

23CSCI03P

Web Programming

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Chapter 6

More CSS Basics

Key Concepts

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Learning Outcomes

- Configure **text** typeface, size, weight, and style with CSS
- **Align** and **indent** text with CSS
- **Describe** and **apply** the **CSS Box Model**
- Configure **width** and **height** with CSS
- Configure **margin**, **border**, and **padding** with CSS
- **Center** web page content with CSS
- Apply **shadows** with CSS3
- Configure **rounded corners** with CSS3
- Configure **background images** with CSS3
- Configure **opacity**, **RGBA** color, **HSLA** color and **gradients** with CSS3

Configure Typeface with CSS

- **font-family** property
 - Configures the font typeface of the text
 - Include a generic family name

```
p { font-family: Verdana, Arial, sans-serif; }
```

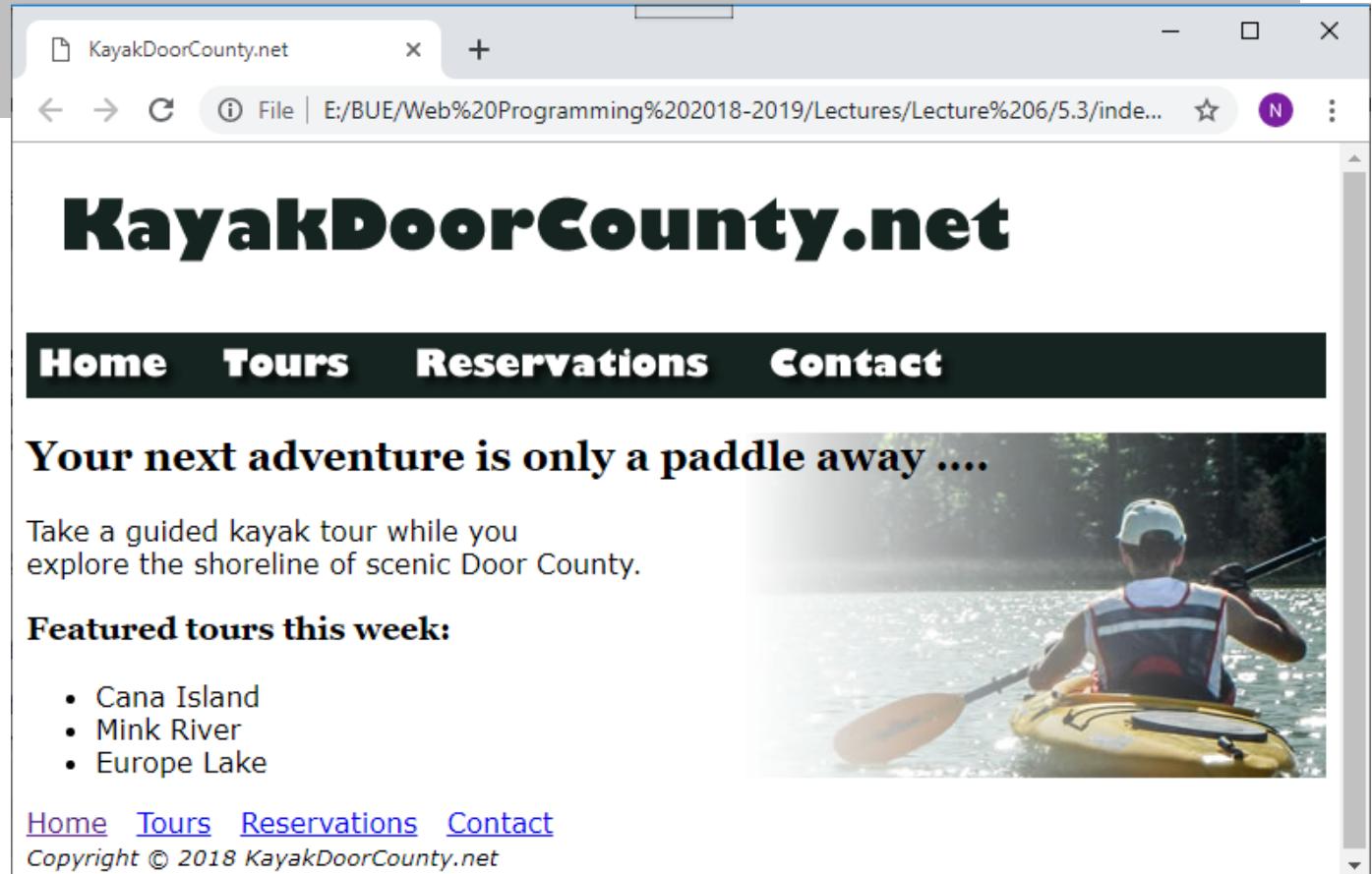
Configure Typeface with CSS

Font Family

Category	Font Family Description	Font Typeface Examples
serif	Serif fonts have small embellishments on the end of letter strokes; often used for headings.	Times New Roman, Georgia, Palatino
sans-serif	Sans-serif fonts do not have serifs; often used for web page text.	Arial, Tahoma, Helvetica, Verdana
monospace	Fixed-width font; often used for code samples.	Courier New, Lucida Console
cursive	Hand-written style; use with caution; may be difficult to read on a web page.	<i>Lucida Handwriting, Brush Script, Comic Sans MS</i>
fantasy	Exaggerated style; use with caution; sometimes used for headings; may be difficult to read on a web page.	Jokerman, Impact, Papyrus

