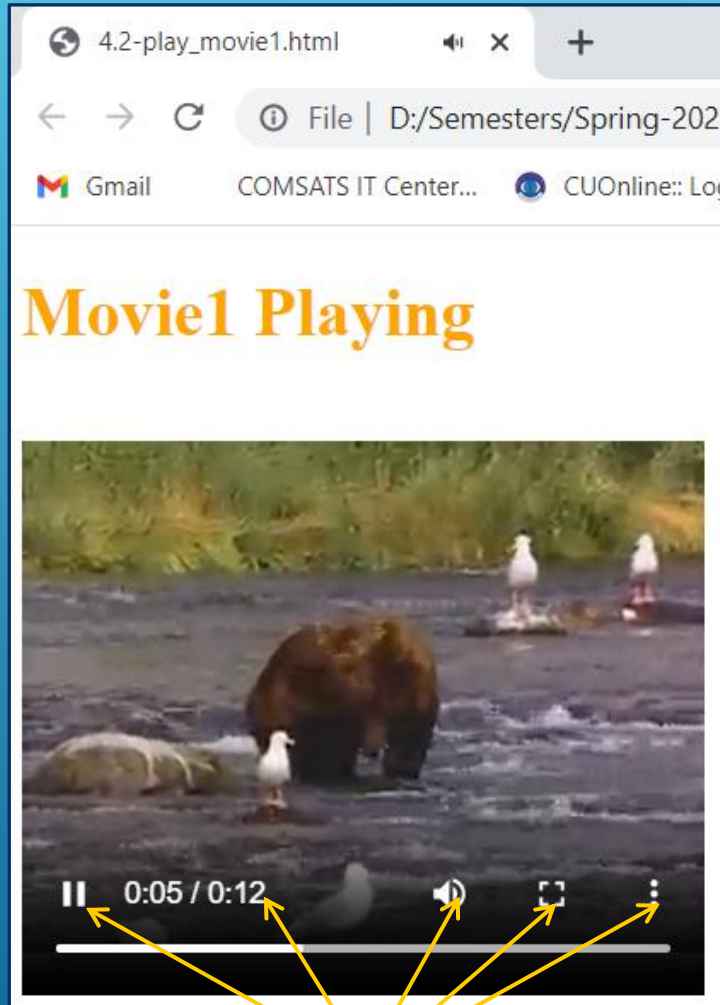
</body>
</html>
```

<source> tag is giving two options of formats mp4 or ogg to browser whatever it recognizes first will play

4.2-play_movie1.html

Video Example-1

Output of listing-4.2 in google chrome browser

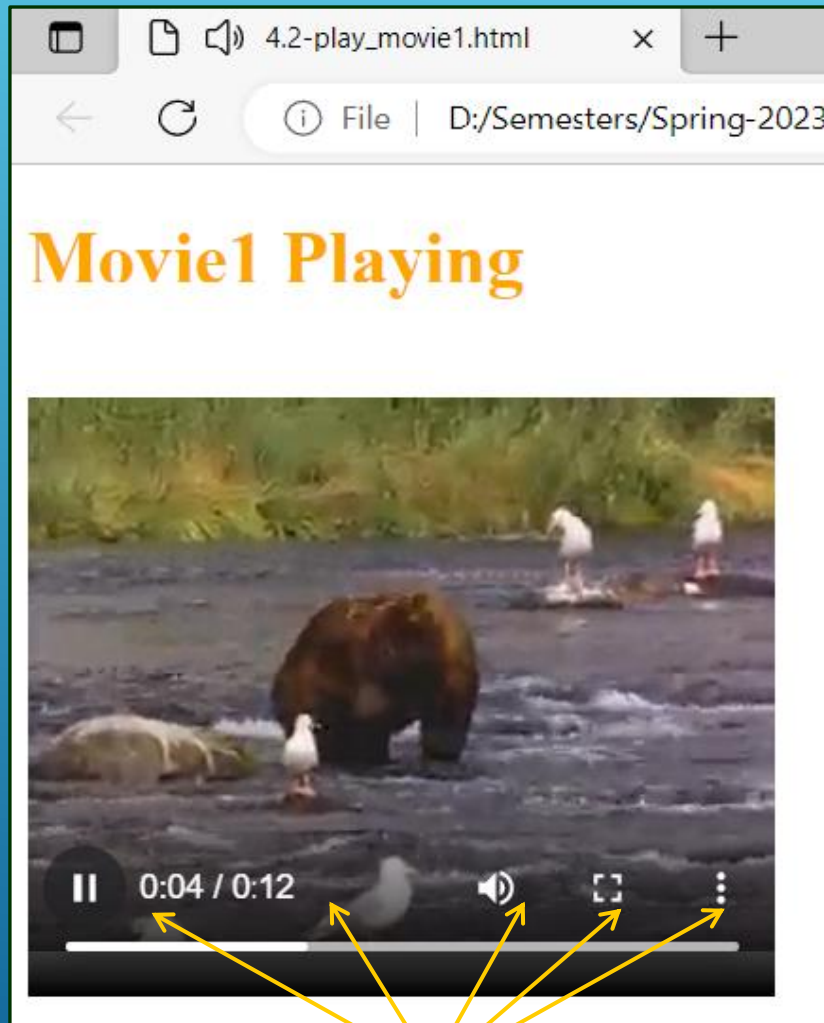


controls

4.2-play_movie1.html

Video Example-1

Output of listing-4.2 in Microsoft Edge

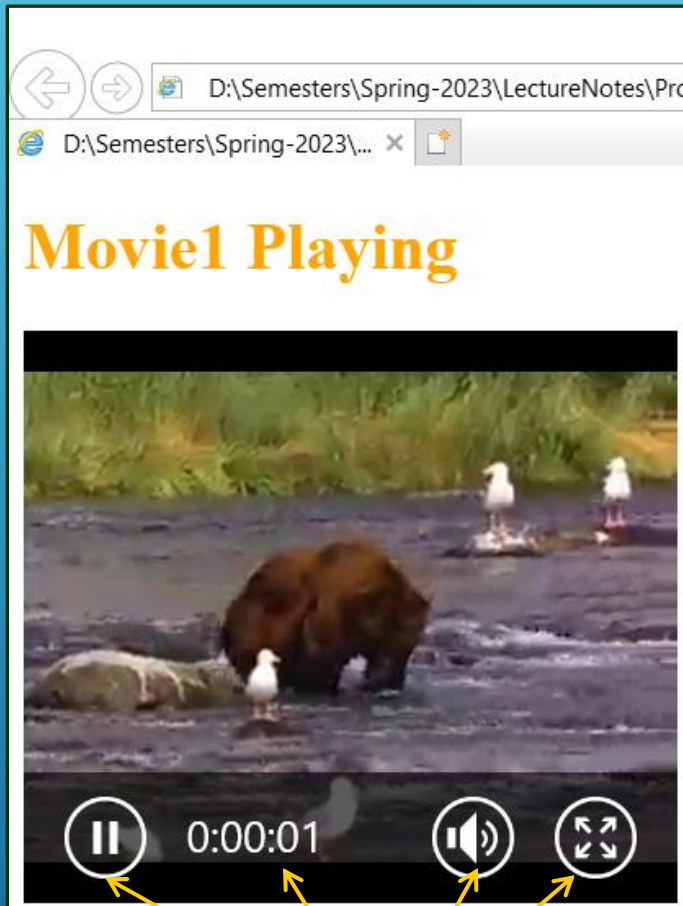


controls

4.2-play_movie1.html

Video Example-1

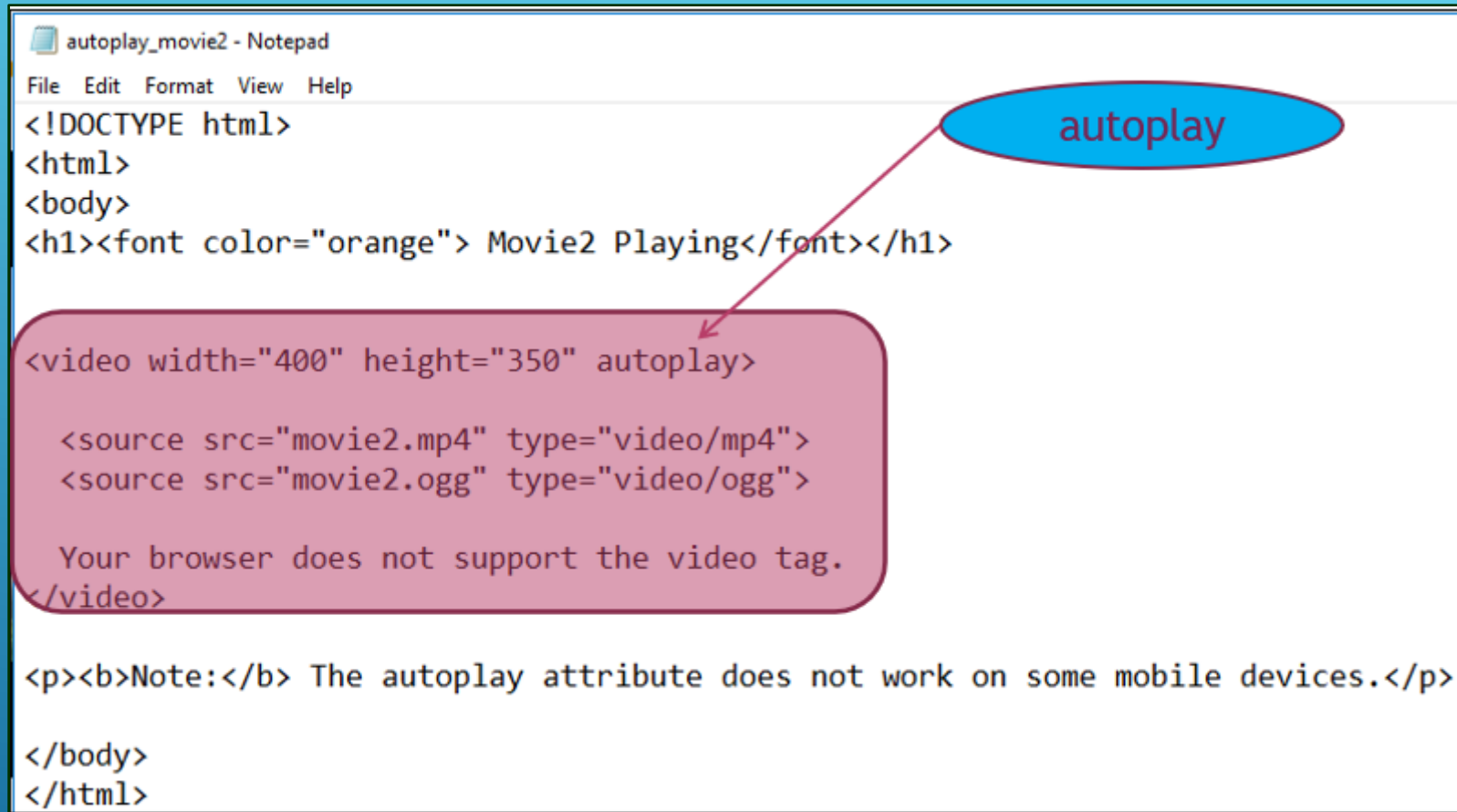
Output of listing-4.2 in Internet Explorer



controls

4.2-play_movie1.html

Video Example-2



