Unit 2
1.3 Cascade Style Sheets

1.3 Cascading Style Sheets (CSS)

Web style sheets have been around for a number of years, but their power and importance went largely unnoticed since few implementations existed. Today, more and more browsers are implementing style sheets. The advantages of style sheets became apparent, as did the disadvantages of continually creating more HTML tags for presentation effects.

Cascading Style Sheets (CSS) (Latest version is CSS3) is a simple mechanism for adding style (e.g. fonts, colors, spacing) to Web documents. Style sheets can make an author's life much easier. In normal inline styling, one could use **<HR WIDTH="75%" SIZE=5 ALIGN=center>** for every horizontal rule, but this may become very cumbersome for the author. With style sheets, one only needs to specify such presentational preferences once, and the style can be applied to an entire site. And if the author decides that WIDTH="50%" would be better, then he or she only needs to change this preference in one place, rather than having to search through hundreds of pages to change the HTML.

The same technique applies to property elements such as color, background, margin, border, and many more. Not only that, style sheets also reduce download time when one file contains all the style information. With style sheets, authors can use the text-indent property to indent text, rather than resorting to ugly kludges like <DD> or **<IMG SRC="blank.gif" WIDTH=10 ALT="">** that carry with them many negative side-effects. Margins can be suggested without having to put the entire page in a table. Style sheets also reduce the need for multi-file search and replace; if an author decides to change the indentation of all paragraphs on a site, he or she only has to change one line on a style sheet.

With the separation of content and presentation between HTML and style sheets, the Web no longer needs to drift away from the strong ideal of platform independence that provided the medium with its initial push of popularity. Authors can finally influence the presentation of documents without leaving pages unreadable to users.

In short, here are some fact about CSS....
- CSS stands for Cascading Style Sheets
- Styles define how to display HTML elements
- Styles were added to HTML 4.0 to solve a problem
- External Style Sheets can save a lot of work
- External Style Sheets are stored in CSS files

1.3.1 Styles Solved a Big Problem

HTML was never intended to contain tags for formatting a document.

HTML was intended to define the content of a document, like:

<h1>This is a heading</h1>

<p>This is a paragraph.</p>

When tags like <font>, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large web sites, where fonts and color information were added to every single page, became a long and expensive process.

To solve this problem, the World Wide Web Consortium (W3C) created CSS.

In HTML 4.0, all formatting could be removed from the HTML document, and stored in a separate CSS file.

All browsers support CSS today.

1.3.1.1 CSS Saves a Lot of Work!

CSS defines HOW HTML elements are to be displayed.

Styles are normally saved in external .css files. External style sheets enable you to change the appearance and layout of all the pages in a Web site, just by editing one single file!
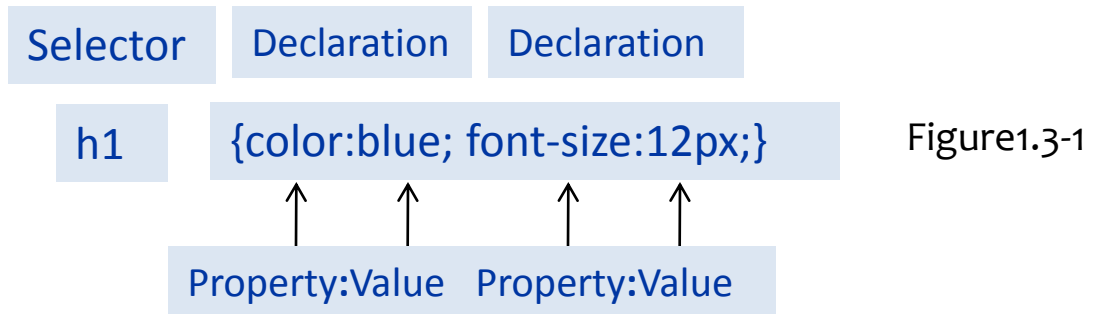
1.3.2 CSS Syntax

1.3.2.1 Selectors and declarations

CSS is rule based. A **CSS rule has two main parts:** a **<u>selector</u>,** and **<u>one or more declarations</u>:**

Selector	Declaration	Declaration
h1	{color:blue; font-size:12px;}	

Property:Value   Property:Value

Figure1.3-1

The selector is normally the HTML element you want to style. Each declaration consists of a property and a value. The property is the style attribute you want to change. Each property has a value.