Font Family Example

```
<style>  
body {font-family: Verdana, Arial, sans-serif;}  
h2,h3 {font-family: Georgia, "Times New Roman", serif;}  
</style>
```



The screenshot shows a web browser window titled "KayakDoorCounty.net". The page content includes a main title "KayakDoorCounty.net" in a large, bold, dark font, followed by a navigation bar with links for "Home", "Tours", "Reservations", and "Contact". Below the navigation bar is a headline "Your next adventure is only a paddle away" and a descriptive text about guided kayak tours. To the right of the text is a photograph of a person in a yellow kayak on a body of water. At the bottom of the page, there is a footer with links for "Home", "Tours", "Reservations", and "Contact", along with a copyright notice.

```
File | E:/BUE/Web%20Programming%202018-2019/Lectures/Lecture%206/5.3/inde...  
KayakDoorCounty.net  
Home Tours Reservations Contact  
Your next adventure is only a paddle away ....  
Take a guided kayak tour while you  
explore the shoreline of scenic Door County.  
Featured tours this week:

- Cana Island
- Mink River
- Europe Lake

Home Tours Reservations Contact  
Copyright © 2018 KayakDoorCounty.net
```

Configure Text Size, Weight, and Style with CSS

- **font-size property**
 - Configures the **size** of the **text**
- **font-weight property**
 - Configures the **boldness** of **text**
- **font-style property**
 - Configures the **style** of the **text**
- **line-height property**
 - Modifies the height of a line of text

```
p { font-size: 90%; }
```

```
li { font-weight: bold; }
```

```
#footer { font-style: italic; }
```

```
p { line-height: 120%; }
```

The font-size Property

Text Values	Em Units	Px Units	Pt Units	Percentage
xx-small	.5 em	8 px	6 pt	50%
x-small	.60 em	11 px	8 pt	60%
small	.75 em	13 px	10 pt	75%
medium	1 em	16 px	12 pt	100%
large	1.15 em	18 px	13.5 pt	110%
x-large	1.5 em	24 px	18 pt	150%
xx-large	2 em	30 px	24 pt	200%

- Accessibility Recommendation:
 - Use em or percentage font sizes – these can be easily enlarged in all browsers by users

Align and Indent Text with CSS

- **text-transform property:** Configures the **capitalization** of text

```
h1 { text-transform: uppercase; }
```

- **text-align property:** Configures the alignment of text

```
h1 { text-align: center; }
```

- **text-indent property:** Configures the indentation of the **first line** of text in an element

```
p { text-indent: 5em; }
```

- **text-decoration property:** modify the display of text. (none, underline, overline and line-through)

```
a { text-decoration: none; }
```

