

4. CSS Tutorial I

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“본 서비스는 교수/학생이 원격수업 목적으로 이용하고 있는 서비스입니다.”

CSS Tutorial

- CSS is a language that describes the style of an HTML document
- CSS describes how HTML elements should be displayed.

❏ Examples in Each Chapter *Try it!*

❏ *CSS Examples*

❏ *CSS Templates*

- We have created some responsive w3.CSS templates for you to use

❏ *CSS Exercises* and *Quiz Test*

CSS Introduction

❏ What is CSS?

- ❏ Stands for **Cascading Style Sheets**
- ❏ Describes **how HTML elements are to be displayed on screen, paper, or in other media**
- ❏ **CSS saves a lot of work.** It can control the layout of multiple web pages all at once
- ❏ External stylesheets are stored in **CSS files**

❏ CSS Demo – One page – Multiple Styles!

❏ Why Use CSS? Try it!

- ❏ Is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes

CSS Introduction (cont'd)

❏ CSS Solved a Big Problem

- HTML was created to **describe the content** of a web page, like;
 - `<h1>This is a heading</h1>`
 - `<p>This is a paragraph</h>`
- When tags like ``, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large websites, 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.

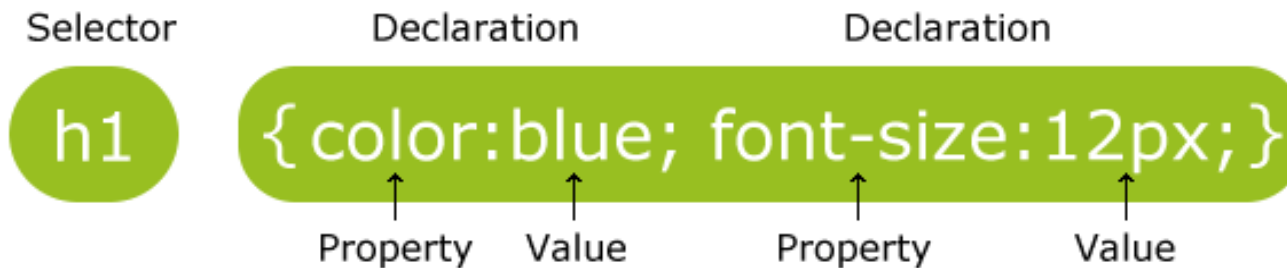
❏ CSS Saves a Lot of Work!

- The style definitions are normally saved in external .css files.
- With an external stylesheet file, you can change the look of an entire web site by changing just one file!

CSS Syntax

❏ CSS Syntax *Try it!*

- ❏ A CSS rule- set consists of a selector and a declaration block.



- ❏ The selector points to the HTML element you want to style.
- ❏ The declaration block contains one or more declarations separated by semicolons.
- ❏ Each declaration includes a CSS property name and a value, separated by a colon.
- ❏ Multiple CSS declarations are separated with a semicolon, and declaration blocks are surrounded by curly braces

CSS Selectors

- Used to “find” (or select) the HTML elements you want to style.
- We can divide CSS selectors into five categories :
 - Simple selectors (select elements based on name, id, class)
 - Combinator selectors (select elements based on a specific relationship between them)
 - Pseudo-class selectors (select elements based on a certain state)
 - Pseudo-elements selectors (select and style a part of an element)
 - Attribute selectors (select elements based on an attribute or attribute value)

CSS Selectors (cont'd)

❏ The CSS element Selector Try it!

- Selects HTML elements based on the element name.

❏ The CSS id selector Try it!

- Uses the id attribute of an HTML element to select a specific element.
- The id of an element is unique within a page, so the id selector is used to select one unique element!
- To select an element with a specific id, write a hash(#) character, followed by the id of the element.
- **Note** : An id name cannot start with a number!

CSS Selectors (cont'd)

The CSS class Selector

- Selects HTML elements with a specific class attribute.
- To select elements with a specific class, write a period(.) character, followed by the class name. Try it!
- You can also specify that only specific HTML elements should be affected by a class Try it!
- HTML elements can also refer to more than one class Try it!
- **Note :** A class name cannot start with a number!