Quick Example

CSS declarations always ends with a semicolon, and declaration groups are surrounded by curly brackets:

p {color:red;text-align:center}

To make the CSS more readable, you can put one declaration on each line, like this:

```
p
{
  color:red;
  text-align:center;
}
```

1.3.2.2 CSS Comments

Comments are used to explain your code, and may help you when you edit the source code at a later date. Comments are ignored by browsers.

A CSS comment begins with "/*", and ends with "*/", like this:

```
/*This is a comment*/
p
{
 text-align:center;
 /*This is another comment*/
 color:black;
 font-family:arial
}
```

CSS styles also can be placed within a HTML document. Then the CSS styles **MUST go between <head>** and **</head>** and between **<style> </style>** block as shown below:

```
<head>
<style type="text/css">

 /** You insert your style here */

</style>
</head>
```

For CSS the style type must be type="text/css"

1.3.3 The CSS `id` and CSS `class` Selectors

In addition to setting a style for a HTML element, **CSS allows you to specify your own selectors** called **"id"** and **"class".**

1.3.3.1 The `id` Selector

The **id** selector is used to **specify a style for a single, unique element.** The **id** selector uses the i**d** attribute of the HTML element, and is defined with a "#". The style rule below will be applied to the element with id="para1":

```
<html>
<head>
<style type="text/css">
#para1
{
text-align:center;
color:red
}
</style>
</head>

<body>
<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the style.</p>
</body>
</html>
```

Example 1.3-1

Hello World!

This paragraph is not affected by the style.

Figure 1.3-2

1.3.3.1 The `class` Selector

The **class** selector is used to specify a style for a group of elements. Unlike the id selector, the class selector is most often used on several elements. This allows you to set a particular style for any HTML elements with the same class.

The class selector uses the HTML class attribute, and is defined with a "."

In the example below, all HTML elements with class="center" will be center-aligned:

```html
<html>
<head>
<style type="text/css">
.center
{
text-align:center;
}
</style>
</head>

<body>
<h1 class="center">Center-aligned heading</h1>
<p class="center">Center-aligned paragraph.</p>
</body>
</html>
```

Example 1.3-2

Center-aligned heading

Center-aligned paragraph.

Figure 1.3-3

You can **also specify that only specific HTML elements should be affected by a class.**

In the example below**, all p elements with class="center"** will be **center-aligned:**

```
<html>
<head>
<style type="text/css">
p.center
{
text-align:center;
}
</style>
</head>

<body>
<h1 class="center">This heading will not be affected</h1>
<p class="center">This paragraph will be center-aligned.</p>
</body>
</html>
```

Example 1.3-3

This heading will not be affected

This paragraph will be center-aligned.

Figure 1.3-4

1.3.4 Inserting CSS

There are three ways of inserting a style sheet:
• External style sheet   Sample 1   Sample 2
• Internal style sheet
• Inline style

1.3.4.1 External Style Sheet

An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the **<link>** tag. The **<link> tag** goes inside the head section:

<head>
<link rel="stylesheet" type="text/css" href="mystyle.css" />
</head>
/**Note rel = relationship

An external style sheet can be written in any text editor. The file should not contain any html tags. Your style sheet should be saved with a .css extension. An example of a style sheet file is shown below:

hr {color:sienna}
p {margin-left:20px}
body {background-image:url("images/back40.gif")}

** Do not leave spaces between the property value and the units! "margin-left:20 px" (instead of "margin-left:20px") will work in IE, but not in Firefox or Opera.

1.3.4.2 Internal Style Sheet

An internal style sheet should be used when a single document has a unique style. You define internal styles in the head section of an HTML page, by using the <style> tag, like this:

<head>
<style type="text/css">
hr {color:sienna}
p {margin-left:20px}
body {background-image:url("images/back40.gif")}
</style>
</head>

1.3.4.3 Inline Styles

An inline style loses many of the advantages of style sheets by mixing content with presentation. Use this method sparingly!

To use inline styles you use the style attribute in the relevant tag. The style attribute can contain any CSS property. The example shows how to change the color and the left margin of a paragraph:

<p style="color:sienna;margin-left:20px**">**This is a paragraph**.</p>**

1.3.4.4 Multiple Style Sheets

If some properties have been set for the same selector in different style sheets, the values will be inherited from the more specific style sheet.

For example, an **external** style sheet has these properties for the **h3** selector:
h3
{
color:red;
text-align:left;
font-size:8pt
}

and an <u>internal</u> style sheet has these properties for the h3 selector:

```
h3
{
text-align:right;
font-size:20pt
}
```

If the page with the internal style sheet also links to the external style sheet the properties for h3 will be:

```
color:red;
text-align:right;
font-size:20pt
```

The color is inherited from the external style sheet and the text-alignment and the font-size is replaced by the internal style sheet.