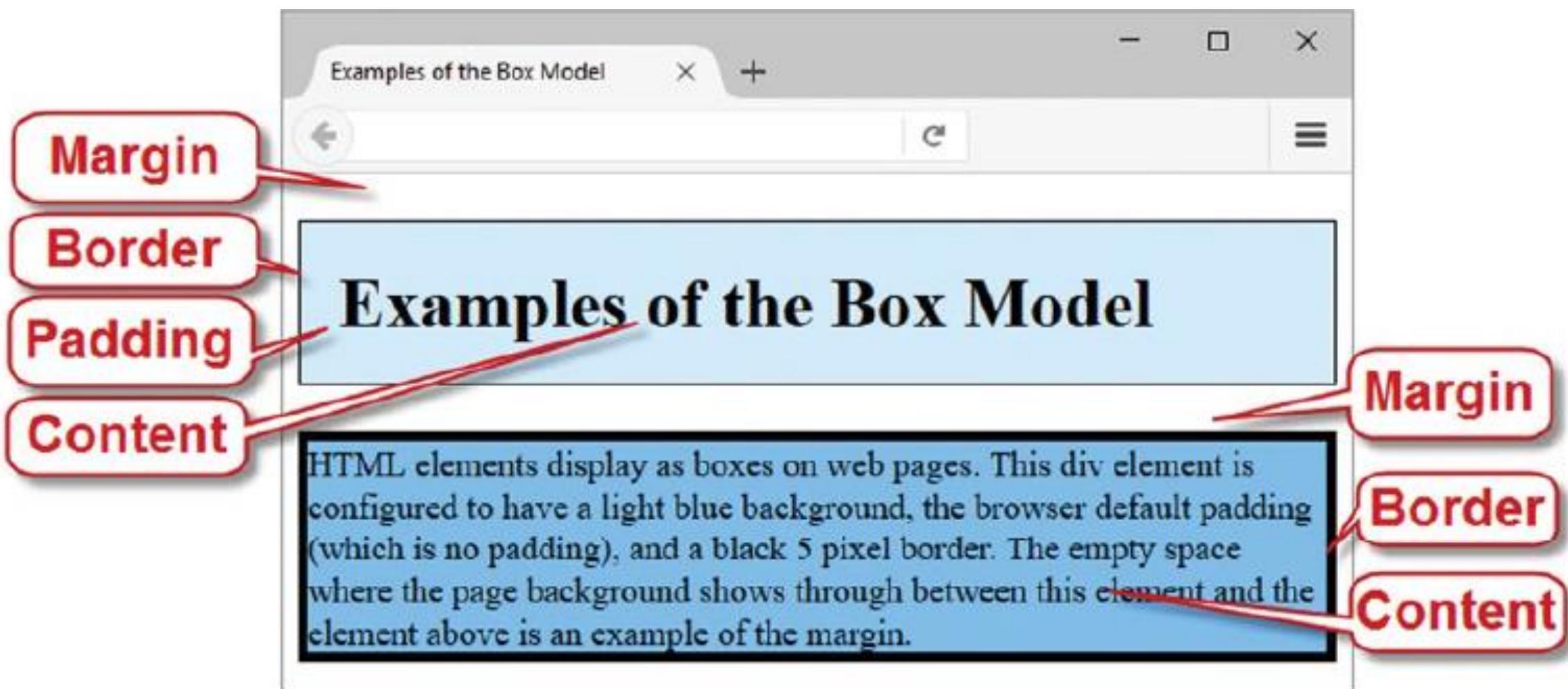
The Box Model

Each element in a document is considered to be a **rectangular box**. This box consists of :

- Content
 - Text & web page elements in the container
- Padding
 - Area between the content and the border
- Border
 - Between the padding and the margin
- Margin
 - Determines the empty space between the element and adjacent elements



The Box Model



Configure Margin with CSS

- The margin property:

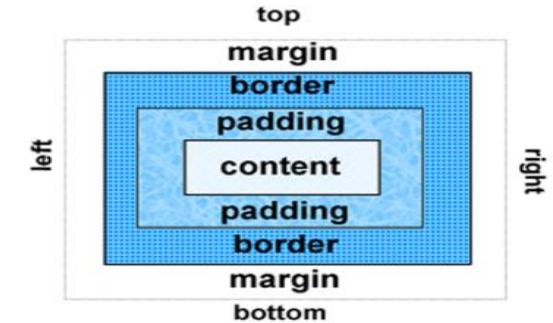
Configures **empty space between the element and adjacent elements**

- Related properties:

- margin-top, margin-right, margin-left, margin-bottom

- Syntax examples

```
h1 { margin: 0; }
h1 { margin: 20px 10px; }
h1 { margin: 10px 30px 20px; }
h1 { margin: 20px 30px 0 30px; }
```



Top and bottom, left and right
Top, left and right, bottom
Top->right->bottom->left

Configure Padding with CSS

- The padding property
Configures empty space between the **content of the HTML element (such as text) and the **border****
- Related properties:
 - padding-top, padding-right, padding-left, padding-bottom
- Syntax examples

```
h1 { padding: 0; }
```

```
h1 { padding : 20px 10px; }
```

```
h1 { padding : 10px 30px 20px; }
```

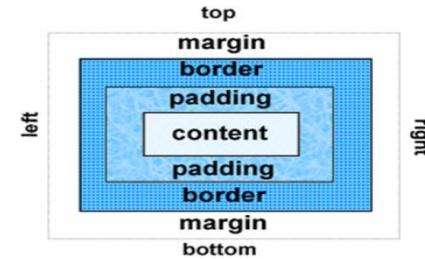
```
h1 { padding : 20px 30px 0 30px; }
```

Top and bottom, left and right
Top, left and right, bottom
Top->right->bottom->left



The CSS border Property

- Configures a border on the top, right, bottom, and left sides of an element
- Consists of
 - border-width
 - border-style
 - border-color



```
h2 { border: 2px solid #ff0000 }
```

Heading with Border

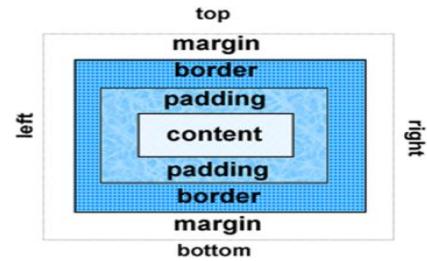
Browser Display Can Vary

CSS border-style Values

Firefox	Internet Explorer
default	none
inset	outset
double	groove
ridge	solid
dashed	dotted

Configuring Specific Sides of a Border

- Use CSS to **configure a line on one or more sides** of an element
 - border-bottom
 - border-left
 - border-right
 - border-top