The CSS Universal Selector

- The universal selector (*) selects all HTML elements on the page. Try it!

CSS Selectors (cont'd)

❖ The CSS Grouping Selectors

- Look at the following CSS code (the h1, h2, and p elements have the same style definitions)

```
h1 {  
    text-align: center;  
    color: red;  
}  
  
h2 {  
    text-align: center;  
    color: red;  
}  
  
p {  
    text-align: center;  
    color: red;  
}
```

- It will be better to group the selectors, to minimize the code
- To group selectors, separate each selector with a comma *Try it!*

❖ Test Yourself with Exercises! *Try it!*

CSS How To Add CSS

Three Ways to Insert CSS

- External style sheet
- Internal style sheet
- Inline style

CSS How To Add CSS (cont'd)

External CSS

- You can change the look of an entire Website by changing just one file.
- Each HTML page must include a reference to the external style sheet file inside the <link> element, inside the head section. *Try it!*
- An external style sheet can be written in any text editor, and must be saved with a .css extension. The external .css file should not contain any HTML tags.
- How the “mystyle.css” file looks :

```
body {  
    background-color: lightblue;  
}  
  
h1 {  
    color: navy;  
    margin-left: 20px;  
}
```

- Note : Do not add a space between the property value and the unit(such as **margin-left: 20 px;**). The correct way is : **margin-left: 20px;**

CSS How To Add CSS (cont'd)

Internal CSS *Try it!*

- May be used if one single HTML page has a unique style.
- Are define inside the <style> element, inside the head section.

Inline CSS *Try it!*

- May be used to apply a unique style for a single element.
- Add the style attribute to the relevant element. The style attribute can contain any CSS property.
- Tip : An inline style loses many of the advantages of a style sheet (by mixing content with presentation). Use this method sparingly.

CSS How To Add CSS (cont'd)

Multiple Style Sheets

- If some properties have been defined for the same selector (element) in different style sheets, the values from the last read style sheet will be used
- Example

- Assume that an **external style sheet** has the following style for the <h1> element

```
h1 {  
    color: navy;  
}
```

- Then, assume that an **internal style sheet** also has the following style for the <h1> element

```
h1 {  
    color: orange;  
}
```

CSS How To... (cont'd)

- If the internal style is defined **after** the link to the external style sheet, the <h1> elements will be "orange" *Try it!*

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
<style>
h1 {
  color: orange;
}
</style>
</head>
```

- However, if the internal style is defined **before** the link to the external style sheet, the <h1> elements will be "navy" *Try it!*

```
<head>
<style>
h1 {
  color: orange;
}
</style>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

CSS How To... (cont'd)

❏ Cascading Order Try it!

- All the styles in a page will "cascade" into a new "virtual" style sheet by the following rules, where number one has the highest priority
 1. Inline style (inside an HTML element)
 2. External and internal style sheets (in the head section)
 3. Browser default
- So, an inline style has the highest priority, and will override external and internal styles and browser defaults

❏ Test Yourself with Exercises! Try it!

CSS Comments (cont'd)

❏ CSS Comments *Try it!* *Try it!* *Try it!*

- ❏ Are used to explain the code, and may help when you edit the source code at a later date.
- ❏ Are ignored by browsers
- ❏ Starts with "/*", and ends with "*/".

❏ HTML and CSS Comments *Try it!*

CSS Colors

- Are specified using predefined color name, or RGB, HEX, HSL, RGBA, HSLA values

■ CSS Color Names

- A color can be specified by using a color name *Try it!*



- CSS/HTML supports 140 standard color names

CSS Colors (cont'd)

CSS Background Color

- Can set the background color for HTML elements *Try it!*

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

CSS Text Color

- Can set the color of text *Try it!*

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

CSS Colors (cont'd)

CSS Border Color

- Can set the color of borders *Try it!*

Hello World

Hello World

Hello World

CSS Colors (cont'd)

📦 CSS Color Values *Try it!*

- Colors can also be specified using RGB values, HEX values, HSL values, RGBA values, and HSLA values
- Same as color name "Tomato" :

`rgb(255, 99, 71)`

`#ff6347`

`hsl(9, 100%, 64%)`

- Same as color name "Tomato", but 50% transparent :

`rgba(255, 99, 71, 0.5)`

`hsla(9, 100%, 64%, 0.5)`

CSS Colors (cont'd)

❖ CSS RGB Values Try it! Try it!

rgb(red, green, blue)

- Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255.
 - Ex) To display the color red : `rgb(255, 0, 0)`
 - Ex) To display the color black : `rgb(0, 0, 0)`
 - Ex) To display the color white : `rgb(255, 255, 255)`

❖ RGBA Value Try it!