1.3.4.5 Multiple Style Sheets Will Cascade into One
Styles can be specified:
• inside an HTML element
• inside the head section of an HTML page
• in an external CSS file

Tip: Even multiple external style sheets can be referenced inside a single HTML document.

1.3.4.6 Cascading order

What style will be used when there is more than one style specified for an HTML element?

Generally speaking we can say that all the styles will "cascade" into a new "virtual" style sheet by the following rules, where number four has the highest priority:

1. Browser default
2. External style sheet
3. Internal style sheet (in the head section)
4. Inline style (inside an HTML element)

So, an inline style (inside an HTML element) has the highest priority, which means that it will override a style defined inside the <head> tag, or in an external style sheet, or in a browser (a default value).

** Note: If the link to the external style sheet is placed after the internal style sheet in HTML <head>, the external style sheet will override the internal style sheet!

1.3.5 CSS Styling - Background

CSS background properties are used to define the background effects of an element.

CSS properties used for background effects:
- **background-color**
- **background-image**
- **background-repeat**
- **background-attachment**
- **background-position**

1.3.5.1 Background Color

The background-color property specifies the background color of an element. The background color of a page is defined in the body selector as follows:

body {background-color:#b0c4de}

```
<html>
<head>
<style type="text/css">
body
{
background-color:#b0c4de;
}
</style>
</head>

<body>

<h1>My CSS web page!</h1>
<p>Hello world! This is a Background Color example.</p>

</body>
</html>
```

Example 1.3-4

My CSS web page!

Hello world! This is a Background Color example.

Figure 1.3-5

The background color can be specified by:

name - a color name, like "red"
RGB - an RGB value, like "rgb(255,0,0)"
Hex - a hex value, like "#ff0000"

In the example below, the h1, p, and div elements have different background colors:

Example
h1 {background-color:#6495ed}
p {background-color:#e0ffff}
div {background-color:#b0c4de}

```
<html>
<head>
<style type="text/css">
h1
{
background-color:#6495ed;
}
p
{
background-color:#e0ffff;
}
div
{
background-color:#b0c4de;
}
</style>
</head>

<body>

<h1>CSS background-color example!</h1>
<div>
This is a text inside a div element.
<p>This paragraph has it's own background
color.</p>
We are still in the div element.
```

Example 1.3-5

CSS background-color example!

This is a text inside a div element.

This paragraph has it's own background color.

We are still in the div element.

Figure 1.3-6

1.3.5.2 Background Image

The background-image property specifies an image to use as the background of an element.

By default, the image is repeated so it covers the entire element.

The background image for a page can be set like this:

body {background-image:url('paper.gif')}

```
<html>
<head>
<style type="text/css">
body {background-image:url('paper.gif')}
</style>
</head>

<body>
<h1>Hello World!</h1>
</body>

</html>
```
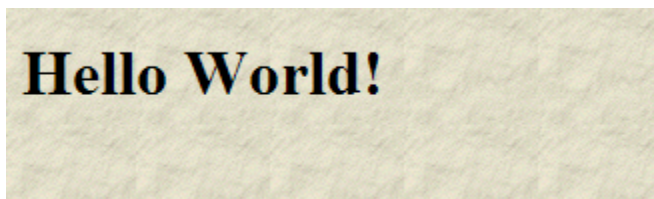
Example 1.3-6

Figure 1.3-7

1.3.6 CSS Styling -Text

1.3.6.1 Text Color

The color property is used to set the color of the text. The color can be specified by:

name - a color name, like "red"
RGB - an RGB value, like "rgb(255,0,0)"
Hex - a hex value, like "#ff0000"

The default color for a page is defined in the body selector.

```
<html>
<head>
<style type="text/css">
body {color:red}
h1 {color:#00ff00}
p.ex {color:rgb(0,0,255)}
</style>
</head>

<body>
<h1>This is heading 1</h1>
<p>This is an ordinary paragraph. Notice that this text is red. The
default text-color for a page is defined in the body selector.</p>
<p class="ex">This is a paragraph with class="ex". This text is
blue.</p>
</body>
</html>
```

Example 1.3-7

This is heading 1

This is an ordinary paragraph. Notice that this text is red. The default text-color for a page is defined in the body selector.

This is a paragraph with class="ex". This text is blue.

Figure 1.3-8

1.3.6.2 Text Alignment

The text-align property is used to set the horizontal alignment of a text.

Text can be centered, or aligned to the left or right, or justified.