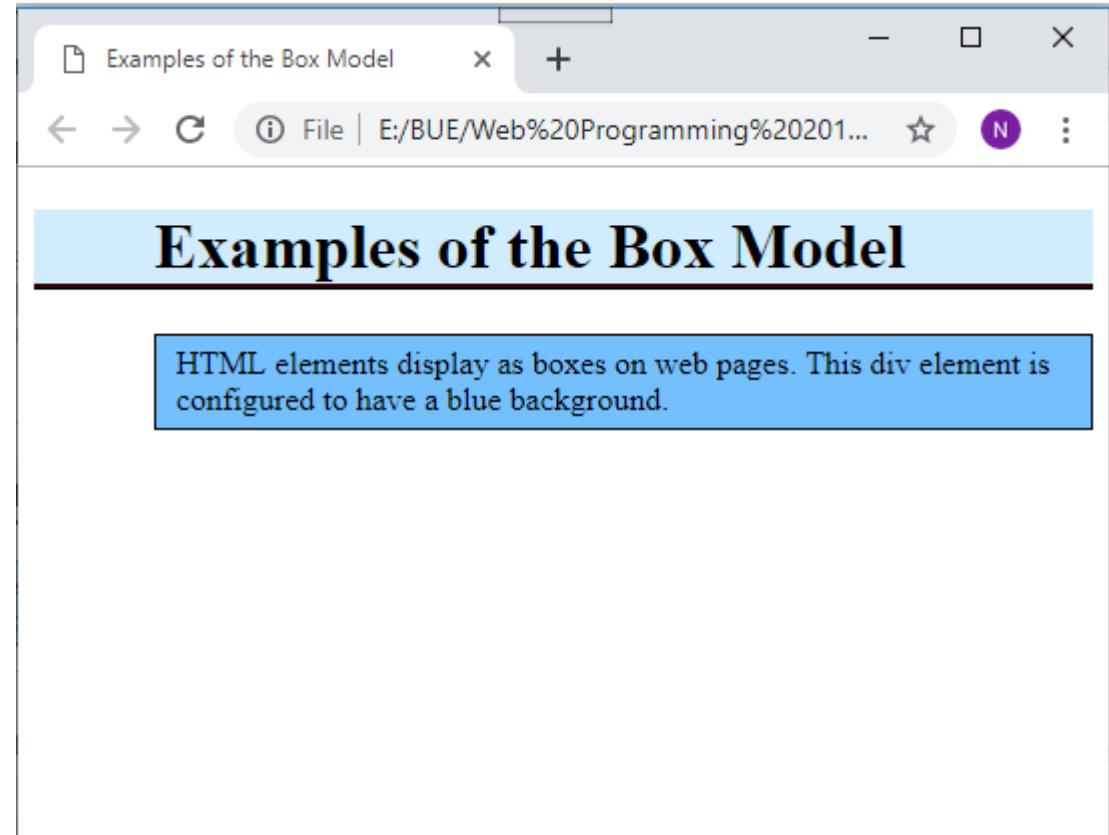


```
h2 { border-bottom: 2px solid #ff0000 }
```

Heading with Border

Example

```
<style>
body { background-color: #FFFFFF;
}
h1 { background-color: #D1ECFF;
    padding-left: 60px;
    border-bottom: 3px ridge #330000;}
#box { background-color: #74C0FF;
    margin-left: 60px;
    padding: 5px 10px;
    border: 1px solid #000000;
}
</style>
```



CSS3 Rounded Corners

- border-radius property
- Example:

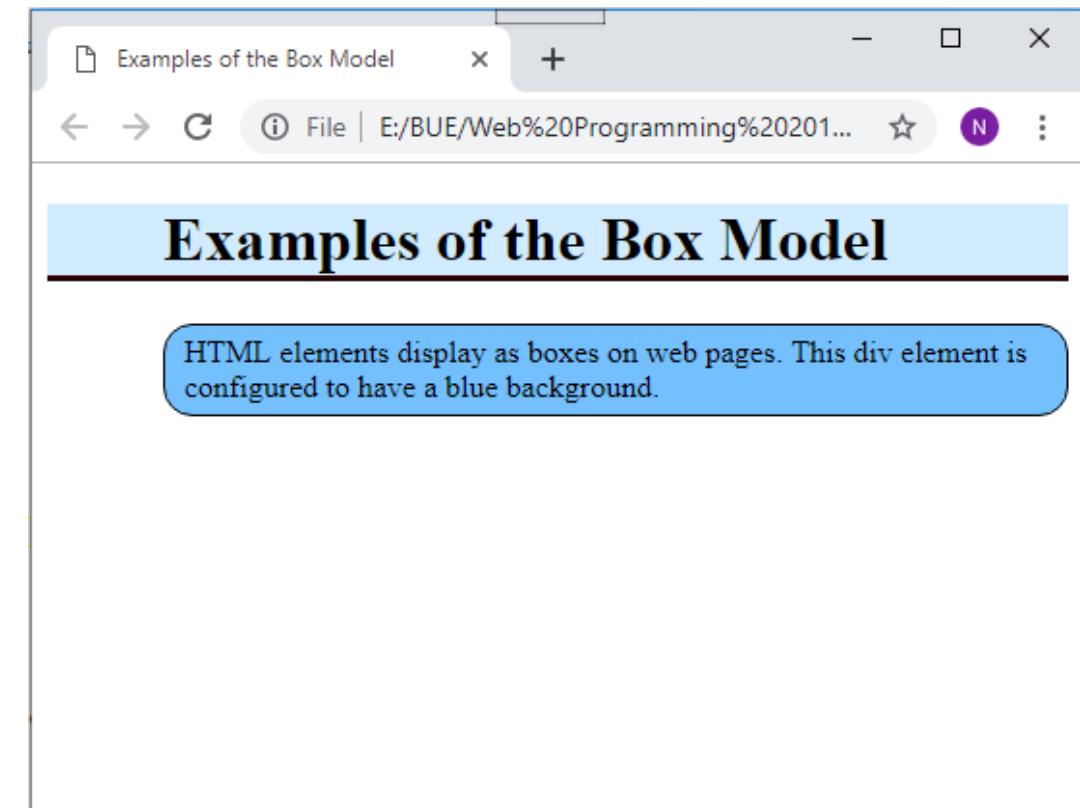
```
h1 { border: 1px solid #000033;  
      border-radius: 15px; }
```