- Extension of RGB color values with an alpha channel – which specifies the opacity for a color

rgba(red, green, blue, alpha)

- The alpha parameter is a number between 0.0(fully transparent) and 1.0(not transparent at all)

CSS Colors (cont'd)

■ HEX Value Try it! Try it!

#rrggbb

- Where rr(red), gg(green) and bb(blue) are hexadecimal values between 00 and ff(same as decimal 0-255)
 - EX) To display the color red : #ff0000

CSS Colors (cont'd)

■ HSL Value Try it!

hsl(hue, saturation, lightness)

- Hue : a degree on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue
- Saturation : a percentage value, 0% means a shade of gray, and 100% is the full color. Try it!
- Lightness : a percentage, 0% is black, 50% is neither light or dark, 100% is white. Try it! Try it!

■ HSLA Value Try it!

- Extension of HSL color values with an alpha channel – which specifies the opacity for a color

hsla(hue, saturation, lightness, alpha)

- The alpha parameter is a number between 0.0(fully transparent) and 1.0(not transparent at all)

CSS Backgrounds

- CSS background properties are used to define the background effects for an element.
- background-color, background-image, background-repeat, background-attachment, background-position.

❖ CSS background-color Try it! Try it!

- The **background-color** property specifies the background color of an element

❖ Opacity/Transparency Try it!

- The **opacity** property the opacity/transparency of an element.
- It can take a value from 0.0 - 1.0. The lower value, the more transparent

❖ Transparency using RGBA Try it!

CSS Backgrounds (cont'd)

- ❖ **CSS background-Image** *Try it!* *Try it!* (*example of a bad combination of text and 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.
 - Note : When using a background image, use an image that does not disturb the text.

CSS Backgrounds (cont'd)

❏ CSS background-repeat

- By default, the **background-image** property repeats an image both horizontally and vertically. Try it!
- If the image above is repeated only horizontally(**background-repeat: repeat-x;**) Try it!
- Tip :** To repeat an image vertically, set **background-repeat: repeat-y;**

❏ CSS background-repeat: no-repeat

- Showing the background image only once is also specified by the **background-repeat** property Try it!

❏ CSS background-position

- background-position** property is used to specify the position of the background image. Try it!

CSS Backgrounds (cont'd)

❖ CSS background-attachment Try it! Try it!

- The **background-attachment** property specifies whether the background image should scroll or be fixed (will not scroll with rest of the page)

❖ CSS background – Shorthand property Try it!

- To shorten the code, it is also possible to specify all the background properties in one single property
- When using the shorthand property the order of the property values is :
 - background-color, background-image, background-repeat, background-attachment, background-position

❖ Test Yourself with Exercises! Try it!

CSS Backgrounds (cont'd)