When text-align is set to "justify", each line is stretched so that every line has equal width, and the left and right margins are straight (like in magazines and newspapers).

```html
<html>
<head>
<style type="text/css">
h1 {text-align:center}
p.date {text-align:right}
p.main {text-align:justify}
</style>
</head>

<body>
<h1>CSS text-align Example</h1>
<p class="date">January, 2011</p>
<p class="main">In my younger and more vulnerable years my father gave me some advice
that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,'
he told me, just remember that all the people in this world haven't had the advantages that
you've had.'</p>
<p><b>Note:</b> Try to resize the browser window to see how justify works.</p>
</body>

</html>
```

Example 1.3-9

CSS text-align Example

January, 2011

In my younger and more vulnerable years my father gave me some advice
that I've been turning over in my mind ever since. 'Whenever you feel like
criticizing anyone,' he told me, just remember that all the people in this world
haven't had the advantages that you've had.'

Note: Try to resize the browser window to see how justify works.

Figure 1.3-10

1.3.6.3 Text Decoration

The text-decoration property is used to set or remove decorations from text. For example, say to remove underlines from links for design purposes:

Example
a {text-decoration:none}

It can also be used to decorate text as in Example 1.3-10

```
<html>
<head>
<style type="text/css">
h1 {text-decoration:overline}
h2 {text-decoration:line-through}
h3 {text-decoration:underline}
h4 {text-decoration:blink}
</style>
</head>

<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<p><b>Note:</b> The "blink" value is not supported in IE, Chrome, or
Safari.</p>
</body>

</html>
```

Example 1.3-10

This is heading 1

~~This is heading 2~~

<u>This is heading 3</u>

This is heading 4

Note: The "blink" value is not supported in IE, Chrome, or Safari.

Figure 1.3-11

1.3.6.4 Text Transformation

The text-transform property is used to specify uppercase and lowercase letters in a text.

It can be used to turn everything into uppercase or lowercase letters, or capitalize the first letter of each word.

See example 1.21 and Figure 1.22

```html
<html>
<head>
<style type="text/css">
p.uppercase {text-transform:uppercase}
p.lowercase {text-transform:lowercase}
p.capitalize {text-transform:capitalize}
</style>
</head>

<body>
<p class="uppercase">This is some text.</p>
<p class="lowercase">This is some text.</p>
<p class="capitalize">This is some text.</p>
</body>
</html>
```

Example 1.3-11

THIS IS SOME TEXT.

this is some text.

This Is Some Text.

Figure 1.3-12

1.3.6.5 Text Indentation

The text-indentation property is used to specify the indentation of the first line of a text.

See Example 1.22 & Figure 1.23

```html
<html>
<head>
<style type="text/css">
p {text-indent:50px}
</style>
</head>
<body>

<p>In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, just remember that all the people in this world haven't had the advantages that you've had.'</p>

</body>
</html>
```

Example 1.3-12

In my younger and more vulnerable years my father gave me some advice that I've been turning over in my mind ever since. 'Whenever you feel like criticizing anyone,' he told me, just remember that all the people in this world haven't had the advantages that you've had.'

Figure 1.3-13

1.3.7 CSS Styling -Font

1.3.7.1 Font

CSS font properties define the font family, boldness, size, and the style of a text.

Generic fonts such as **Serif** and **San-serif** do have a significant difference. This is depicted in figure 1.24. In computer screens, sans-serif font is considered easier to read than serif font.

Figure 1.3-14

1.3.7.2 CSS Font Families

In CSS, there are two types of font family names:

• generic family - a group of font families with a similar look (like "Serif" or "Monospace")
• font family - a specific font family (like "Times New Roman" or "Arial")

Generic Family	Font Family	Description
Serif	Times New Roman Georgia	Serif fonts have small lines at the ends on some characters
Sans-Serif	Arial Verdana	Sans means without - these fonts do not have the lines at the ends of characters
Monospace	Courier New Lucida Console	All monospace characters has the same width

Figure 1.3-15

1.3.7.3 `font-family` property

The font family of a text is set with the font-family property.

The font-family property should hold several font names as a "fallback" system. If the browser does not support the first font, it tries the next font.

Start with the font you want, and end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available.

Note: If the name of a font family is more than one word, it must be in quotation marks, like font-family: "Times New Roman".