```
autoplay_movie2 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>
<h1><font color="orange"> Movie2 Playing</font></h1>

<video width="400" height="350" autoplay>

  <source src="movie2.mp4" type="video/mp4">
  <source src="movie2.ogg" type="video/ogg">

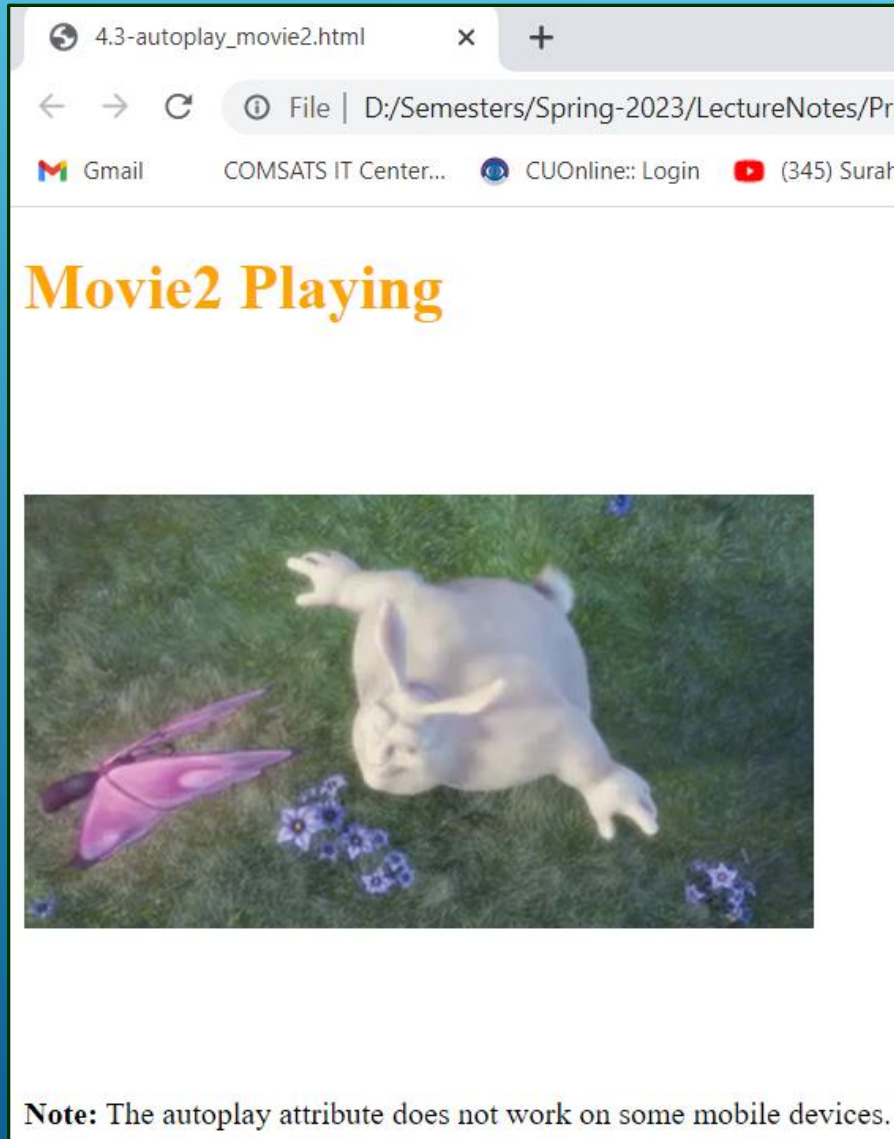
  Your browser does not support the video tag.
</video>

