



CUI Abbottabad

Department of Computer Science

Web Technologies

Lecture-7
CSS-Part4

Agenda

- Drop-Down Menus
- Flex Box Container
- (Optional) User Style Sheets
- Text shadows
- Rounded Corners
- Color
- Box Shadow

DROP-DOWN MENUS

- ▶ **Drop-down** menus are a good way to provide navigation links without using a lot of screen & space.
- ▶ To create Drop-down menu, we follow the following steps:
 1. use **nav** element to group the list of navigation links and give the heading to **nav** as “Menu”
 2. To convert above created **nav** into real drop-down menu, we need:
 - i. **hover** pseudo-class of CSS3
 - ii. **display** property of CSS3

DROP-DOWN MENUS

- i. **hover pseudo-class** is a special class which only works when the mouse hover over an element with which user attached the hover pseudo-class.
 - ▶ Hence, we will use this feature in a more advanced way to create a menu(list of grouped links created by nav) to appear when the mouse hovers over a “Menu” heading of nav
- ii. **display** property allows you to decide whether an element is rendered(display) on page or not? Possible values of display property are block, inline and none.
 - ▶ The block and inline values display the element as a block element or an inline element, while none stops the element from being rendered (displayed).
 - ▶ In Listing 7.1 we are using above mentioned concept to create a drop down menu skeleton

DROP-DOWN MENUS

Listing—7.1-dropDownMenue_1.html

```
1  <!DOCTYPE html>
2  <html>
3  <head> <meta charset = "utf-8">    <title> Drop-Down Menu </title>
4  <style type = "text/css">
5      body { font-family: arial, sans-serif }
6      nav { font-weight: bold;
7            color: white;
8            border: 2px solid royalblue;
9            text-align: center;
10           width: 10em;
11           background-color: royalblue; }
12     nav ul { display: none;
13             list-style: none;
14             margin: 0;
15             padding: 0; }
16     nav:hover ul { display: block }
17     nav ul li { border-top: 2px solid royalblue;
18                background-color: white;
19                width: 10em;
20                color: black; }
21     nav ul li:hover { background-color: powderblue; }
22     a { text-decoration: none; }
23 </style>
24 </head>
25 <body>
26     <nav>Menu
27     <ul>
28         <li><a href = "#">Home</a></li>
29         <li><a href = "#">News</a></li>
30         <li><a href = "#">Articles</a></li>
31         <li><a href = "#">Blog</a></li>
32         <li><a href = "#">Contact</a></li>
33     </ul>
34 </nav>
35 </body>
36 </html>
```

DROP-DOWN MENUS

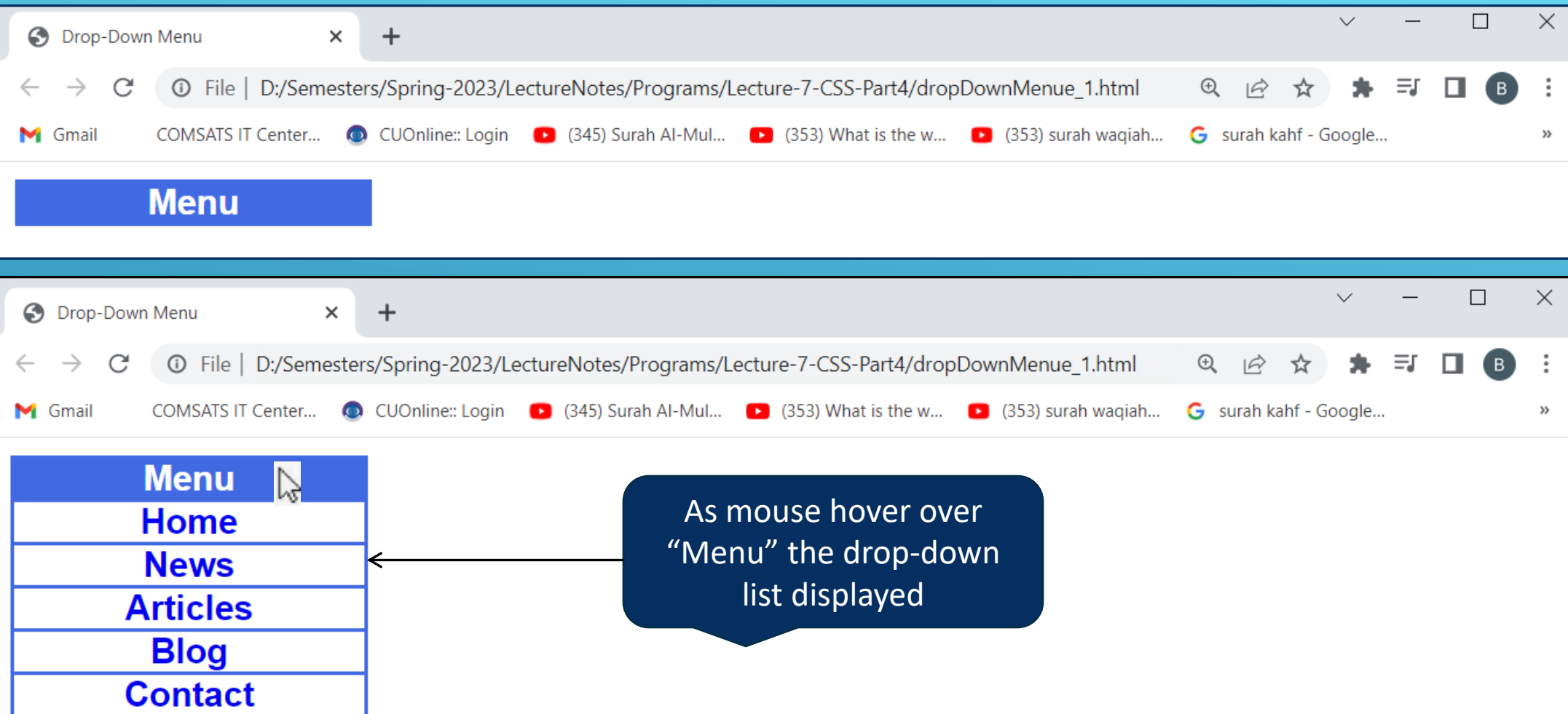


Figure- 7.1(b)--- dropDownMenue_1.html when mouse hover over "Menu"