More than one font family is specified in a comma-separated list:

```
<html>
<head>
<style type="text/css">
p.serif{font-family:"Times New Roman", Times, serif}
p.sansserif{font-family:Arial, Helvetica, sans-serif}
</style>
</head>

<body>
<h1>CSS font-family</h1>
<p class="serif">This is a paragraph, shown in the Times New Roman font.</p>
<p class="sansserif">This is a paragraph, shown in the Arial font.</p>

</body>
</html>
```

Example 1.3-12

CSS font-family

This is a paragraph, shown in the Times New Roman font.   Figure 1.3-16

This is a paragraph, shown in the Arial font.

1.3.7.4 `font-style` property

The font-style property is mostly used to specify italic text.

This property has three values:

normal : The text is shown normally

italic : The text is shown in italics

oblique : The text is "leaning" (oblique is very similar to italic, but less supported)

```html
<html>
<head>
<style type="text/css">
p.normal {font-style:normal}
p.italic {font-style:italic}
p.oblique {font-style:oblique}
</style>
</head>

<body>
<p class="normal">This is a paragraph, normal.</p>
<p class="italic">This is a paragraph, italic.</p>
<p class="oblique">This is a paragraph, oblique.</p>
</body>

</html>
```

Example 1.3-13

This is a paragraph, normal.

This is a paragraph, italic.

This is a paragraph, oblique.

Figure 1.3-17

1.3.7.5 `font-size` property

The font-size property sets the size of the text. Being able to manage the text size is important in web design. However, you should not use font size adjustments to make paragraphs look like headings, or headings look like paragraphs. It is advised to use the proper HTML tags, like <h1> - <h6> for headings and <p> for paragraphs.

The **font-size** value can be an **absolute**, or **relative** size.

Absolute size : Sets the text to a specified size. It does not allow a user to change the text size in all browsers (bad for accessibility reasons) . Absolute size is useful when the physical size of the output is known

Relative size: Sets the size relative to surrounding elements . It allows a user to change the text size in browsers . If you do not specify a font size, the default size for normal text, like paragraphs, is 16px (16px=1em).

```
<html>
<head>
<style>
h1 {font-size:40px}
h2 {font-size:30px}
p {font-size:14px}
</style>
</head>
<body>

<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<p>This is a paragraph.</p>
<p>Specifying the font-size in px allows Firefox, Chrome, and Safari to resize the text, but not Internet Explorer.</p>

</body>
</html>
```

This is heading 1

This is heading 2

This is a paragraph.

Specifying the font-size in px allows Firefox, Chrome, and Safari to resize the text, but not Internet Explorer.

Figure1.28

Example 1.3-14

1.3.7.5 `font-size` with em (**em**phemeral unit)

'em' is a unit of measurement and is a very useful unit in CSS. It can adapt automatically to the font that the reader uses to avoid the resizing problems in different browsers. Developers on Internet Explorer use em instead of pixels. The em size unit is recommended by the W3C.

1em is equal to the current font size. The default text size in browsers is 16px. So, the default size of 1em is 16px.

The size can be calculated from pixels to em using this formula:

$$pixels/16 = em$$

In the example 1.26, the text size in em is the same as the previous example in pixels. However, with the em size, it is possible to adjust the text size in all browsers. Unfortunately, there is still a problem with IE. When resizing the text, it becomes larger than it should when made larger, and smaller than it should when made smaller.

```html
<html>
<head>
<style>
h1 {font-size:2.5em} /* 40px/16=2.5em */
h2 {font-size:1.875em} /* 30px/16=1.875em */
p {font-size:0.875em} /* 14px/16=0.875em */
</style>
</head>
<body>

<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<p>This is a paragraph.</p>
<p>Specifying the font-size in em allows Internet Explorer, Firefox, Chrome, and Safari to resize the text.
Unfortunately, there is still a problem with IE. When resizing the text, it becomes larger/smaller than it should.
</p>
</body>
</html>
```

This is heading 1

This is heading 2

This is a paragraph.

Specifying the font-size in em allows Internet Explorer, Firefox, Chrome, and Safari to resize the text. Unfortunately, there is still a problem with IE. When resizing the text, it becomes larger/smaller than it should.

Example 1.3-15

1.3.8 CSS Styling - Links

Links can be styled in different ways with any CSS property (e.g. color, font-family, background-color).

Special for links are that they can be styled differently depending on what state they are in.