<p><b>Note:</b> The autoplay attribute does not work on some mobile devices.</p>
</body>
</html>
```

4.3-Autoplay_movie2.html

Video Example-2

Output of listing-4.3 in google chrome



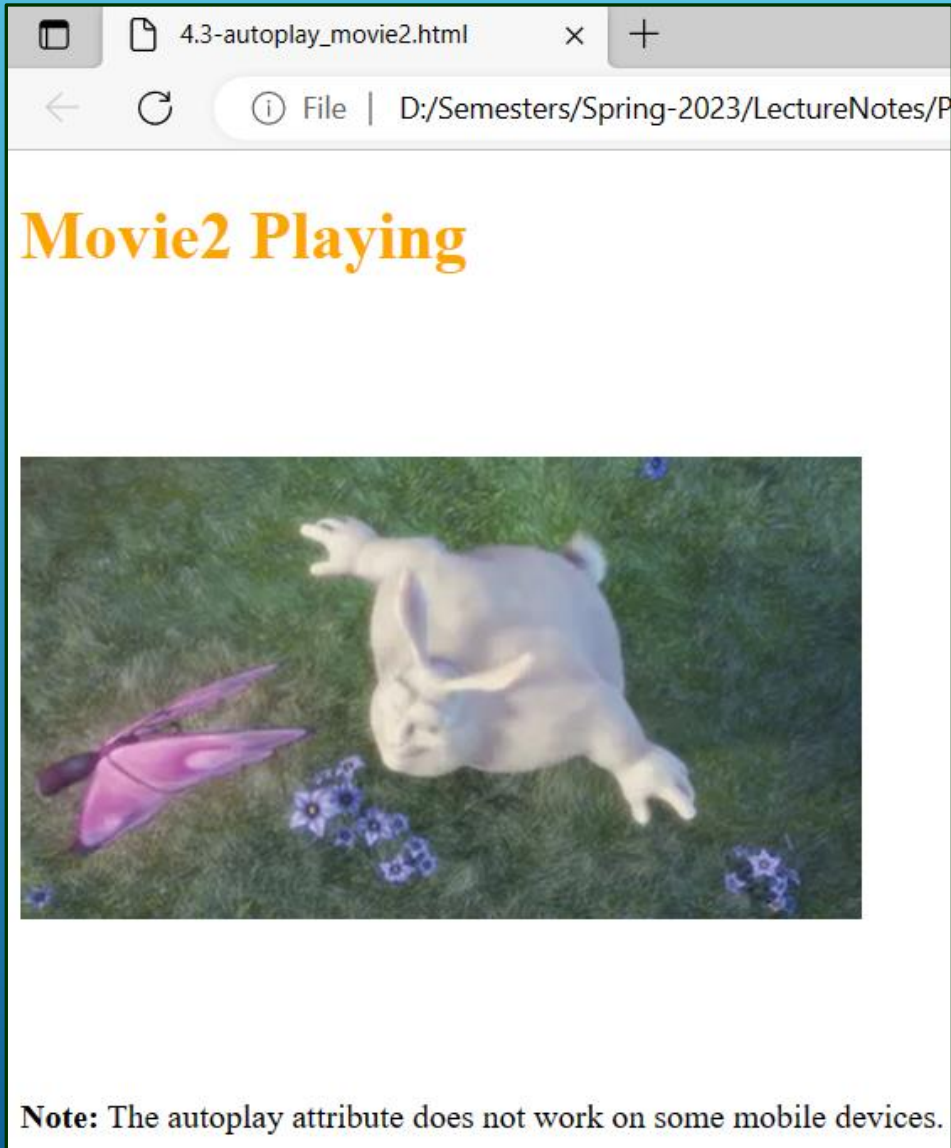
Autoplay does not have other controls like play or pause etc.

Google chrome does not support autoplay

4.3-Autoplay_movie2.html

Video Example-2

Output of listing-4.3 in Microsoft Edge



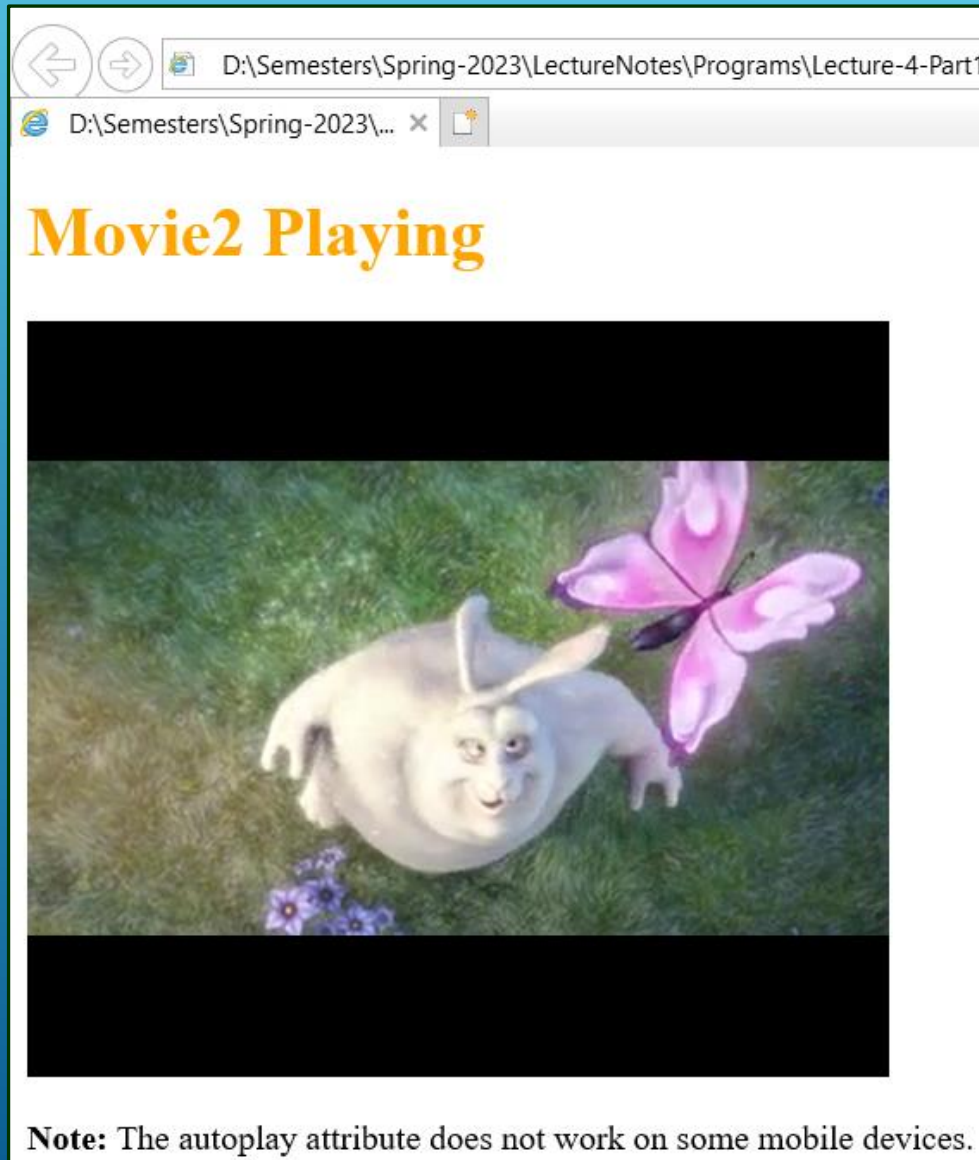
Autoplay does not have other controls like play or pause etc.

Microsoft Edge does not support autoplay

4.3-Autoplay_movie2.html

Video Example-2

Output of listing-4.3 in Internet Explorer



Autoplay does not have other controls like play or pause etc.

Internet Explorer supports autoplay

4.3-Autoplay_movie2.html

HTML Video Browser Support

Table-4.4

Browser	MP4	WebM	Ogg
Edge	YES	YES	YES
Chrome	YES	YES	YES
Firefox	YES	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

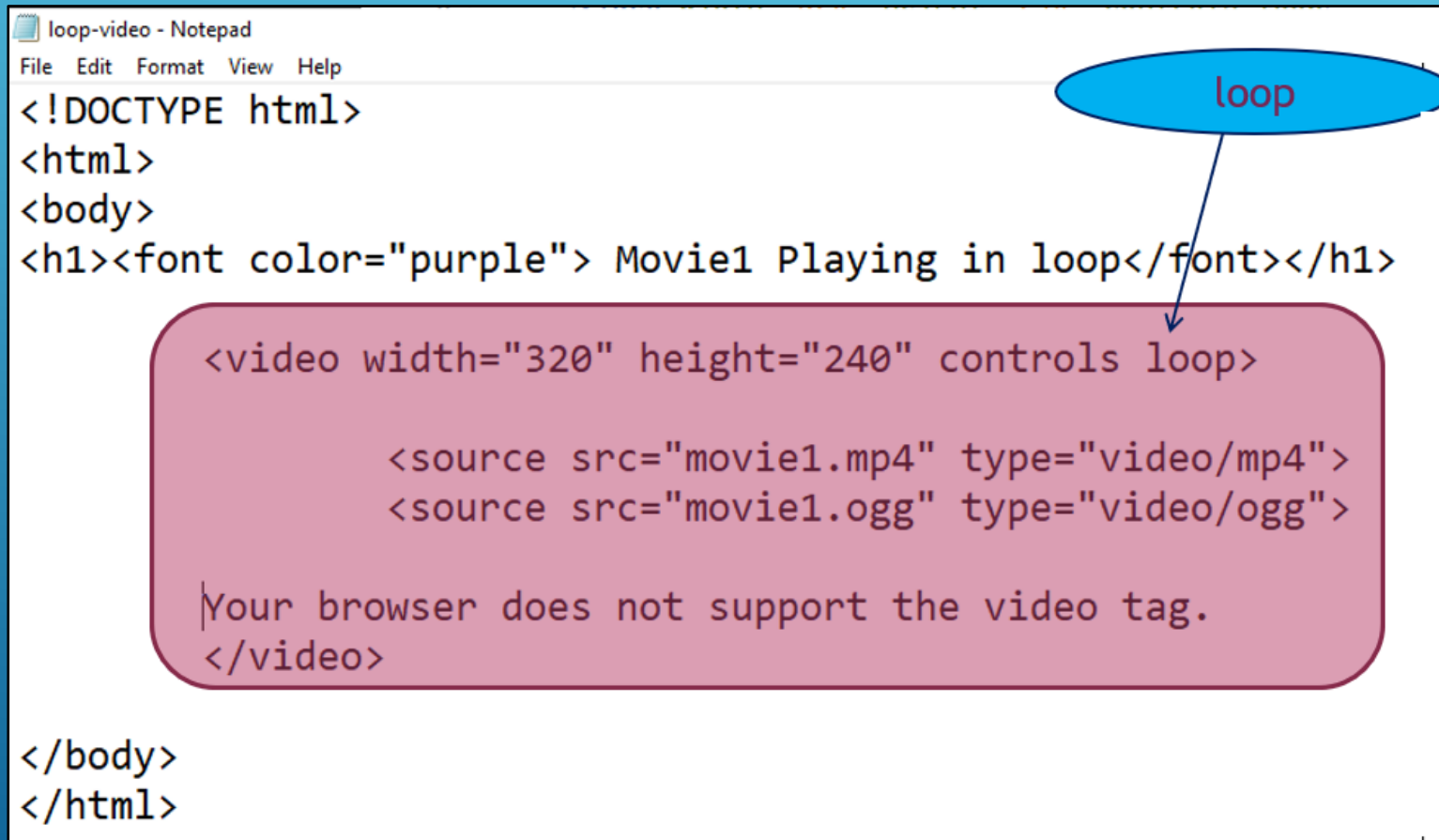
HTML <Video> Optional Attributes

Table-4.5

Attribute	Value	Description
<u>autoplay</u>	autoplay	Specifies that the video will start playing as soon as it is ready
<u>controls</u>	controls	Specifies that video controls should be displayed (such as a play/pause button etc).
<u>height</u>	<i>pixels</i>	Sets the height of the video player
<u>loop</u>	loop	Specifies that the video will start over again, every time it is finished
<u>muted</u>	muted	Specifies that the audio output of the video should be muted
<u>poster</u>	<i>URL</i>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
<u>preload</u>	auto metadata none	Specifies if and how the author thinks the video should be loaded when the page loads
<u>src</u>	<i>URL</i>	Specifies the URL of the video file
<u>width</u>	<i>pixels</i>	Sets the width of the video player

Loop the Video

- The loop attribute is a boolean attribute.
- When loop attribute present, it specifies that the video will start over again, every time it is finished.