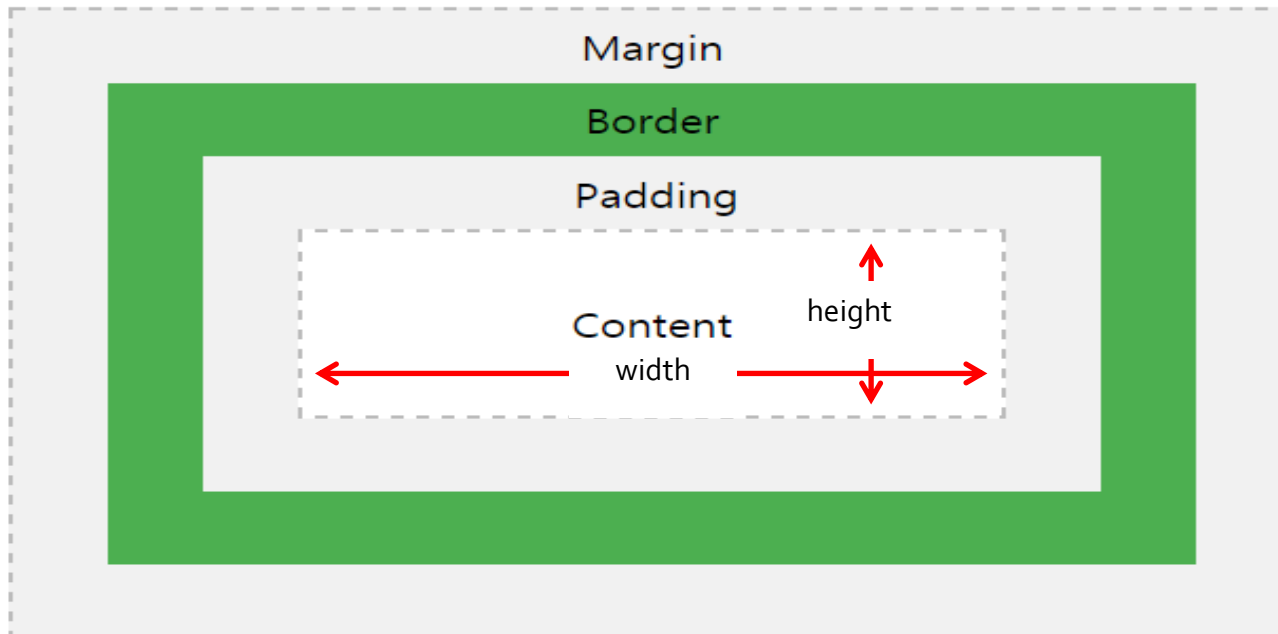
All CSS Background Properties

Property	Description
<u>background</u>	Sets all the background properties in one declaration
<u>background-attachment</u>	Sets whether a background image is fixed or scrolls with the rest of the page
<u>background-clip</u>	Specifies the painting area of the background
<u>background-color</u>	Sets the background color of an element
<u>background-image</u>	Sets the background image for an element
<u>background-origin</u>	Specifies where the background image(s) is/are positioned
<u>background-position</u>	Sets the starting position of a background image
<u>background-repeat</u>	Sets how a background image will be repeated
<u>background-size</u>	Specifies the size of the background image(s)

CSS Box Model

❏ The CSS Box Model *Try it!*

- ❏ All HTML elements can be considered as boxes. In CSS, the term “box model” is used when talking about design and layout.
- ❏ It consists of : margins, borders, padding, and the actual content. The image below illustrates the box model:



CSS Box Model (cont'd)

- **Content** - The content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent.
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent

CSS Box Model (cont'd)

Width and Height of an Element *Try it!*

- Important : When you set the width and height properties of an element with CSS, you just set the width and height of the **content area**. To calculate the full size of an element, you must also padding, borders and margins

Test Yourself with Exercises! *Try it!*

Example

```
div {  
  width: 320px;  
  padding: 10px;  
  border: 5px solid gray;  
  margin: 0;  
}
```

Try it Yourself »

Here is the calculation:

```
320px (width)  
+ 20px (left + right padding)  
+ 10px (left + right border)  
+ 0px (left + right margin)  
= 350px
```

CSS Borders

CSS Border Properties

- Allow you to specify the style, width, and color of an element's border

I have borders on all sides.

I have a red bottom border.

I have rounded borders.

I have a blue left border.

CSS Borders (cont'd)

❏ CSS Border Style *Try it!*

- The **border-style** property specifies what kind of border to display
- The following values are allowed :
 - **dotted** – Defines a dotted border
 - **dashed** – Defines a dashed border
 - **solid** – Defines a solid border
 - **double** – Defines a double border
 - **groove** - Defines a 3D grooved border. The effect depends on the border-color value
 - **ridge** – Defines a 3D ridged border. The effect depends on the border-color value
 - **inset** - Defines a 3D inset border. The effect depends on the border-color value
 - **outset** - Defines a 3D outset border. The effect depends on the border-color value
 - **none** – Defines no border
 - **hidden** – Defines a hidden border

CSS Borders (cont'd)

- The **border-style** property can have from one to four values (for the top border, right border, bottom border, and the left border)
- **Note** : None of the OTHER CSS border properties will have ANY effect unless the **border-style** property is set!