Border-bottom-left-radius

Border-bottom-right-radius

Border-top-left-radius

Border-bottom-right-radius



- single value: configures all four corners.

four values: top left -> top right -> bottom right -> bottom left.

Configure Width and Height with CSS

- width property
 - Configures the width of an element's content
- min-width property: Configures minimum width of an element
- max-width property: Configures the maximum width of an element
- height property
 - Configures the height of an element

```
h1 { width: 80%; }
```

```
h1 { height: 100px; }
```

Min-width property



Without min-width property



With min-width property

Centering Page Content with CSS

```
#container{ margin-left: auto;  
margin-right:auto;  
width:80%;  
min-width:750px;}
```

```
<body>  
<div id="container">  
.....  
</div>  
</body>
```

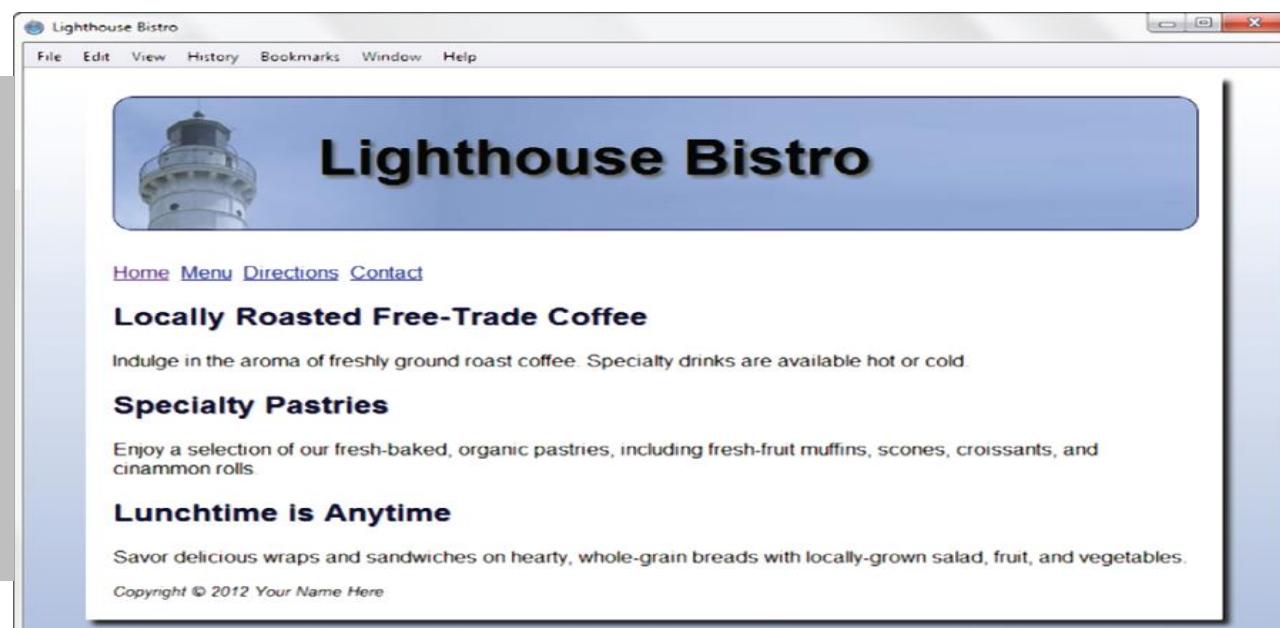


CSS3 box-shadow Property

- Configure the horizontal offset, vertical offset, blur radius, and valid color value
- Example: `#wrapper { box-shadow: 5px 5px 5px #828282; }`

Note: Optional keyword: inset (inner shadow)

```
#container { margin:auto;  
width: 850px;  
padding: 0 20px 10px;  
background-color: #FFFFFF;  
box-shadow: 5px 5px 5px #1e1e1e;  
}
```



CSS3 box-shadow Property

- Configure the horizontal offset, vertical offset, blur radius, and valid color value
- Example: `#wrapper { box-shadow: 5px 5px 5px #828282; }`
- Horizontal Offset: numeric pixel value. Positive value -> shadow on the right.
Negative value -> shadow on the left.
- Vertical Offset: numeric pixel value. Positive value -> shadow below.
Negative value -> shadow above.
- Blur radius: numeric pixel value. If omitted , defaults to the value 0 which configures a sharp shadow.
Higher values configure more blur
- Color value: configure a valid color value for the shadow.