DROP-DOWN MENUS

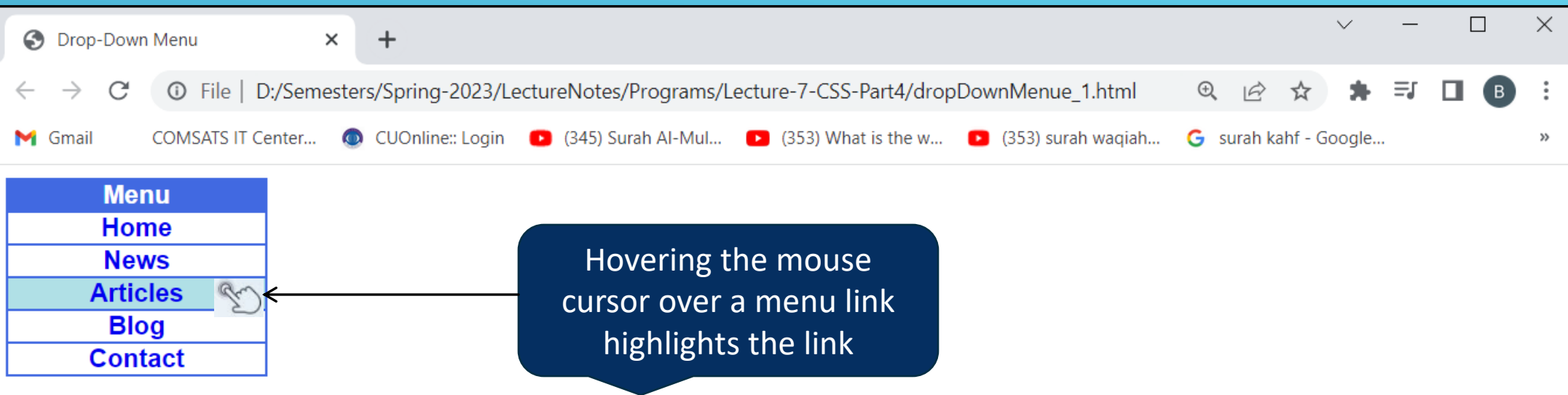


Figure- 7.1(c)---when mouse hover over “Menu”

EXPLANATION LISTING 7.1

- ▶ Document Body section--- lines 26-34
 - ▶ create a nav element containing the the text Menu and an unordered list(ul) of five links that should appear in the drop-down menu—Home, News, Articles, Blog and Contact.
 - ▶ Initially, Menu is the only text visible on the page. When the mouse cursor hovers over the nav element, the five links appear below the menu.
- ▶ CSS3 code for menu disappear and appear—line#4-23
- ▶ Two lines define the drop-down functionality
 - ▶ **Line#12** sets display to none for any unordered list (ul) that's nested in a nav. This instructs the browser not to render the ul's contents.
 - ▶ **Line#16**, which is similar to line 12, selects only ul elements nested in a nav element that currently has the mouse hovering over it. Setting display to block specifies that when the mouse is over the nav, the ul will be displayed as a block-level element.

EXPLANATION LISTING 7.1

- ▶ CSS3 code for menu disappear and appear—line#4-23
 - ▶ The style in **line#21** is applied only to a li element that's a child of a ul element in a nav element, and only when that li has the mouse cursor over it. This style changes the background-color of the currently highlighted menu option.
 - ▶ The rest of the CSS simply adds style to the menu's components. This drop-down menu is just one example of more advanced CSS formatting. Many additional resources are available online for CSS navigation menus and lists.
- ▶ Note: this drop-down menu program is just one example of css advance formatting.

FLEX BOX LAYOUT MODULE

- ▶ Before the flex-box layout module there were four layout modes
 1. Block: for sections in the web page
 2. Inline: for text
 3. Table: for 2-dimensional table data
 4. Positioned: for explicit position of an element .
- ▶ The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.
- ▶ Flex-box properties are now supported by all modern browsers:



29.0



11.0



22.0



10



48

FLEX BOX CONTAINER

- ▶ In order to use flexbox model, we need to first define the flex container
- ▶ Listing 7.2 is describing the flexbox container(any block level element), here we use div element as flexbox container.

Figure- 7.2-flexbox-1.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <style>
5  .flex-container {
6      display: flex;
7      flex-wrap: nowrap;
8      background-color: #8B008B;
9  }
10
11 .flex-container > div {
12     background-color: #909090;
13     width: 130px;
14     margin: 10px;
15     text-align: center;
16     line-height: 75px;
17     font-size: 30px;
18 }
19 </style>
20 </head>
```

FLEX BOX LAYOUT MODULE

- We applied style on outer div as well as nested div.