❏ CSS Border Width *Try it!*

- The **border-width** property specifies the width of the four borders.
- Can be set as a specific size (in px, pt, cm, em, etc) or by using one of the three pre-defined values: thin, medium, or thick

❏ Specific Side Widths *Try it!*

- The **border-width** property can have from one to four values (for the top border, right border, bottom border, and the left border)

CSS Borders (cont'd)

❏ CSS Border Color *Try it!*

- ❏ The **border-color** property is used to set the color of the four borders
- ❏ The **border-color** property can have from one to four values (for the top border, right border, bottom border, and the left border)
- ❏ **Note** : If **border-color** is not set, it inherits the color of the element.

❏ Specific Side Colors *Try it!*

- ❏ The **border-color** property can have from one to four values (for the top border, right border, bottom border, and the left border).

❏ CSS Border – Individual Sides *Try it!* *Try it!* *Try it!*

- ❏ In CSS, there are also properties for specifying each of the borders (top, right, bottom, and left):

CSS Borders (cont'd)

- If the **border-style** property has four values :
 - **border-style : dotted solid double dashed;**
 - top border is dotted
 - right border is solid
 - bottom border is double
 - left border is dashed
- If the **border-style** property has three values :
 - **border-style : dotted solid double;**
 - top border is dotted
 - right and left borders are solid
 - bottom border is double
- If the **border-style** property has two values :
 - **border-style : dotted solid;**
 - top and bottom borders are dotted
 - right and left borders are solid

CSS Borders (cont'd)

- If the **border-style** property has one values :
 - **border-style : dotted;**
 - all four borders are dotted

❏ CSS Border – Shorthand Property

- It is also possible to specify all the individual border properties in one property.
- The **border** property is a shorthand property for the following individual border properties Try it!
 - border-width, border-style (required), border-color
- You can also specify all the individual border properties for just one side: Try it! Try it!

CSS Borders (cont'd)

❖ CSS Rounded Borders *Try it!*

- The **border-radius** property is used to add rounded borders to an element

Normal border

Round border

Rounder border

Roudest border

- **Note** : The **border-radius** property is not supported in IE8 and earlier versions

❖ Test Yourself with Exercises! *Try it!*

CSS Margins

❏ CSS Margins

- The CSS **margin** properties are used to generate space around elements, outside of any defined borders.

❏ Margin – Individual Sides *Try it!*

- CSS has properties for specifying the margin for each side of an element :
 - `margin-top`, `margin-right`, `margin-bottom`, `margin-left`
- All the margin properties can have the following values:
 - `auto` - the browser calculates a margin.
 - `length` - specifies a margin in px, pt, cm, etc.
 - `%` - specifies a margin in % of the width of the containing element.
 - `Inherit` - specifies that the margin should be inherited from the parent element.
- **Tip** : Negative values are allowed

CSS Margins (cont'd)

❏ Margin – Shorthand property

- To specify all the margin properties in one property.
- The **margin** property is a shorthand property for the following individual margin properties:
 - margin-top, margin-right, margin-bottom, margin-left
- If the **margin** property has four values
 - margin : 25px 50px 75px 100px (top, right, bottom, left) *Try it!*
 - margin : 25px 50px 75px (top, right and left, bottom) *Try it!*
 - margin : 25px 50px (top and bottom, right and left) *Try it!*
 - margin : 25px (All four margins) *Try it!*

CSS Margins (cont'd)

❖ The auto Value Try it!

- You can set the margin property to **auto** to horizontally center the element within its container.
- The element will then take up the specified width, and the remaining space will be split equally between the left and right margins

❖ The inherit Value Try it!

❖ Margin Collapse Try it!