CSS3 text-shadow Property

- Configure the horizontal offset, vertical offset, blur radius, and valid color value
- Example: #wrapper { text-shadow: 3px 3px 3px #666; }

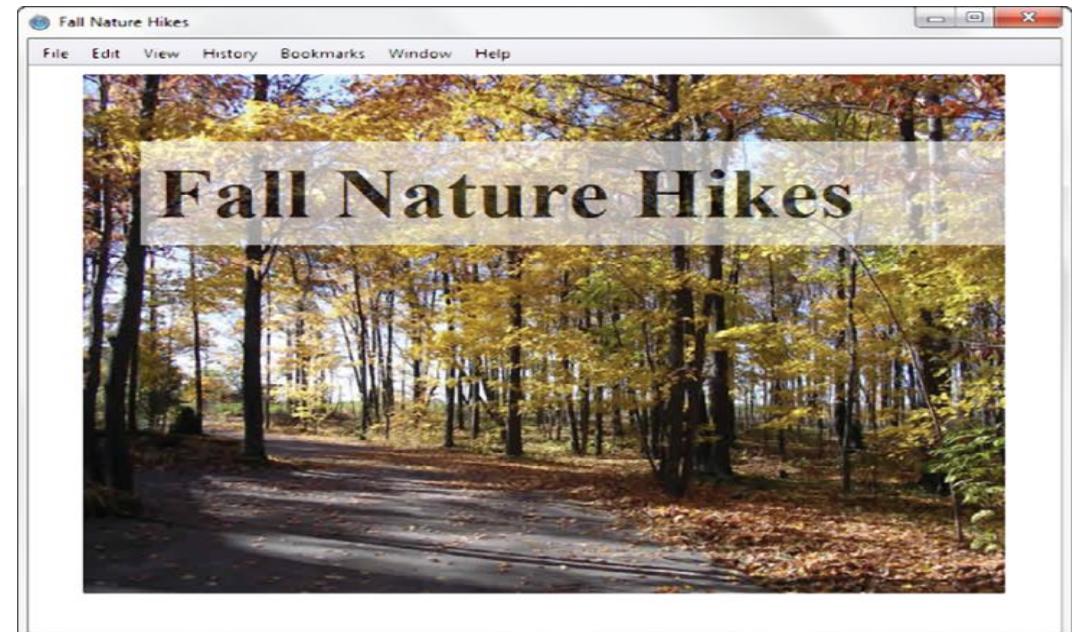
```
h1 { background-image:  
    .  
    .  
    .  
    border-radius: 15px;  
text-shadow: 3px 3px 3px #666;  
}
```



CSS3 Opacity Property

- Configure the **opacity** of the **background** color
- Opacity range:
 - 0 Completely Transparent
 - 1 Completely Opaque
- Applied to both text and background.
- Example:

```
h1{ background-color: #FFFFFF;  
    opacity: 0.6; }
```



RGBA Color

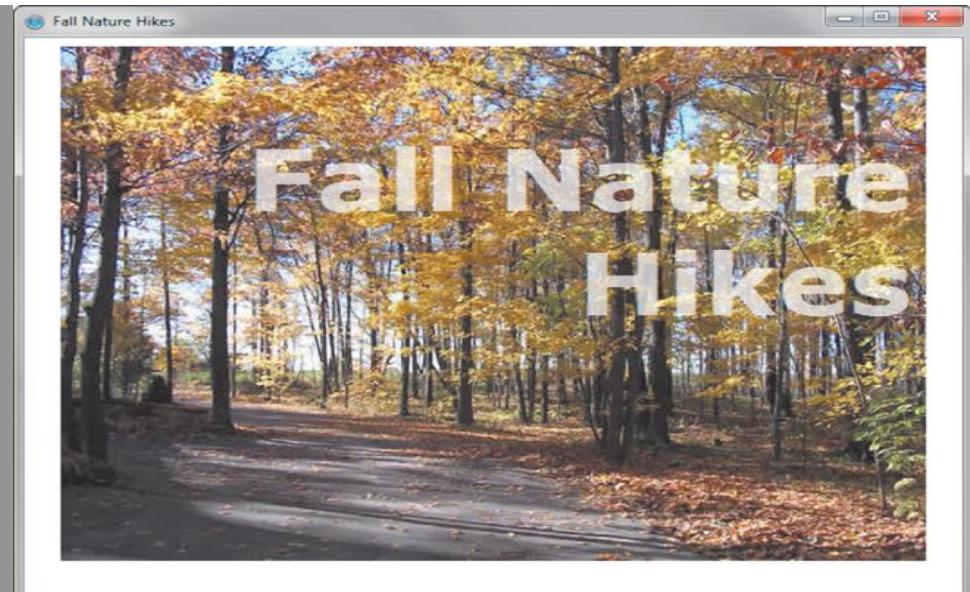
Four values are required:

- red color, green color, blue color, and alpha(transparency)
 - The values for red, green, and blue must be decimal values from 0 to 255.
 - The alpha value must be a number between 0 (transparent) and 1 (opaque).