```
21 ▼ <body>
22   <h1>Flexible Boxes</h1>
23
24 ▼ <div class="flex-container">
25     <div>Home</div>
26     <div>HTML</div>
27     <div>CSS</div>
28     <div>BootStrap</div>
29     <div>Javascript</div>
30     <div>Python</div>
31     <div>NodJS</div>
32     <div>React</div>
33 </div>
34
35 <p>Try to resize the browser window.</p>
36 <p>A container with "flex-wrap: nowrap;" will never wrap its items.</p>
37 <p><strong>Note:</strong> Flexbox is not supported in Internet Explorer 10 or earlier
    versions.</p>
38
39 </body>
40 </html>
```

Figure- 7.2-flexbox-1.html

FLEX BOX LAYOUT MODULE

- try to resize the browser window, the **flex-wrap: nowrap;** will never wrap its items.

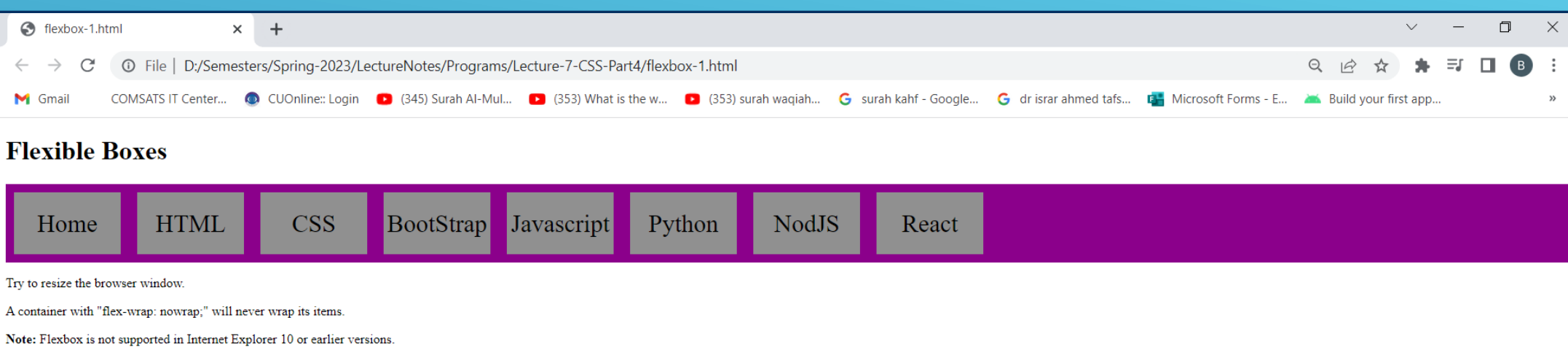


Figure- 7.2-flexbox-1.html

FLEX BOX CONTAINER

- ▶ Parent Element(Container)

The following is the parent container with Dark Magenta background color, and have eight flex items

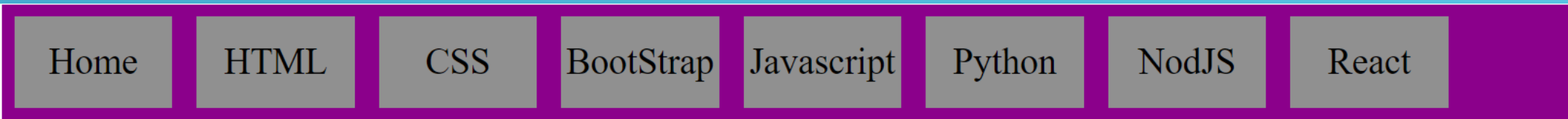


Figure- 7.2-flexbox-1.html

- ▶ The container becomes flexible by setting the **display** property to **flex**:
- ▶ The flex container properties are:
 1. flex-direction
 - ▶ Defines in which direction the container wants to stack the flex items, either row or column
 - ▶ Flex-direction-1.html, flex-direction2.html, flex-direction3.html, flex-direction4.html
 2. flex-wrap
 - Possible values are wrap, nowrap and wrap-reverse

FLEX BOX CONTAINER PROPERTIES...

3. flex-flow: is the shorthand property for setting both the flex-direction and flex-wrap properties---flex-flow.html
 4. justify-content: is used to align the flex items—justify-content-1.html, justify-content-2.html, justify-content-3.html, justify-content-4.html, justify-content-5.html,
 5. align-item: is used to align the flex items---- align-item-1.html, align-item-2.html. align-item-3.html, align-item-4.html, align-item-5.html
 6. align-content: is used to align the flex lines----- align-content-1.html, align-content-2.html, align-content-3.html, align-content-4.html, align-content-5.html and align-content-6.html
- ▶ Perfect-centering: the following example will solve the common problem of perfect center→ for this justify-content and align-items properties to center. Perfect-center.html

(OPTIONAL)USER STYLE SHEET

- ▶ Users can define their own **user style sheets** to format pages based on their preferences.
- ▶ For example, people with **visual impairments** may want to increase the page's text size.
- ▶ But you **need to be careful not to inadvertently override user preferences with defined styles.**
- ▶ This section discusses possible conflicts between **author styles** and **user styles**. For the purpose of this section, we demonstrate the concepts in Internet Explorer 21H1.

(OPTIONAL)USER STYLE SHEET

- ▶ Listing- 7.3 defined an author's style sheet
- ▶ The font-size is set to 9pt for all <p> tags that have class "note" applied to them.

```
1  <!DOCTYPE html>
2  <html>
3    <head> <meta charset = "utf-8">
4          <title> Author's Styles </title>
5          <style type = "text/css">
6            .note { font-size: 9pt; }
7          </style>
8        </head>
9        <body>
10         <p>Thanks for visiting my website. I hope you enjoy it.
11         </p><p class = "note">Please Note: This site will be
12         moving soon. Please check periodically for updates.</p>
13       </body>
14     </html>
```

Listing-7.3—authorStyle.html

(OPTIONAL)USER STYLE SHEET

- ▶ Listing- 7.4 defined a user's external style sheet
- ▶ Sets the body's font-size to 40pt, color to yellow and background-color to navy.
- ▶ Note that the font-size value specified in the user style sheet **conflicts** with the one in line#6 of listing 7.3.