```
loop-video - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>
<h1><font color="purple"> Movie1 Playing in loop</font></h1>

  <video width="320" height="240" controls loop>

    <source src="movie1.mp4" type="video/mp4">
    <source src="movie1.ogg" type="video/ogg">

    Your browser does not support the video tag.
  </video>

</body>
</html>
```

Google
chrome,
Microsoft
Edge and
Internet
Explorer
support loop

<video> global attributes

Table-4.6

Attribute	Description
<u>accesskey</u>	Specifies a shortcut key to activate/focus an element
<u>class</u>	Specifies one or more classnames for an element (refers to a class in a style sheet)
<u>contenteditable</u>	Specifies whether the content of an element is editable or not
<u>data-*</u>	Used to store custom data private to the page or application
<u>dir</u>	Specifies the text direction for the content in an element
<u>draggable</u>	Specifies whether an element is draggable or not
<u>hidden</u>	Specifies that an element is not yet, or is no longer, relevant
<u>id</u>	Specifies a unique id for an element
<u>lang</u>	Specifies the language of the element's content
<u>spellcheck</u>	Specifies whether the element is to have its spelling and grammar checked or not
<u>style</u>	Specifies an inline CSS style for an element
<u>tabindex</u>	Specifies the tabbing order of an element
<u>title</u>	Specifies extra information about an element
<u>translate</u>	Specifies whether the content of an element should be translated or not

More on <video>

- HTML5, defines DOM methods, properties and events on <video>
- This will be done later when we study javascript






HTML <audio> Element

- Before HTML5, audio files could only be played in a browser with a plug-in (like flash).
- The HTML5 <audio> element specifies a standard way to embed audio in a web page.

Browser Support

- The numbers in the below table specify the first browser version that fully supports the <audio> element.

Table-4.7

Element					
<audio>	4.0	9.0	3.5	4.0	10.5

HTML <audio> Element

To show a video in HTML, use the **<audio>** element:

Syntax:

<audio controls>

<source src="horse.ogg" type="audio/ogg">

<source src="horse.mp3" type="audio/mpeg">

.....so on

Your browser does not support the audio element

</audio>

Audio Play Example-1

4.5-play_horseAudio - Notepad

File Edit Format View Help

```
<!DOCTYPE html>
<html>
<body>
<h1><font color="purple"> Audio of Horse Playing</font></h1>

<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">

  Your browser does not support the audio element.
</audio>

</body>
</html>
```

<source> tag is giving two options of formats ogg or mpeg to browser whatever it recognizes first will play

4.5-play-horseaudiovideo.html

HTML Audio browser support

- In HTML5, there are 3 supported audio formats: MP3, WAV, and OGG.
- The browser support for the different formats is:

Table-4.8

Browser	MP3	WAV	OGG
Edge/IE	YES	NO	NO
Chrome	YES	YES	YES
Firefox	YES	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

HTML Audio Media-types

Table-4.9

File Format	Media Type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

HTML <frameset> and <frame> Elements

- Until now each web page when opened takes over the entire browser screen.
- The HTML tags that divide a browser screen into two or more HTML recognizable unique regions for displaying different but related information is the <frameset></frameset> tags.
- Inside the <frameset>, each unique region is called a <frame>.
- Each frame can be loaded with a different document and hence, allow multiple HTML documents to be seen concurrently.
- The HTML frame is a powerful feature that enables a web page to be broken into different unique sections that, although related, operate independently of each other.
-

Attributes of <frameset>

- The <frameset></frameset> element requires one of the following two attributes depending on whether the screen has to be divided into rows or columns.

ROWS:

- This attribute is used to divide the screen into multiple rows.
- It can be set through a list of values. Depending on the required size of each row, The values can be:
 - number of pixels
 - Expressed as percentage of screen resolution
 - The symbol *, which indicate the remaining space

COLS:

- This attribute is used to divide the screen into multiple columns.
- It can be set equal to a list of values. Depending on the required size of each column, The values can be:
 - number of pixels
 - Expressed as percentage of screen resolution
 - The symbol *, which indicate the remaining space

<frameset> Example

```
<html>
```

```
<frameset rows="33%,33%,33%">
```

Divides the browser screen into 3 equal horizontal sections

```
<frameset cols="50%,50%">
```

```
</frameset>
```

Split the 1st horizontal section(row) into 2 equal vertical(column) sections

```
<frameset cols="50%,50%">
```

```
</frameset>
```

Split the 2nd horizontal section(row) into 2 equal vertical(column) sections

```
</frameset>
```

```
</html>
```

Code-Example-4.6-Frameset-Example1.html

HTML <frame> Tag

- Once the browser screen is divided into rows and columns, each unique section defined can be loaded with different HTML documents.
- This is achieved by using the <frame> tag, which takes in the following attributes:

src="url"

Indicate the url of the document to be loaded into the frame

marginheight="n"

Specifies the amount of white space to be left at the top and bottom of the frame

marginwidth="n"

Specifies the amount of white space to be left along the left and right sides of the frame

HTML <frame> Tag

Name="name"

Gives the frame a unique name so it can be targeted by other documents.
The name given must begin with an alphanumeric character.

noresize

Disables the frames resizing capability.

scrolling

Controls the appearance of horizontal and vertical scrollbars in a frame.
This takes the values YES/NO/AUTO

HTML <frameset> and <frame> Example-2

- In the listing-4.7 we are going to display four html files:
file1.html
file2.html
file3.html
file4.html
in a single html document named 4.7-Frameset-Example-2.html
- For simplicity we create above four file with only one heading. Their listings is given below

HTML files to display in frames Example-2

```
1 <html>
2 <head><title>File-1</title></head>
3 <body bgcolor="lightpink">
4     <br/><br/>
5     <h2 align="center">File-1 will be displayed here</h2>
6 </body>
7 </html>
```

file1.html

```
1 <html>
2 <head><title>File-2</title></head>
3 <body bgcolor="lightgreen">
4     <br/><br/>
5     <h2 align="center">File-2 will be displayed here</h2>
6 </body>
7 </html>
```

file2.html