Example:

```
h1 { color: #ffffff;  
     color: rgba(255, 255, 255, 0.7);  
     font-size: 5em; padding-right: 10px;  
     text-align: right;  
     font-family: Verdana, Helvetica, sans-serif;  
 }
```

#FFFFFF rgb (255, 255, 255)	#FFFFCC rgb(255, 255, 204)	#FFFF99 rgb(255,255,153)	#FFFF66 rgb(255,255,102)
#FFFF33 rgb(255,255,51)	#FFFF00 rgb(255,255,0)	#FFCCFF rgb(255, 204, 255)	#FFCCCC rgb(255,204,204)
#FFCC99 rgb(255,204,153)	#FFCC66 rgb(255,204,102)	#FFCC33 rgb(255,204,51)	#FFCC00 rgb(255,204,0)
#FF99FF rgb(255,153,255)	#FF99CC rgb(255,153,204)	#FF9999 rgb(255,153,153)	#FF9966 rgb(255,153,102)



HSLA Color

hue, saturation, light, alpha

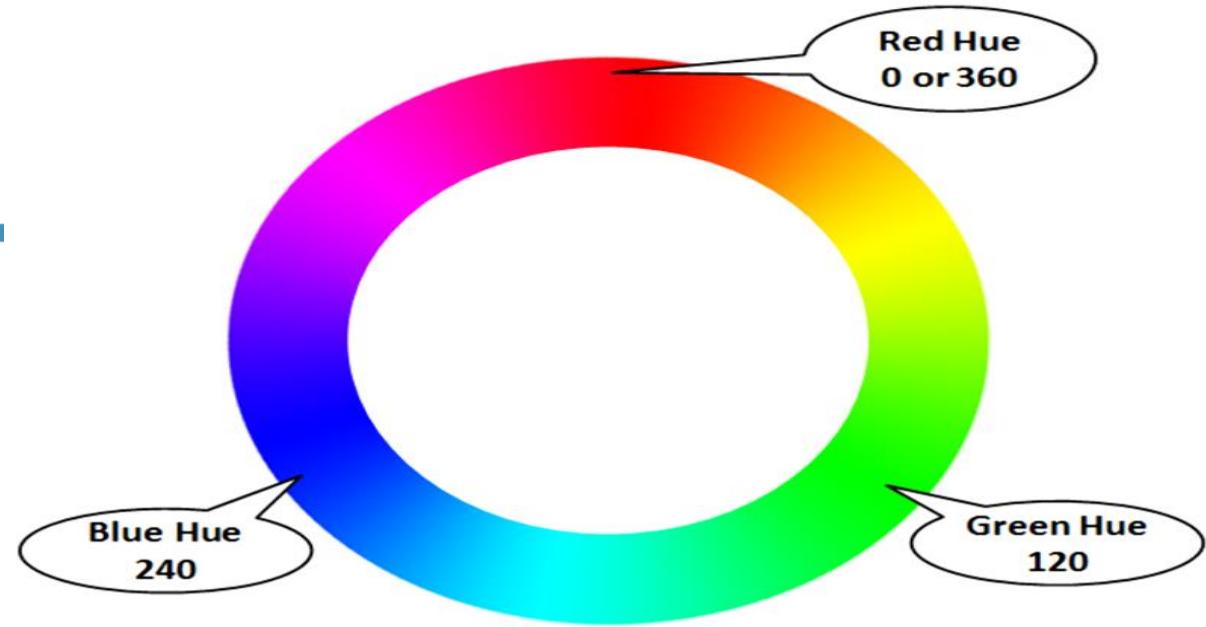
- Hue is a value between 0 and 360
- Saturation: percent
- Lightness: percent
- Optional alpha: from 0 to 1

Shades of cyan blue.

```
hsla(210, 100%, 25%, 1.0);
```

```
hsla(210, 100%, 50%, 1.0);
```

```
hsla(210, 100%, 75%, 1.0);
```



Red
`hsla(360, 100%, 50%, 1.0);`

Green
`hsla(120, 100%, 50%, 1.0);`

Blue
`hsla(240, 100%, 50%, 1.0);`

Black
`hsla(0, 0%, 0%, 1.0);`

Gray
`hsla(0, 0%, 50%, 1.0);`

White
`hsla(0, 0%, 100%, 1.0);`

CSS3 Gradients

- Gradient: a smooth blending of shades from one color to another
- Use the background-image property
 - linear-gradient()
 - radial-gradient()
- Example:

Background-image: linear-gradient(to bottom, #FFFFFF, #00FF00);

Background-image: radial-gradient(#FFFFFF, #00FF00);

Summary

- This chapter expanded your CSS skillset.
- You configured text with CSS properties.
- You were introduced to the box model.
- You configured CSS properties related to the box model, such as margin, border, padding, and width.
- You centered a web page using CSS.
- You explored new CSS3 properties including: border-radius, box-shadow, text-shadow, opacity.