- Top and bottom margins of elements are sometimes collapsed into a single margin that is equal to the largest of the two margins.
- This does not happen on left and right margins! Only top and bottom margins!

❖ Test Yourself with Exercises! Try it!

CSS Padding

❖ CSS Padding

- The CSS **padding** properties are used to generate space around an element's content, inside of any defined borders

❖ Padding – Individual Sides *Try it!*

- CSS has properties for specifying the padding for each side of an element:
 - padding-top, padding-right, padding-bottom, padding-left
- All the padding properties can have the following values:
 - length - specifies a padding in px, pt, cm, etc.
 - % - specifies a padding in % of the width of the containing element.
 - inherit – specifies that the padding should be inherited from the parent element
- **Note** : Negative values are not allowed

CSS Padding (cont'd)

❏ Padding – Shorthand property

- To specify all the padding properties in one property.
- The **padding** property is a shorthand property for the following individual padding properties:
 - padding-top, padding-right, padding-bottom, padding-left
- If the **padding** property has four values
 - padding: 25px 50px 75px 100px (top, right, bottom, left) *Try it!*
 - padding : 25px 50px 75px (top, right and left, bottom) *Try it!*
 - padding : 25px 50px (top and bottom, right and left) *Try it!*
 - padding : 25px (All four margins) *Try it!*

CSS Padding (cont'd)

❖ Padding and Element Width

- The CSS **width** property specifies the width of the element's content area. The content area is the portion inside the padding, border, and margin of an element (the box model)
- Example : *Try it!*
 - the <div> element is given a width of 300px. However, the actual width of the <div> element will be 350px (300px + 25px of left padding + 25px of right padding):
 - To keep the width at 300px, no matter the amount of padding, you can use the **box-sizing** property. *Try it!*

❖ More Examples

- *Set the left padding* , *Set the right padding* , *Set the top padding* , *Set the bottom padding*

❖ Test Yourself with Exercises! *Try it!*

CSS Height and Width

CSS Setting height and width

- The **height** and **width** properties are used to set the height and width of an element.
- The height and width properties do not include padding, borders, or margins; It sets the height/width of the area inside the padding, border, and margin of the element!

CSS height/width Values

- The **height** and **width** properties may have the following values
 - **auto** – This is default. The browser calculates the height and width
 - **length** – Defines the height/width in px, cm, etc
 - **%** - Defines the height/width in percent of the containing block
 - **initial** – Sets the height/width to its default value
 - **inherit** – The height/width will be inherited from its parent value

CSS Height and Width (cont'd)

❖ CSS height/width Examples Try it! Try it!

- **Note** : Remember that the **height** and **width** properties do not include padding, borders, or margins! They set the height/width of the area inside the padding, border, and margin of the element!

❖ Setting max-width Try it!

- The **max-width** property is used to set the maximum width of an element.
- The **max-width** can be specified in *length values*, like px, cm, etc., or in percent (%) of the containing block, or set to none (this is default. Means that there is no maximum width).
- **Note** : The value of the **max-width** property overrides **width**

CSS Height and Width (cont'd)

Try it Yourself – Examples

- ◉ Set the height and width of elements
- ◉ Set the height and width of an image using percent
- ◉ Set min-width and max-width of an element
- ◉ Set min-height and max-height of an element

Test Yourself with Exercises! Try it!

CSS Text Try it!

TEXT FORMATTING

This text is styled with some of the text formatting properties. The heading uses the text-align, text-transform, and color properties. The paragraph is indented, aligned, and the space between characters is specified. The underline is removed from this colored "Try it Yourself" link.

❖ Text Color Try it!

- The **color** property is used to set the color of the text.
- **Note** : For W3C compliant CSS : If you define the **color** property, you must also define the **background-color**.

❖ Text Color and Background Color Try it!

CSS Text (cont'd)

❏ Text Alignment *Try it!*

- The **text-align** property is used to set the horizontal alignment of a text.
- A text can be left or right aligned, centered, or justified.
- When the **text-align** property 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) *Try it!*

❏ Text Decoration *Try it!* *Try it!*

- The **text-decoration** property is used to set or remove decorations from text.
- The value **text-decoration: none;** is often used to remove underlines from links
- **Note** : It is not recommended to underline text that is not a link, as this often confuses users.