The four links states are:

a:link   :a normal, unvisited link
a:visited   :a link the user has visited
a:hover   :a link when the user mouse hovers over it
a:active   :a link the moment it is clicked

```
<html>
<head>
<style type="text/css">
a:link {color:#FF0000}   /* unvisited link */
a:visited {color:#00FF00}/* visited link */
a:hover {color:#FF00FF}  /* mouse over link */
a:active {color:#0000FF} /* selected link */
</style>
</head>

<body>
<p><b><a href="default.asp" target="_blank">This is a link</a></b></p>
<p><b>Note:</b> a:hover MUST come after a:link and a:visited in the CSS
definition in order to be effective.</p>
<p><b>Note:</b> a:active MUST come after a:hover in the CSS definition in
order
to be effective.</p>
</body>
</html>
```

Example 1.3-16

This is a link

Note: a:hover MUST come after a:link and a:visited in the CSS definition in order to be effective.

Figure 1.3-18

Note: a:active MUST come after a:hover in the CSS definition in order to be effective.

1.3.8.1 Common Link Styles – `link, visited, hover, active`

In the example above the link changes color depending on what state it is in.

Lets go through some of the other common ways to style links:

Text Decoration

The text-decoration property is mostly used to remove underlines from links:

```html
<html>
<head>
<style type="text/css">
a:link {text-decoration:none}   /* unvisited link */
a:visited {text-decoration:none} /* visited link */
a:hover {text-decoration:underline}  /* mouse over link */
a:active {text-decoration:underline} /* selected link */
</style>
</head>

<body>
<p><b><a href="default.asp" target="_blank">This is a link</a></b></p>
<p><b>Note:</b> a:hover MUST come after a:link and a:visited in the CSS
definition in order to be effective.</p>
<p><b>Note:</b> a:active MUST come after a:hover in the CSS definition in
order
to be effective.</p>
</body>
</html>
```

Example 1.3-16

This is a link

Note: a:hover MUST come after a:link and a:visited in the CSS definition in order to be effective.

Figure 1.3-19

Note: a:active MUST come after a:hover in the CSS definition in order to be effective.

1.3.8.1 Common Link Styles – `background-color`

The `background-color` property specifies the background color for links:

```html
<html>
<head>
<style type="text/css">
a:link {background-color:#B2FF99;}   /* unvisited link */
a:visited {background-color:#FFFF85;} /* visited link */
a:hover {background-color:#FF704D;}  /* mouse over link */
a:active {background-color:#FF704D;} /* selected link */
</style>
</head>

<body>
<p><b><a href="default.asp" target="_blank">This is a link</a></b></p>
<p><b>Note:</b> a:hover MUST come after a:link and a:visited in the CSS
definition in order to be effective.</p>
<p><b>Note:</b> a:active MUST come after a:hover in the CSS definition in
order
to be effective.</p>
</body>
</html>
```

Example 1.3-17

This is a link

Note: a:hover MUST come after a:link and a:visited in the CSS definition in order to be effective.

Note: a:active MUST come after a:hover in the CSS definition in order to be effective.

Figure 1.3-20

1.3.9 CSS Styling - Lists

The CSS list properties allow you to:

• Set different list item markers for ordered lists
• Set different list item markers for Unordered lists
• Set an image as the list item marker

Lists types:

In HTML, there are two types of lists:

unordered lists : The list items are marked with bullets

ordered lists: The list items are marked with numbers or letters

With CSS, lists can be styled further, and images can be used as the list item marker.

1.3.9.1 Different List Item Markers

The type of list item marker is specified with the list-style-type property:

Some of the property values are for unordered lists, and some for ordered lists. See next section for more details.

```html
<html>
<head>
<style type="text/css">
ul.a {list-style-type:circle;}
ul.b {list-style-type:square;}
ol.c {list-style-type:upper-roman;}
ol.d {list-style-type:lower-alpha;}
</style>
</head>
<body>
<p>Example of unordered lists:</p>
<ul class="a">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Coca Cola</li>
</ul>
<ul class="b">
 <li>Coffee</li>
 <li>Tea</li>
 <li>Coca Cola</li>
</ul>
 <p>Example of ordered lists:</p>
 <ol class="c">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
 </ol>
 <ol class="d">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Coca Cola</li>
 </ol>
</body>
</html>
```

Example 1.3-18

Example of unordered lists:

  o Coffee
  o Tea
  o Coca Cola

  ▪ Coffee
  ▪ Tea
  ▪ Coca Cola

Example of ordered lists:

  I.   Coffee
  II.   Tea
 III. Coca Cola

  a. Coffee
  b. Tea
  c. Coca Cola

Figure 1.3-21

1.3.9.2 Values for Lists

Values for Ordered Lists :

Value	Description
none	No marker
disc	Default. The marker is a filled circle
circle	The marker is a circle
square	The marker is a square