Chapter 9

Table Basics

Key Concepts

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Learning Outcomes

- Describe the recommended use of a table on a web page
- Configure a basic table with the table, table row, table header, and table cell elements.
- Configure a table to provide for accessibility

HTML Table

- Tables are used on web pages to **organize tabular information**
- Composed of **rows** and **columns** – similar to a spreadsheet.
- Each individual **table cell** is at the **intersection** of a **specific row and column**.
- Configured with **table**, **tr**, and **td** elements

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

HTML Table Elements

- <table> Contains the **table**

- <tr> Contains a **table row**

- <td> Contains a **table cell**

- <th> Contains a **table header cell**

- <caption> Configures a **description** of the table

Bird Sightings	
Name	Date
Bobolink	5/25/10
Upland Sandpiper	6/03/10

HTML Table Example

```
<table border="1">
<caption>Birthday List</caption>
<tr>
  <td>Name</td>
  <td>Birthday</td>
</tr>
<tr>
  <td>James</td>
  <td>11/08</td>
</tr>
<tr>
  <td>Karen</td>
  <td>4/17</td>
</tr>
<tr>
  <td>Sparky</td>
  <td>11/28</td>
</tr>
</table>
```

Birthday List

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

HTML Table Example 2

```
<table border="1">
<tr>
  <th>Name</th>
  <th>Birthday</th>
</tr>
<tr>
  <td>James</td>
  <td>11/08</td>
</tr>
<tr>
  <td>Karen</td>
  <td>4/17</td>
</tr>
<tr>
  <td>Sparky</td>
  <td>11/28</td>
</tr>
</table>
```

Using the `<th>` Element

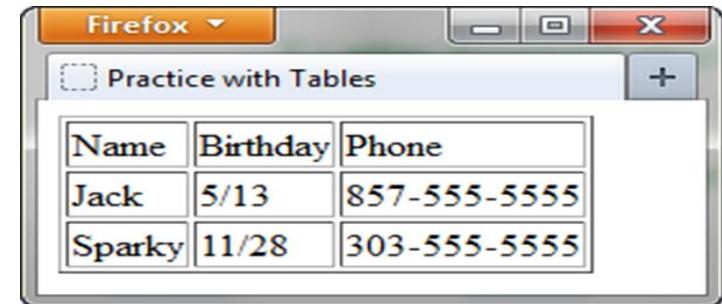
Name	Birthday
James	11/08
Karen	4/17
Sparky	11/28

HTML border Attribute

- Indicates the table is specifically not used for page layout

- Optional
- border="1"

Visible browser default border

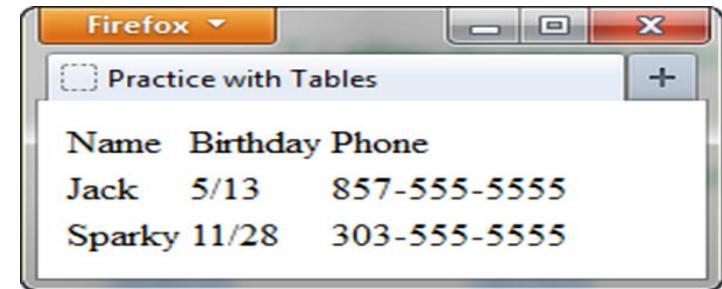


A screenshot of a Firefox browser window titled "Practice with Tables". The window displays a simple table with three columns: Name, Birthday, and Phone. The table has a visible border around its cells. The data in the table is:

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

- border=""

No visible browser default border.



A screenshot of a Firefox browser window titled "Practice with Tables". The window displays the same table as the first screenshot, but with no visible border around its cells. The data in the table is:

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

HTML colspan Attribute

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

Birthday List	
James	11/08
Karen	4/17

HTML rowspan Attribute

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

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

Accessibility and Tables

- Use **table header** elements (`<th>` tags) to indicate column or row headings.
- Use the **summary attribute** on the table element to provide an **overview** of the **purpose** and organization of the table.
- Use the **caption element** to provide the **title/caption** for the table.
- Other attributes that provide for accessibility:
 - headers & id

Accessibility: headers & id Attributes

```
<table border="1">
<caption> Word Schedule</caption>
<tr>
  <th id="day">Day</th>
  <th id="hours">Hours</th>
</tr>
<tr>
  <td headers="day">Monday</td>
  <td headers="hours">4</td>
</tr>
<tr>
  <td headers="day">Tuesday</td>
  <td headers="hours">3</td>
</tr>
<tr>
  <td headers="day">Total</td>
  <td headers="hours">7</td>
</tr>
</table>
```

Work Schedule	
Day	Hours
Monday	4
Tuesday	3
Total	7

Writing Valid HTML

- Check your code for syntax errors
 - Benefit:
 - Valid code → more consistent browser display
- W3C HTML Validation Tool
 - <http://validator.w3.org>
- Additional HTML5 Validation Tool
 - <http://html5.validator.nu>