CSS Text (cont'd)

❏ Text Transformation *Try it!*

- 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.

❏ Text Indentation *Try it!*

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

❏ Letter Spacing *Try it!*

- The **letter-spacing** property is used to specify the space between the characters in a text.

CSS Text (cont'd)

❏ Line Height *Try it!*

- The **line-height** property is used to specify the space between lines

❏ Text Direction *Try it!*

- The **direction** property is used to change the text direction of an element.

❏ Word Spacing *Try it!*

- The **word-spacing** property is used to specify the space between the words in a text.

❏ White Space *Try it!*

- The *white-space* property specifies how white-space inside an element is handled

CSS Text (cont'd)

❏ Text Shadow Try it! Try it! Try it!

- The **text-shadow** property adds shadow to text.

❏ Test Yourself with Exercises! Try it!

CSS Fonts

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

❖ Difference Between Serif and Sans-serif Fonts



Sans-serif



Serif



Serif
(red serifs)

CSS Fonts (cont'd)

❏ CSS Font Families

- ❏ 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 “Time 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 have the same width

- ❏ **Note** : On computer screens, sans-serif fonts are considered easier to read than serif fonts

CSS Fonts (cont'd)

Font Family *Try it! Try it!*

- 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, and so on.
 - 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: “Times New Roman”.
- More than one font family is specified in a comma-separated list.
- *Web Safe Font Combinations*

CSS Fonts (cont'd)

Font Style *Try it!*

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

Font Weight *Try it!*

- The **font-weight** property specifies the weight of a font

Font Variant *Try it!*

- The **font-variant** property specifies whether or not a text should be displayed in a small-caps font
- In a small-caps font, all lowercase letters are converted to uppercase letters. However, the converted uppercase letters appears in a smaller font size than the original uppercase letters in the text.

CSS Fonts (cont'd)

Font Size

- The **font-size** property sets the size of the text.
- The font-size value
 - Absolute size
 - Sets the text to a specified size
 - Does not allow a user to change the text size in all browsers (bad for accessibility reasons)
 - Useful when the physical size of the output is known
 - Relative size
 - Sets the size relative to surrounding elements
 - Allows a user to change the text size in browsers
- **Note** : If you do not specify a font-size, the default size for normal text, like paragraphs, is 16px (16px = 1em)

CSS Fonts (cont'd)

❏ Set Font Size With Pixels Try it!

- Tip : If you use pixels, you can still use the zoom tool to resize the entire page.

❏ Set Font Size With Em Try it!

- 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.
- 1em = 16px

❏ Use a Combination of Percent and Em Try it!

- Tip : The solution that works in all browsers, is to set a default font-size in percent for the <body> element.

CSS Fonts (cont'd)

Font Property Try it!

- font-style, font-variant, font-weight, font-size/line-height, font-family

Test Yourself with Exercises! Try it!

CSS Links

- With CSS, links can be styled in different ways

Text Link

Text Link

Link Button

Link Button

- Styling Links

- Links can be styled with any CSS property (e.g. **color**, **font-family**, **background**, etc) *Try it!*
- Links can be styled differently depending on what **state** they are in.
- Four links states *Try it!*
 - a:link** – a normal, unvisited link
 - a:visited** – a link the user has visited
 - a:hover** – a link when the user mouses over it
 - a:active** – a link the moment it is clicked

CSS Links (cont'd)

- When setting the style for several link states, there are some order rules
 - a:hover MUST come after a:link and a:visited
 - a:active MUST come after a:hover

❖ Text Decoration *Try it!*

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

❖ Background Color *Try it!*

- The **background-color** property can be used to specify a background color for links

❖ Link Buttons *Try it!*

CSS Links (cont'd)

More Examples

- Add different styles to hyperlinks
- Advanced – Create a link button with borders
- Change the cursor

Test Yourself with Exercises! Try it!