Figure 1.3-22

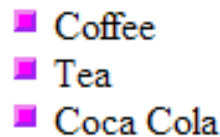| Value	Description
armenian	The marker is traditional Armenian numbering
decimal	The marker is a number
decimal-leading-zero	The marker is a number padded by initial zeros (01, 02, 03, etc.)
georgian	The marker is traditional Georgian numbering (an, ban, gan, etc.)
lower-alpha	The marker is lower-alpha (a, b, c, d, e, etc.)
lower-greek	The marker is lower-greek (alpha, beta, gamma, etc.)
lower-latin	The marker is lower-latin (a, b, c, d, e, etc.)
lower-roman	The marker is lower-roman (i, ii, iii, iv, v, etc.)
upper-alpha	The marker is upper-alpha (A, B, C, D, E, etc.)
upper-latin	The marker is upper-latin (A, B, C, D, E, etc.)
upper-roman	The marker is upper-roman (I, II, III, IV, V, etc.)

Figure 1.3-23

1.3.9.3 Image as Lists Item Marker

To specify an image as the list item marker, use the list-style-image property:

The example above does not display equally in all browsers. IE and Opera will display the image-marker a little bit higher than Firefox, Chrome, and Safari.

If you want the image-marker to be placed equally in all browsers, a cross browser solution is explained below.

```
<html>
<head>
<style type="text/css">
ul
{
list-style-image:url('sqpurple.gif');
}
</style>
</head>
<body>
<ul>
<li>Coffee</li>
<li>Tea</li>
<li>Coca Cola</li>
</ul>
</body>
</html>
```

■ Coffee
■ Tea
■ Coca Cola

Figure 1.3-24

Example 1.3-19

1.3.9.4 Cross Browser Solution

The example 1.31 displays the `image-marker` equally in all browsers:

Tips to remember..

For ul:

-Set the **list-style-type** to **none** to remove the list item marker

-Set both padding and margin to 0px (for cross-browser compatibility)

For li:

-Set the URL of the image, and show it only once (no-repeat)

-Position the image where you want it (left **0px** and down **5px**)

-Position the text in the list with padding-left

```html
<html>
<head>
<style type="text/css">
ul
{
list-style-type:none;
padding:0px;
margin:0px;
}
li
{
background-image:url(sqpurple.gif);
background-repeat:no-repeat;
background-position:0px 5px;
padding-left:14px;
}
</style>
</head>

<body>
<ul>
<li>Coffee</li>
<li>Tea</li>
<li>Coca Cola</li>
</ul>
```

Example 1.31

■ Coffee
■ Tea
■ Coca Cola

Figure 1.37

1.3.9.5 `list-style` (or List Shorthand) property

It is also possible to specify **all the list properties in one**, single property. This is called a shorthand property.

The shorthand property used for lists, is the `list-style` property:

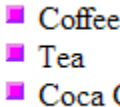When using the shorthand property, the order of the values are:

- `list-style-type`
- `list-style-position` (descriptions are in table in figure 1.39)
- `list-style-image`

It does not matter if one of the values above are missing, as long as the rest are in the specified order.

```
<html>
<head>
<style type="text/css">
ul
{
list-style:square url("sqpurple.gif");
}
</style>
</head>

<body>
<ul>
<li>Coffee</li>
<li>Tea</li>
<li>Coca Cola</li>
</ul>
</body>
</html>
```


Coffee
Tea
Coca Cola

                Example 1.32   Figure 1.38

1.3.9.6 CSS properties

The number in the "CSS" column indicates in which CSS version the property is defined (CSS1 or CSS2).

Property	Description	Values	CSS
list-style	Sets all the properties for a list in one declaration	*list-style-type* *list-style-position* *list-style-image* inherit	1
list-style-image	Specifies an image as the list-item marker	URL none inherit	1
list-style-position	Specifies if the list-item markers should appear inside or outside the content flow	inside outside inherit	1
list-style-type	Specifies the type of list-item marker	none disc circle square decimal decimal-leading-zero armenian georgian lower-alpha upper-alpha lower-greek lower-latin upper-latin lower-roman upper-roman inherit	1

Figure 1.39

1.3.10 CSS Styling – Tables

The look of an HTML table can be greatly improved with CSS. The Figure 1.40 shows a table made using CSS properties.

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Berglunds snabbköp	Christina Berglund	Sweden
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Königlich Essen	Philip Cramer	Germany
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy
North/South	Simon Crowther	UK
Paris spécialités	Marie Bertrand	France
The Big Cheese	Liz Nixon	USA
Vaffeljernet	Palle Ibsen	Denmark

Figure 1.40

1.3.10.1 Table Borders – `border` property

To specify table borders in CSS, use the border property.