```
1  /*A user's style sheet*/
2
3      body      { font-size: 40pt;
4                  color:yellow;
5                  background-color:navy;
6              }
7
```

Listing-7.4—userStyle.css

ADDING A USER STYLE SHEET

- ▶ User style sheets are *not* linked to a document; rather, they're set in the browser's options.
- ▶ To add a user style sheet in IE21,
 1. Select **Internet Options...**, located in the **Tools** menu. **Figure-7.3**
 2. In the **Internet Options** dialog that appears, click **Accessibility...**,
 3. check the **Format documents using my style sheet** checkbox, and type the location of the user style sheet. **Figure-7.4**
- ▶ IE21 applies the user style sheet to any document it loads

ADDING A USER STYLE SHEET

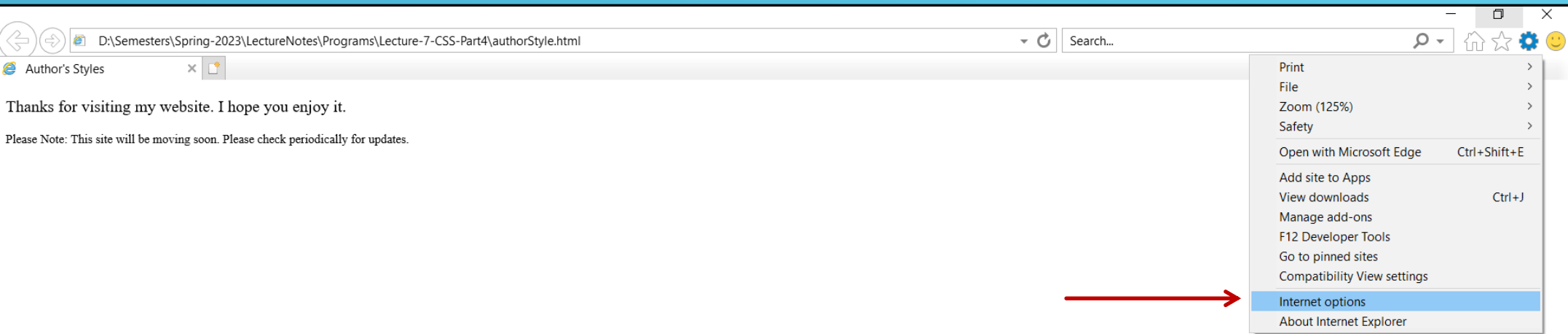


Figure-7.3-Adding user style sheet in authorStyle.html

ADDING A USER STYLE SHEET

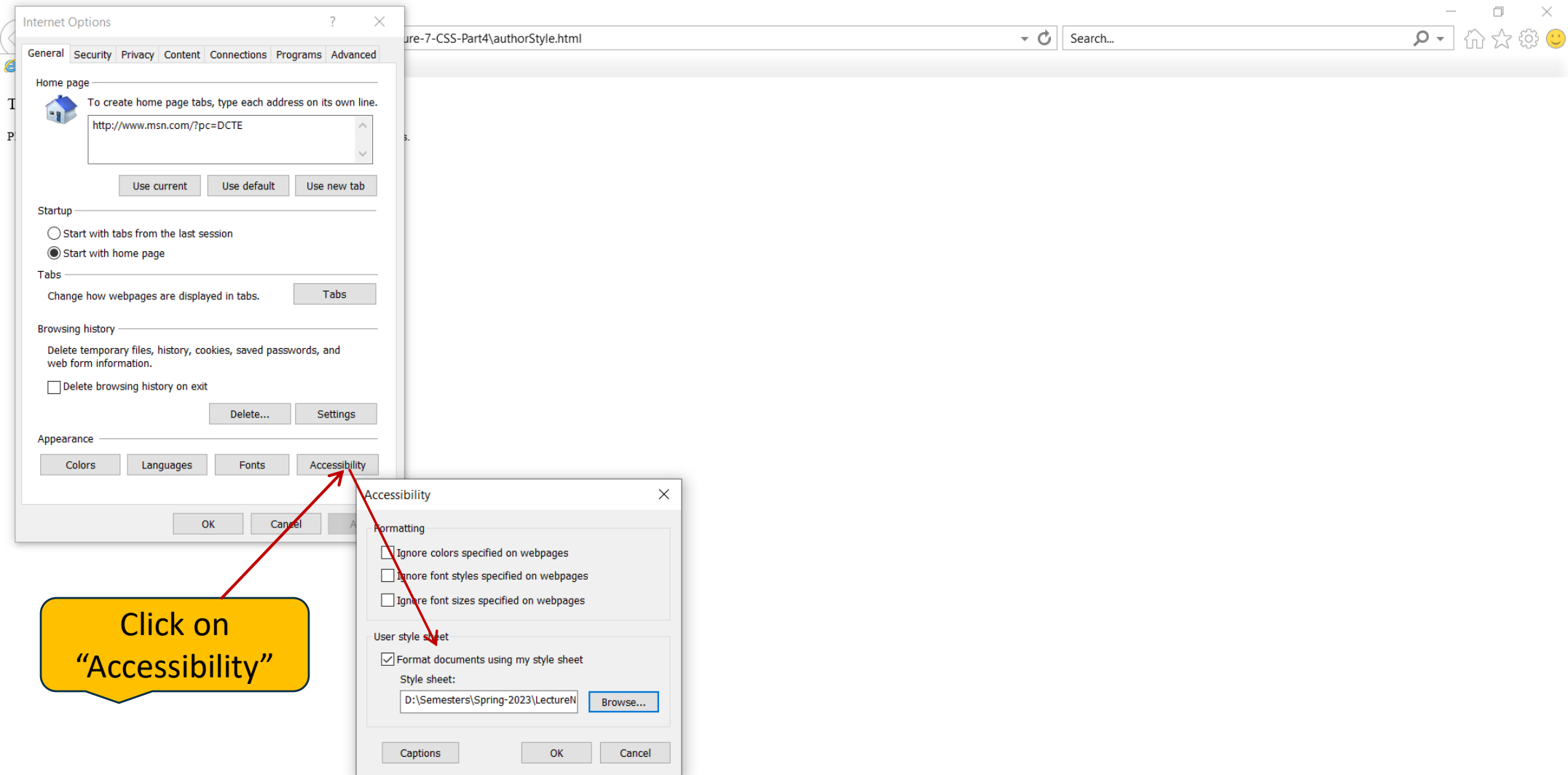


Figure-7.4-Adding user style sheet in authorStyle.html

PRECEDENCE ORDER: AUTHOR VS USER

- ▶ If user defines **font-size** in a user style sheet, the author style has a **higher precedence** and **overrides** the user style.
 - ▶ The **9pt** font specified in the author style sheet overrides the **40pt** font specified in the user style sheet. **Figure-7.5** is showing the output of author's style sheet after adding user style sheet in browser IE21.
- ▶ This small font may make pages difficult to read, especially for individuals with **visual impairments**.

PRECEDENCE ORDER: AUTHOR VS USER



Thanks for visiting my website. I hope you enjoy it.

Please Note: This site will be moving soon. Please check periodically for updates.

Figure-7.5-Adding user style sheet in authorStyle.html

Font size according to
author's style sheet

Background color and font-color is applied according to
user's style sheet because author's style does not
include font-color and background color

SOLUTION-USE RELATIVE MEASUREMENT FOR FONT-SIZE IN A AUTHOR STYLE SHEET

- ▶ You can avoid this **problem** by using relative measurements (e.g., **em** or **ex**) instead of absolute measurements (e.g. **pt**) in author's style sheet
 - ▶ Listing-7.5 is updated author style sheet which changes the font-size property to use a relative measurement (line 10) that does **not override** the user style set in listing -7.3.
 - ▶ Instead, the font size displayed is **relative** to the one specified in the user style sheet.
- ▶ In this case, text enclosed in the **<p>** tag displays as 20pt, and **<p>** tags that have the class **note** applied to them are displayed in 15pt (.75 times 20pt).

MODIFIED AUTHOR STYLE SHEET

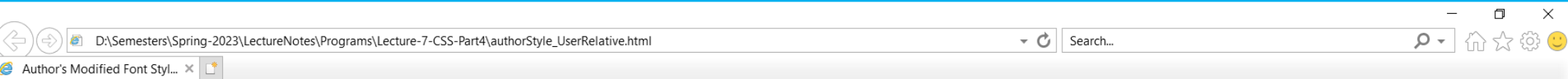