```
1 <html>
2 <head><title>File-3</title></head>
3 <body bgcolor="lightseagreen">
4     <br/><br/>
5     <h2 align="center">File-3 will be displayed here</h2>
6 </body>
7 </html>
```

file3.html

```
1 <html>
2 <head><title>File-4</title></head>
3 <body bgcolor="mediumorchid">
4     <br/><br/>
5     <h2 align="center">File-4 will be displayed here</h2>
6 </body>
7 </html>
```

file4.html

HTML files to display in frames Example-2

```
1 <html>
2   <head>
3     <title>Frameset-Example-8-2.ht
4   </head>
5
6 <frameset rows="30%,*">
7
8   <frameset cols="50%,50%">
9     <frame src="file1.html">
10    <frame src="file2.html">
11  </frameset>
12
13 <frameset cols="50%,50%">
14   <frame src="file3.html">
15   <frame src="file4.html">
16 </frameset>
17
18 </frameset>
19
20 </html>
```

Divides the browser screen into 2 rows, one occupying 30% of the screen, and the other occupying the remaining space, i.e. 70% of the screen

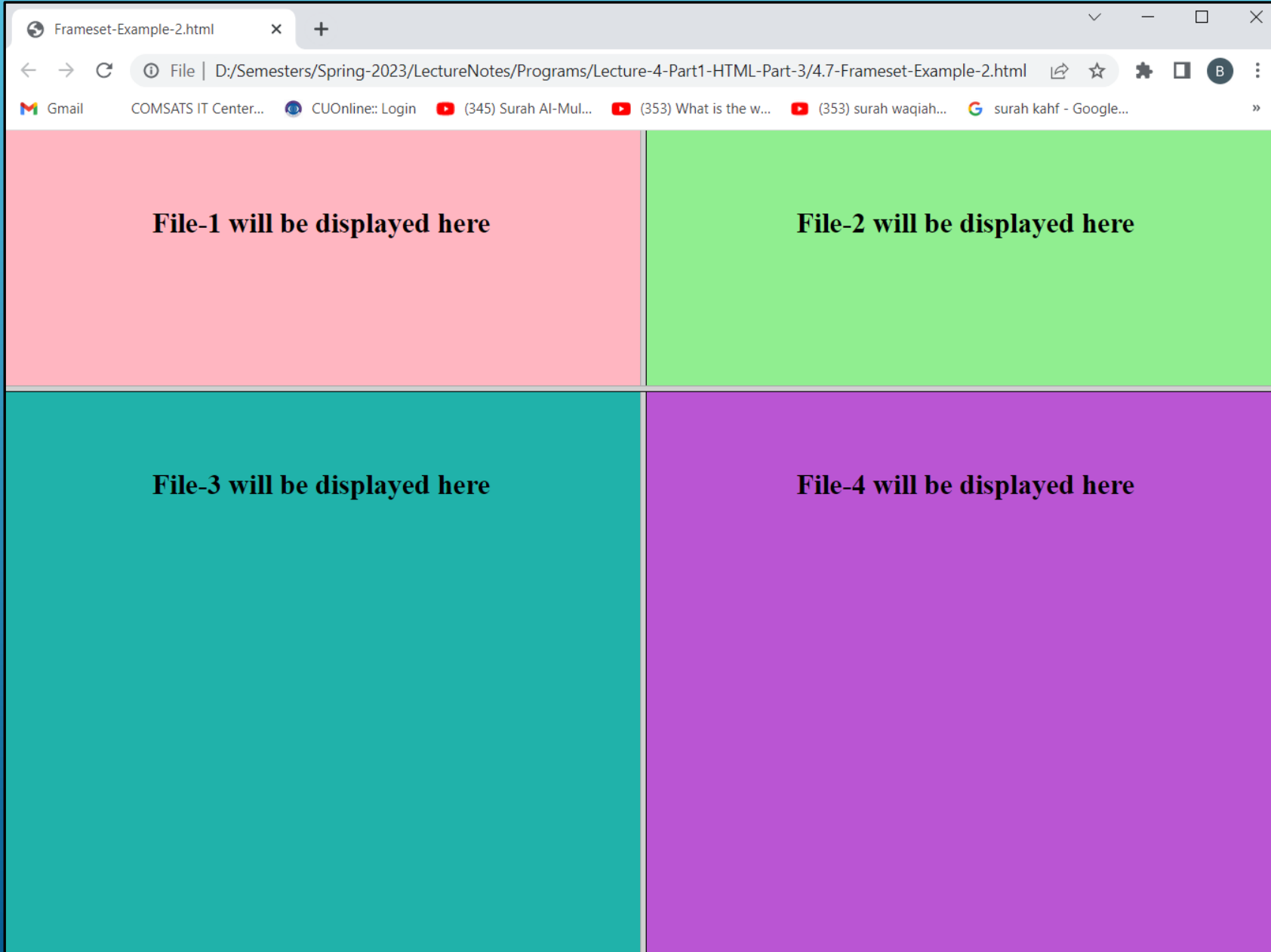
Split the 1st row into 2 equal columns, each 50% of the screen

Loads the 1st frame with file1.html
Loads the 2nd frame with file2.html
Loads the 3rd frame with file3.html
Loads the 4th frame with file4.html

Split the 2nd row into 2 equal columns, each 50% of the screen

4.7-Frameset-Exempl-2

HTML files to display in frames Example-2



HTML <frameset> and <frame> Example-3

- In the listing-4.8 we are going to create two frames of 30% and 70% columns. Note that we assign frame name to each frame.
- When the above program opens in browser then on left side frame the mycountry.html document will be displayed.
- The second frame at this stage does not show any html document.
- When we click the hyperlink given in the mycountryt.html document then the referenced file (Pakistan.html) will be opened in second frame which has name “main”.
- Note that in the <a> tag inside mycountry.html(line-10) we give the name of frame in target attribute so that the referenced document will be opened in that frame. [4.8-Frameset-Example-3.html](#)

HTML <frameset> and <frame> Example-3

4.8-frameset-
Example-3.html

```
1 ▼ <html>
2 ▼   <head>
3       <title>Frameset-Example-3.html</title>
4   </head>
5
6 ▼   <frameset cols="30%,70%">
7
8       <frame src="mycountry.html" name="intro">
9       <frame  name="main">
10
11   </frameset>
12
13 </html>
```

mycountry.html