The example below specifies a black border for table, th, and td elements:

Example
table, th, td
{
border: 1px solid black;
}

Notice that the table in the example above **has double borders** (See figure 1.41). This is because both the **table, th,** and **td** elements have separate borders.

To display a single border for the table, use the **border-collapse** property.

```
<html>
<head>
<style type="text/css">
table,th,td
{
border:1px solid black;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
</tr>
</table>
</body>
</html>
```

Example 1.33

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Figure 1.41

1.3.10.2 Collapse Borders - `border-collapse` property
The border-collapse property sets whether the table borders are collapsed into a single border or separated:

Example
table
{
border-collapse:collapse;
}
table,th, td
{
border: 1px solid black;
}

The Example 1.34 shown below produces a table with single border around it as shown in figure 1.42

```
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html>
<head>
<style type="text/css">
table
{
border-collapse:collapse;
}
table, td, th
{
border:1px solid black;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
</tr>
</table>
<p><b>Note:</b> If a !DOCTYPE is not specified, the border-collapse property can
produce unexpected results.</p>
</body>
</
```

Example 1.34

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Figure 1.42

Note: If a !DOCTYPE is not specified, the border-collapse property can produce unexpected results.

1.3.10.3 Table `Width` and `Height` properties
Width and height of a table is defined by the width and height properties.

The example below sets the width of the table to 100%, and the height of the **th** elements to 50px:

table
{
width:100%;
}
th
{
height:50px;
}

The Example 1.35 shown in the next slide produces the following table (figure 1.43)

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Figure 1.43

```html
<html>
<head>
<style type="text/css">
table,td,th
{
border:1px solid black;
}
table
{
width:100%;
}
th
{
height:50px;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th class="savings">Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>
</body>
</html>
```

Example 1.35

1.3.10.4 Table Text Alignment – `text-align` property

The text in a table is aligned with the text-align and vertical-align properties.

The text-align property sets the horizontal alignment, like left, right, or center:

Example
**td
{
text-align:right;
}**

The Example 1.36 shown in the next slide produces the following table (figure 1.44)

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Figure 1.44

```html
<html>
<head>
<style type="text/css">
table,td,th
{
border:1px solid black;
}
td
{
text-align:right;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>
</body>
</html>
```

Example 1.36

1.3.10.4 Table Text Alignment – `vertical-align` property

The `vertical-align` property sets the vertical alignment, like **top**, **bottom**, or **middle**:

Example

td
{
height:50px;
vertical-align:bottom;
}

The Example 1.37 shown in the next slide produces the following table (figure 1.45)

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Figure 1.45

```html
<html>
<head>
<style type="text/css">
table, td, th
{
border:1px solid black;
}
td
{
height:50px;
vertical-align:bottom;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>
</body>
</html>
```

Example 1.37

1.3.10.5 Table `padding` property

To control the space between the border and content in a table, use the `padding` property on `td` and `th` elements:

```
td
{
padding:15px;
}
```

The Example 1.38 shown in the next slide produces the following table (figure 1.46)

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Figure 1.46

```html
<html>
<head>
<style type="text/css">
table, td, th
{
border:1px solid black;
}
td
{
padding:15px;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>
</body>
</html>
```

Example 1.38

1.3.10.6 Table Colors – Border Colors and `background-color` property

The example below specifies the color of the borders, and the text and background color of **th** elements. The colors of the border s as attached to the `border` property, and the back ground color of a table is set using the `background-color` property.

```
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
```

The Example 1.39 shown in the next slide produces the following table (figure 1.47)

Firstname	Lastname	Savings
Peter	Griffin	$100
Lois	Griffin	$150
Joe	Swanson	$300
Cleveland	Brown	$250

Figure 1.47

```html
<html>
<head>
<style type="text/css">
table, td, th
{
border:1px solid green;
}
th
{
background-color:green;
color:white;
}
</style>
</head>

<body>
<table>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Savings</th>
</tr>
<tr>
<td>Peter</td>
<td>Griffin</td>
<td>$100</td>
</tr>
<tr>
<td>Lois</td>
<td>Griffin</td>
<td>$150</td>
</tr>
<tr>
<td>Joe</td>
<td>Swanson</td>
<td>$300</td>
</tr>
<tr>
<td>Cleveland</td>
<td>Brown</td>
<td>$250</td>
</tr>
</table>
</body>
</html>
```

Example 1.39