```
1  <!DOCTYPE html>
2  <html>
3    <head> <meta charset = "utf-8">
4          <title> Author's Modified Font Styles </title>
5          <style type = "text/css">
6            .note { font-size: .75em; }
7          </style>
8        </head>
9        <body>
10         <p>Thanks for visiting my website. I hope you enjoy it.
11         </p><p class = "note">Please Note: This site will be
12         moving soon. Please check periodically for updates.</p>
13       </body>
14     </html>
```

Listing-7.5-- authorStyle_UserRelative.html

Relative font
measurement

MODIFIED AUTHOR STYLE SHEET

Output-Listing-7.5-- authorStyle_UserRelative.html



Thanks for visiting my website. I hope you enjoy it.

Please Note: This site will be moving soon. Please check periodically for updates.

Figure-7.6- authorStyle_UserRelative.html

Author's style sheet with Relative unit Font size improves the font size for user

ADDING A USER STYLE SHEET IN OTHER BROWSERS

To add a user style sheet in Firefox:

- ▶ find your Firefox profile using the instructions at www.mozilla.org/support/firefox/profile#locate and place a style sheet called userContent.css in Firefox subdirectory.

To add a user style sheet in Google Chrome:

- ▶ For information on adding a user style sheet in Chrome, see www.google.com/support/forum/p/Chrome/thread?tid=1fa0dd079dbdc2ff&hl=en.

TEXT SHADOWS

- ▶ The CSS3 **text-shadow** property adds a **shadow** to text.
- ▶ Maximum 4 values can be assigned to text-shadow property:
 1. Horizontal offset value
 2. Vertical offset value
 3. Blur radius value
 4. Color (name/value)

1. Horizontal offset value

- the number of pixels that the text-shadow will appear to the left or the right of the text.
- A negative value moves the text-shadow to the left
- A positive value moves it to the right

TEXT SHADOWS

2. Vertical offset value

- the number of pixels that the text-shadow will shifted up or down from the text.
- A negative value moves the text-shadow to up
- A positive value moves it down

3. blur radius value of the text shadow:

- the blur (in pixels) of the text shadow
- A blur-radius of 0px would result in a shadow with a sharp edge (no blur).
- The greater the value, the greater the, the greater the blurring of the edges.

4. Color: it determines the color of text-shadow

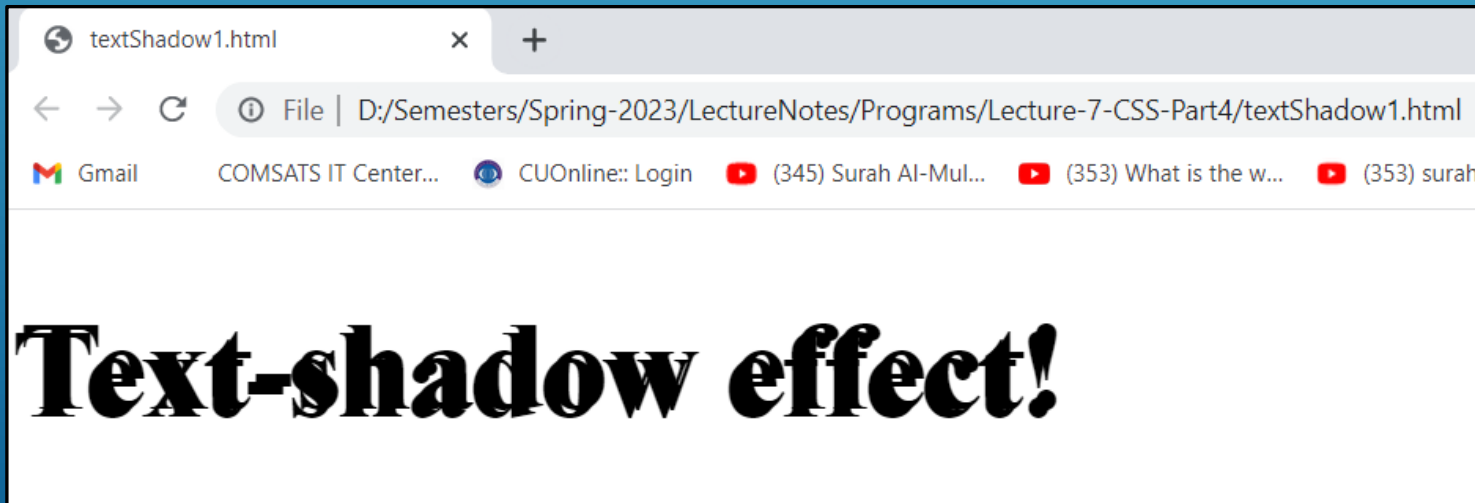
TEXT SHADOWS WITH TWO PROPERTIES

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <style>
5     h1 { text-shadow: -4px 4px ;
6           font-size: 400%; /* increasing the font size */
7     }
8   </style>
9 </head>
10 <body>
11
12   <h1>Text-shadow effect!</h1>
13
14 </body>
15 </html>
```