```
1 ▼ <html>
2   <head><title>Pakistan My Country</title></head>
3 ▼ <body>
4 ▼ <p>Pakistan is my country, Pakistan is achieved by our honorable
5   Quiad-e-Azam Muhammad Ali Jinnag on 14th August 1947 <br/>
6   It is a miracle that Quiad-e-Azam got the country through his powerful dialogues,
7   He was really a great personality who can convince others by right words at right
   time.
8   We always grateful of him.<br/></p>
9   <p></p>
10  To know more about my country <a href="Pakistan.html" target="main">click here</a>
11
12 </body></html>
```

Code-Pakistan.html

HTML5 <iframe>

- An inline frame is used to embed another document within the current HTML document.
- The html **<iframe>** tag specifies an inline frame

Syntax

```
<iframe src="url" title="description"></iframe>
```

- It is a good practice to always include a **title** attribute for the <iframe>
- This is used by screen readers to read out what the contents of the iframe is.

HTML5 <iframe>

- Use **height** and **width** attributes to specify the size of iframe.
- The height and width are specified in pixels by default.

Example

```
<iframe src="demo_iframe.htm" height="200" width="300" title="Iframe Example"></iframe>
```

- Or you can use the **style** attribute and use the css height and width properties

Example

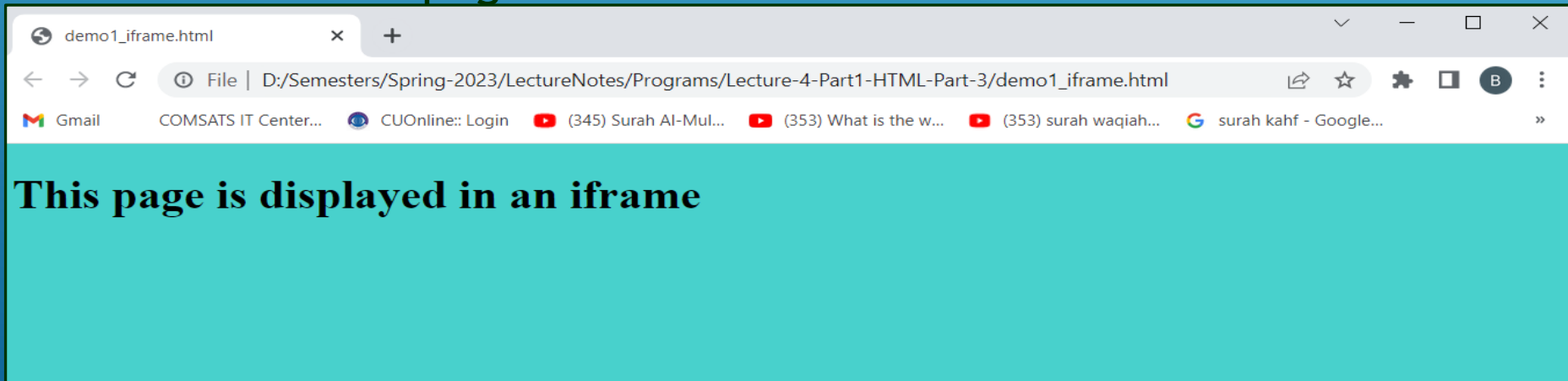
```
<iframe src="demo_iframe.htm" style="height:200px;width:300px;" title="Iframe Example"></iframe>
```


<iframe> Example-1

- Let following is an html document demo1_iframe.html

```
1  <!DOCTYPE html>
2  <html>
3  <body bgcolor="#48D1CC">
4
5  <h1>This page is displayed in an iframe</h1>
6
7  </body>
8  </html>
```

- The resultant web page is:

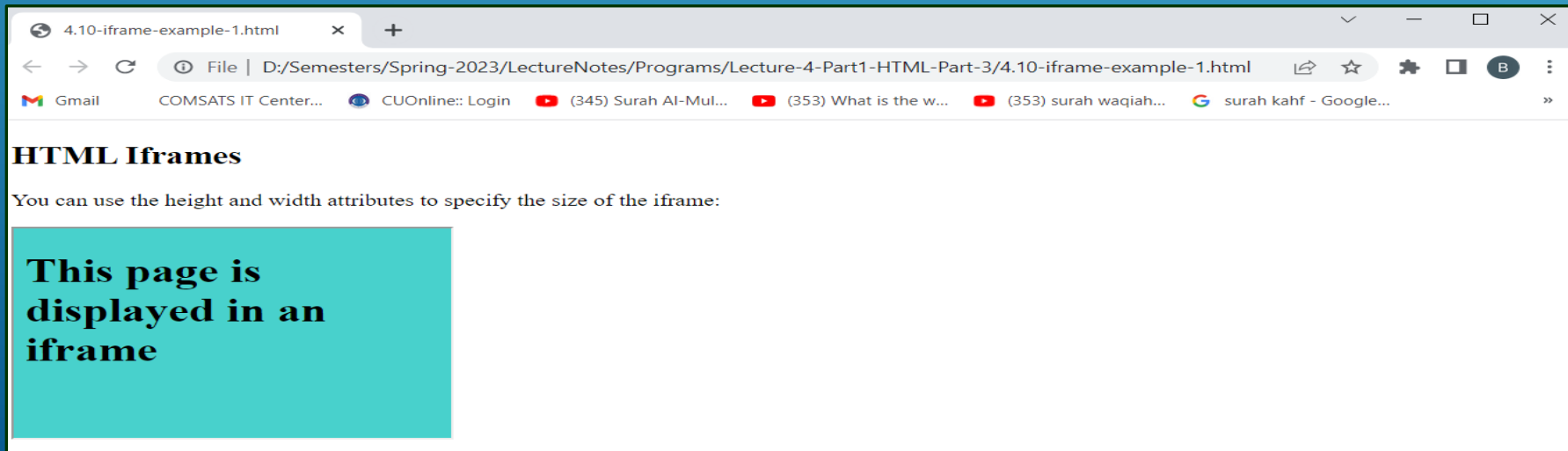


<iframe> Example-1

- Let following is another html document **4.10-iframe-example-1.html** in which we are inserting the **demo1_iframe.html**

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>HTML Iframes</h2>
6 <p>You can use the height and width attributes to specify the size of the iframe:</p>
7
8 <iframe src="demo1_iframe.html" height="200" width="300" title="Iframe Example"></iframe>
9
10 </body>
11 </html>
```

- The resultant output of **4.10-iframe-example-1.html** web page has **demo1_iframe.html** inside.