Horizontal offset

Vertical offset

Listing-7.6-textShadow1.html



Output-7.6-textShadow1.html

TEXT SHADOWS WITH THREE PROPERTIES

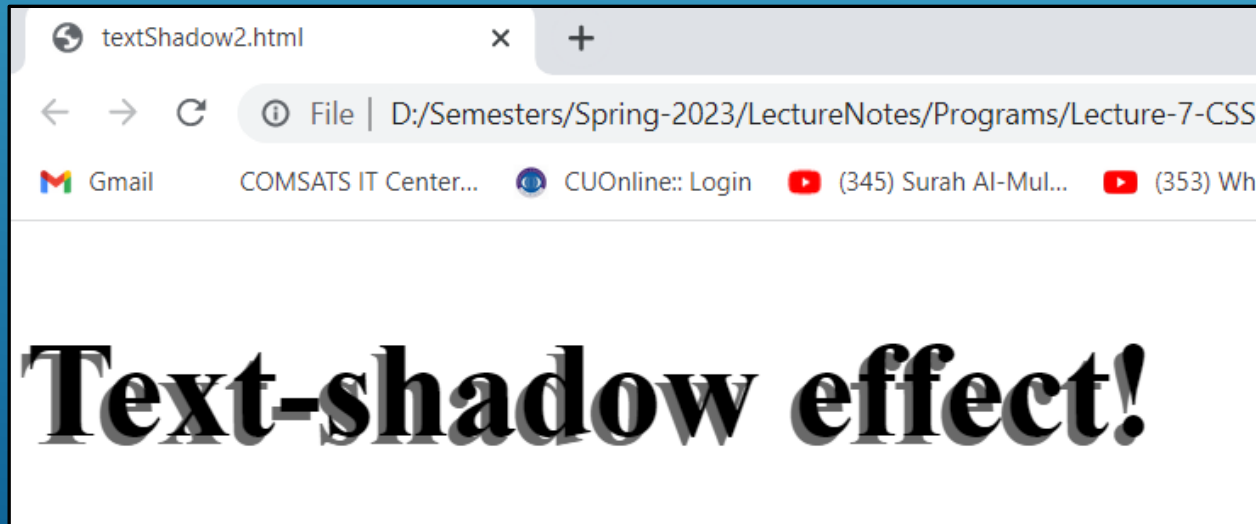
```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <style>
5     h1 { text-shadow: -4px 4px dimgray ;
6           font-size: 400%; /* increasing the font size */
7     }
8   </style>
9 </head>
10 <body>
11
12   <h1>Text-shadow effect!</h1>
13
14 </body>
15 </html>
```

Horizontal offset

color

Vertical offset

Listing-7.7-textShadow2.html



Output-7.7-textShadow2.html

TEXT SHADOWS WITH FOUR PROPERTIES

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <style>
5     h1 { text-shadow: -4px 4px 6px dimgrey;
6           font-size: 400%; /* increasing the font size */
7         }
8   </style>
9 </head>
10 <body>
11
12   <h1>Text-shadow effect!</h1>
13
14 </body>
15 </html>
```

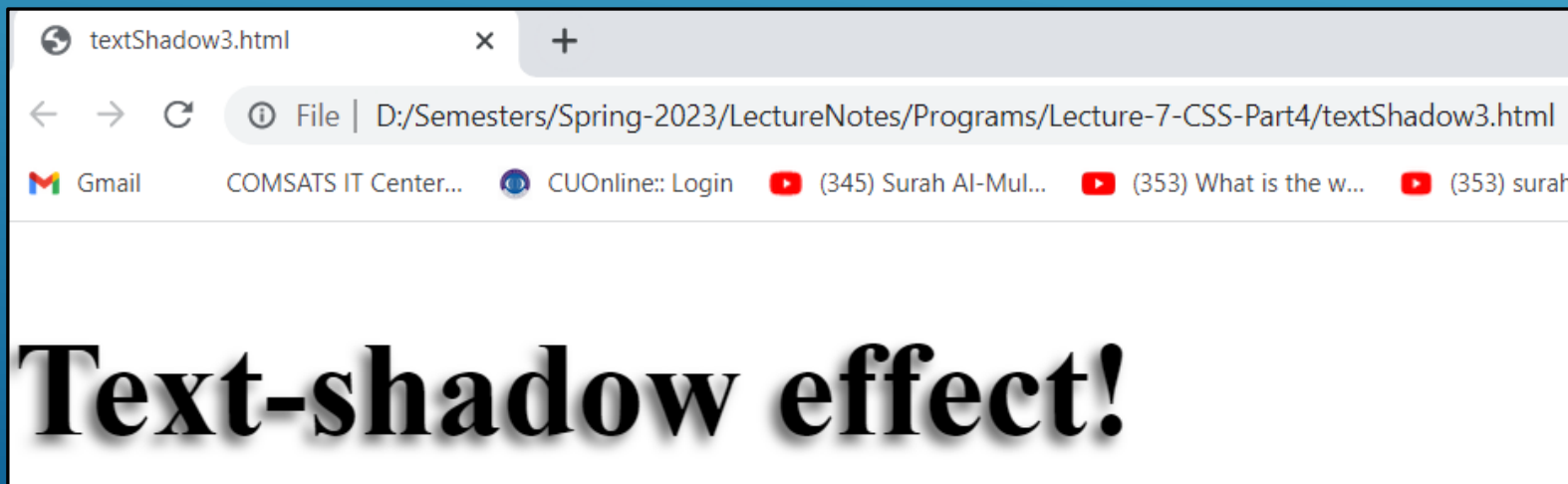
Horizontal offset

color

Blur radius

Vertical offset

Listing-7.8-textShadow3.html



Output-7.8—textShadow3.html

ROUNDED CORNERS

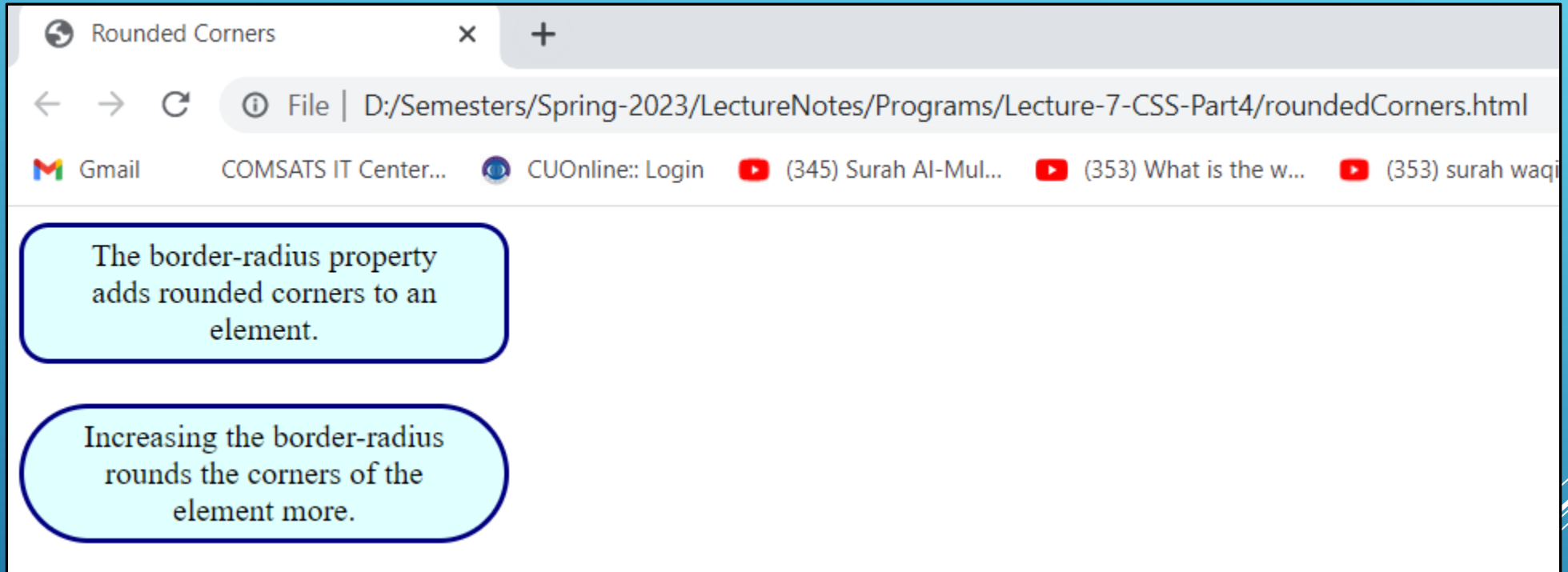
- ▶ The **border-radius** property allows you to add rounded corners to an element.
- ▶ Any border-radius value greater than half of the shortest side length produces a completely round end.
- ▶ In Listing-7.9 we are creating two rectangles with solid navy borders
 1. First rectangle we set the border-radius to 15p(line# 10). This adds slightly rounded corners to the rectangle.
 2. Second rectangle we set the border-radius to 50px (line#18), making the left and right sides completely round.

ROUNDED CORNERS

Listing-7.9-roundedCorners.html