<iframe> Border

- By default, an iframe has a border around it.
- To remove the border, add the **style** attribute and use the css **border** property

Example

```
<iframe src="demo_iframe.htm" style="border:none;" title="Iframe Example"></iframe>
```

- With CSS, you can also change the size, style and color of the iframe's border:

Example

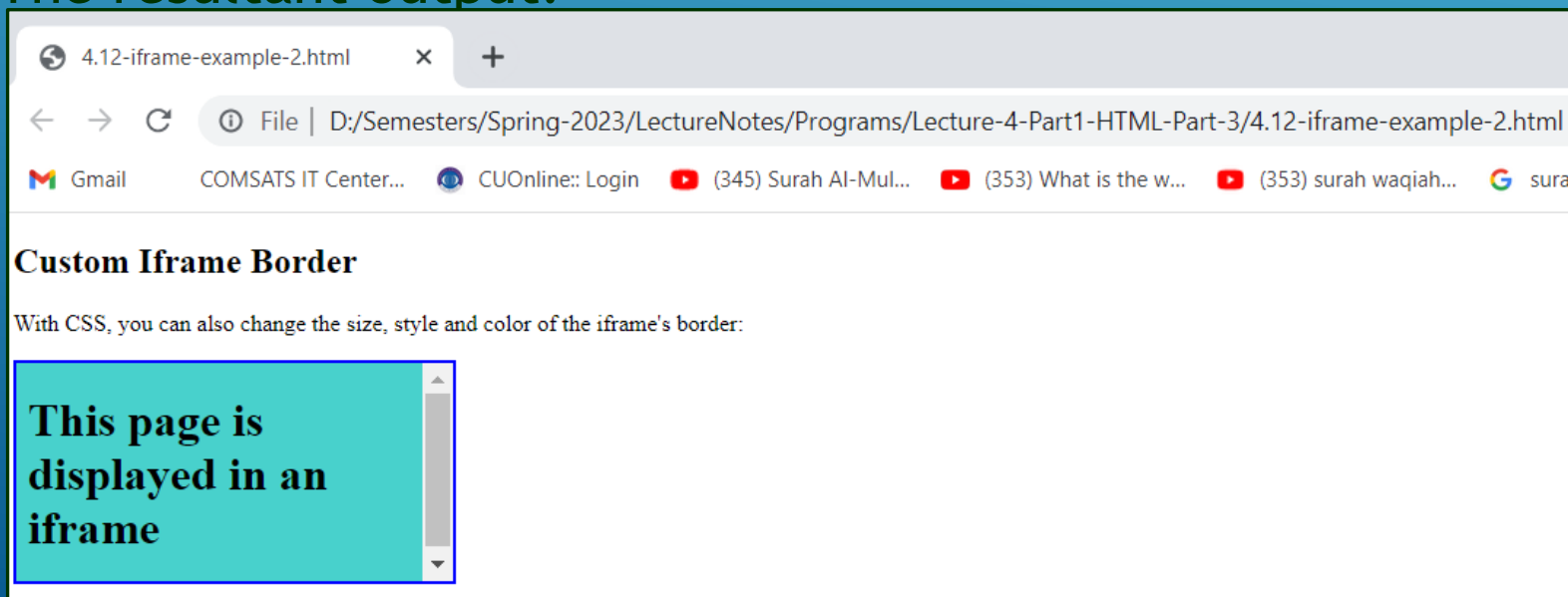
```
<iframe src="demo_iframe.htm" style="border:2px solid red;" title="Iframe Example"></iframe>
```

<iframe> Example-2

- Let following is another html document [4.12-iframe-example-2.html](#) in which we are inserting the demo1_iframe.html with borders

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>Custom Iframe Border</h2>
6 <p>With CSS, you can also change the size, style and color of the iframe's border:</p>
7
8 <iframe src="demo1_iframe.html" style="border:2px solid blue;" title="Iframe Example"></iframe>
9
10 </body>
11 </html>
```

- The resultant output:



<iframe> as target for a hyperlink

- An iframe can be used as the target frame for a link.
- The **target** attribute of the link must refer to the **name** attribute of the iframe
- Example: 4.13-iframe-Example-3.html

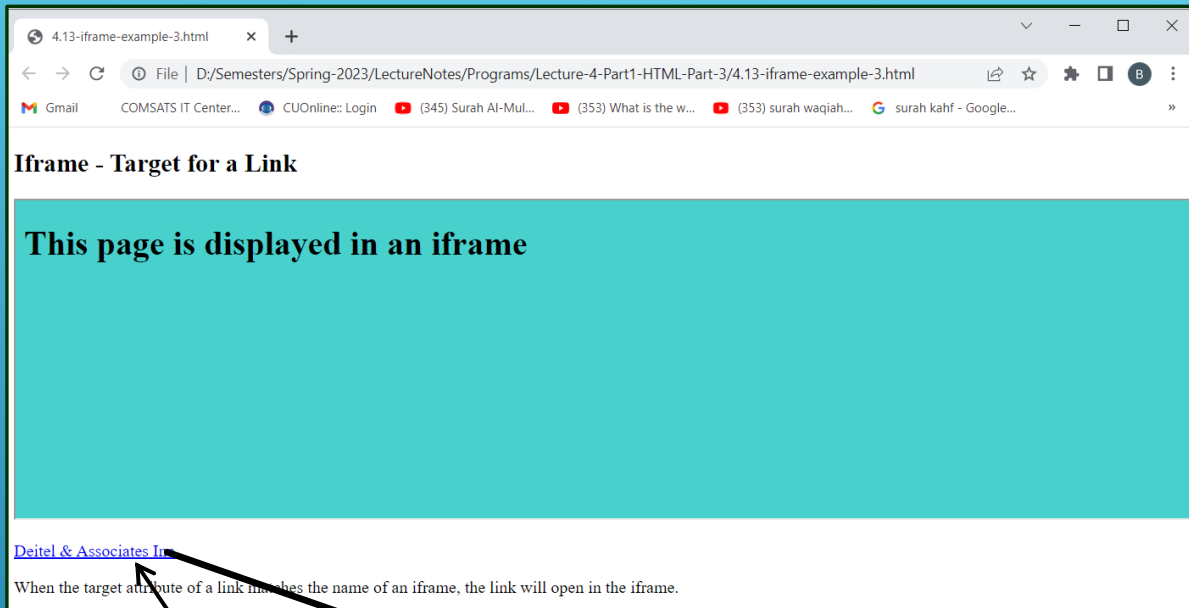
```
<iframe src="demo1_iframe.html" name="iframe_a" title="Iframe Example"> </iframe>
```

```
<p><a href="https://deitel.com/" target="iframe_a">Deitel & Associates, Inc.</a></p>
```

```
1 <!DOCTYPE html>
2 <html>
3 <body>
4
5 <h2>Iframe - Target for a Link</h2>
6
7 <iframe src="demo1_iframe.html" name="iframe_a" height="300px" width="100%" title="Iframe Example">
  </iframe>
8
9 <p><a href="https://deitel.com/" target="iframe_a">Deitel & Associates Inc.</a></p>
10
11 <p>When the target attribute of a link matches the name of an iframe, the link will open in the
  iframe.</p>
12
13 </body>
14 </html>
```

<iframe> as target for a hyperlink

iframe-Example-3.html



As user clicks the link,
the relevant document
will be opened in the
target iframe