```
1  <!DOCTYPE html>
2  <html>
3  <head><title>Rounded Corners</title>
4    <style>
5      div { border: 3px solid navy;
6            padding: 5px 20px;
7            background: lightcyan;
8            width: 200px;
9            text-align: center;
10           border-radius: 15px; /* adding rounded corners */
11           margin-bottom: 20px;
12         }
13     #round2 { border: 3px solid navy;
14              padding: 5px 20px;
15              background: lightcyan;
16              width: 200px;
17              text-align: center;
18              border-radius: 50px; /* increasing border-radius */
19            }
20    </style>
21  </head>
22  <body>
23    <div>The border-radius property adds rounded corners
24      to an element.</div>
25
26    <div id = "round2">Increasing the border-radius rounds the corners
27      of the element more.</div>
28
29  </body>
30  </html>
```

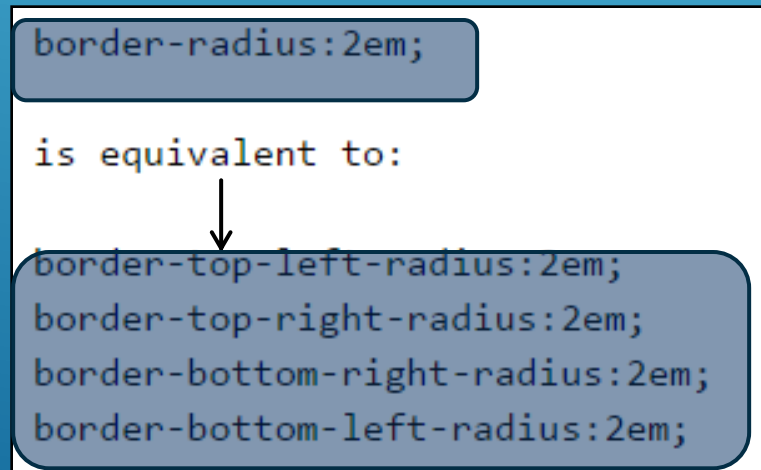
ROUNDED CORNERS



Output-7.9-roundedCorners.html

ROUNDED CORNERS

- ▶ You can also specify the radius for each corner separately with following properties:
 - ▶ border-top-left-radius
 - ▶ border-top-right-radius
 - ▶ border-bottom-left-radius
 - ▶ border-bottom-right-radius
- ▶ Example:



COLOR

- ▶ CSS3 allows you to express **color** in several ways
 - ▶ color names (such as Aqua)
 - ▶ hexadecimal (such as #00FFFF for Aqua)
 - ▶ RGB values (Red, Green, Blue, Alpha)
 - ▶ HSL (hue, saturation, lightness)
 - ▶ HSLA (hue, saturation, lightness, alpha)

1. RGB(Red, Green, Blue, Alpha) gives you greater control over the exact colors in your web pages.

- ▶ The value for each **color**—red, green and blue—can range from 0 to 255.
- ▶ The *alpha* value—which represents *opacity*
 - ▶ can be any value in the range 0.0 (fully transparent) through 1.0 (fully opaque).

EXAMPLE-RGBA COLOR

- ▶ For example, if you set the background color as follows:
- ▶ **background: rgba(255, 0, 0, 0.5);**
 - ▶ the resulting color would be a half-opaque red.
- ▶ Using **RGBA** colors gives you far more options than using only the existing HTML color names.
 - ▶ there are over 140 HTML color names, whereas there are 16,777,216 different RGB colors (256 x 256 x 256) and varying opacities of each.

HSL COLOR

2. HSL (hue, saturation, lightness)

hue :

- ▶ is a color or shade expressed as a value from 0 to 359 representing the degrees on a color wheel (a wheel is 360 degrees).
- ▶ The colors on the wheel progress in the order of the colors of the rainbow—red, orange, yellow, green, blue, indigo and violet.
 - ▶ The value for red, which is at the beginning of the wheel, is 0.
 - ▶ Green hues have values around 120
 - ▶ blue hues have values around 240.
- ▶ For example a hue value of 359, which is just left of 0 on the wheel, would result in a red hue.

HSL-COLOR

Saturation:

- ▶ Is the intensity of the hue
- ▶ It is expressed as a percentage, where 100% is fully saturated (the full color) and 0% is gray.

Lightness:

- ▶ the intensity of light or luminance of the hue
- ▶ is also expressed as a percentage. A lightness of 50% is the actual hue.
- ▶ If you *decrease* the amount of light to 0%, the color appears completely dark (black).
- ▶ If you *increase* the amount of light to 100%, the color appears completely light (white).

HSL-COLOR

3. HSLA (hue, saturation, lightness,alpha)

- ▶ if you wanted to use an hsla value to get the same color red as in our example of an rgba value, you would set the background property as follows:

background: hsla(0, 100%, 50%, 0.5);

- ▶ The resulting color would be a half-opaque red.
- ▶ An excellent tool that allows you to pick colors from a color wheel to find the corresponding RGB and HSL values is available at:

<http://www.workwithcolor.com/hsl-color-schemer-01.htm>

BOX SHADOW

we add the **box-shadow** property with four values(Listing-7.9---line# 8 and line#16) for two boxes:

1. Horizontal offset of the shadow :

- ▶ the number of pixels that the box-shadow will appear to the left or the right of the box.
 - ▶ A positive value moves the box-shadow to the right
 - ▶ A negative value moves the box-shadow to the left

2. Vertical offset of the shadow:

- ▶ the number of pixels the box-shadow will be shifted up or down from the box.
 - ▶ A positive value moves the box-shadow down.
 - ▶ A negative value moves the box-shadow up.

BOX SHADOW

3. Blur radius—A blur-radius of 0px would result in a shadow with a sharp edge (no blur).

- ▶ The greater the value, the more the edges of the shadow are blurred. We used a blur radius of 10px.

4. Color—the box-shadow's color (in this case, dimgrey).

BOX SHADOW

```
1  <!DOCTYPE html>
2  <html>
3  <head><title>Box Shadow</title>
4    <style>
5      div {  width: 200px;
6             height: 200px;
7             background-color: plum;
8             box-shadow: 25px 25px 50px dimgrey;
9             float: left;
10            margin-right: 120px;
11            margin-top: 40px;
12          }
13      #box2 {  width: 200px;
14             height: 200px;
15             background-color: plum;
16             box-shadow: -25px -25px 50px dimgrey;
17          }
18      h2 {  text-align: center; }
19    </style>
20  </head>
21  <body>
22    <div><h2>Box Shadow Bottom and Right</h2></div>
23
24    <div id = "box2"><h2>Box Shadow Top and Left</h2></div>
25  </body>
26  </html>
```

Listing-7.10-BoxShadow.html

BOX SHADOW