CSS Lists

HTML Lists and CSS List Properties

- In HTML, there are two main types of lists
 - unordered lists () - the list items are marked with bullets
 - ordered lists () - the list items are marked with numbers or letters
- 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
 - Add background colors to lists and list items

Different List Item Markers

- The **list-style-type** property specifies the type of list item marker. *Try it!*

CSS Lists (cont'd)

❏ An Image as The List Item Marker

- The **list-style-image** property specifies an images as the list item marker.
Try it!

❏ Position The List Item Markers *Try it!*

- The **list-style-position** property specifies the position of the list-item markers (bullet points)
- “list-style-position: outside;”
 - Means that the bullet points will be outside the list item
 - The start of each line of a list item will be aligned vertically. This is default

- | |
|---|
| • Coffee - A brewed drink prepared from roasted coffee beans... |
| • Tea |
| • Coca-cola |

CSS Lists (cont'd)

- “list-style-position:inside;”
 - Means that the bullet points will be inside the list item.
 - As it is part of the list item, it will be part of the text and push the text at the start:

• Coffee - A brewed drink prepared from roasted coffee beans...
• Tea
• Coca-cola

❏ Remove Default Settings *Try it!*

- The **list-style-type:none** property can also be used to remove the markers/bullets
- Note that the list also has default margin and padding. To remove this, add **margin:0** and **padding:0** to or

CSS Lists (cont'd)

❏ List : Shorthand property *Try it!*

- The **list-style** property. It is used to set all the list properties in one declaration
- The order of the property values
 - **list-style-type**
 - If a list-style-image is specified, the value of this property will be displayed if the image for some reason cannot be displayed.
 - **list-style-position**
 - Specifies whether the list-item markers should appear inside or outside the content flow
 - **list-style-image**
 - Specifies an image as the list item marker
- If one of the property values above are missing, the default value for the missing property will be inserted, if any.

CSS Lists (cont'd)

- ❏ Styling List With Colors *Try it!*
- ❏ More Examples
 - ❏ *Customized list with a red left border*
 - ❏ *Full-width bordered list*
 - ❏ *All the different list-item markers for lists*
- ❏ Test Yourself with Exercises! *Try it!*

CSS Tables

- The look of an HTML table can be greatly improved with CSS *Try it!*

❏ Table Borders *Try it!*

- To specify table borders in CSS, use the **border** property

Firstname	Lastname
Peter	Griffin
Lois	Griffin

❏ Collapse Table Borders *Try it!*

- The **border-collapse** property sets whether the table borders should be collapsed into a single border.

Firstname	Lastname
Peter	Griffin
Lois	Griffin

CSS Tables (cont'd)

- If you only want a border around the table, only specify the **border** property for <table> *Try it!*

Firstname	Lastname
Peter	Griffin
Lois	Griffin

Table Width and Height *Try it!*

- Width and height of a table are defined by the **width** and **height** properties

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

CSS Tables (cont'd)

❏ Horizontal Alignment *Try it!*

- The **text-align** property sets the horizontal alignment (like left, right, or center) of the content in <th> or <td>
- By default, the content of <th> elements are center-aligned and the content of <td> elements are left-aligned.

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

CSS Tables (cont'd)

Vertical Text Alignment *Try it!*

- The **vertical-align** property sets the vertical alignment (like top, bottom, or middle) of the content in <th> or <td>.
- By default, the vertical alignment of the content in a table is middle (for both <th> and <td> elements)

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

CSS Tables (cont'd)

📘 Table Padding *Try it!*

- 🟡 To control the space between the border and content in table, use the **padding** property on `<td>` and `<th>` elements

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

CSS Tables (cont'd)

Horizontal Dividers *Try it!*

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

- Add the **border-bottom** property to <th> and <td> for horizontal dividers

Hoverable Table *Try it!*

- Use the **:hover** selector on <tr> to highlight table rows on mouse over

CSS Tables (cont'd)

📦 Striped Tables *Try it!*

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

- For zebra-striped tables, use the **nth-child()** selector and add a **background-color** to all even (or odd) table rows

CSS Tables (cont'd)

Table Color *Try it!*

First Name	Last Name	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300

CSS Tables (cont'd)

More Examples

- *Make a fancy table*
- *Set the position of the table caption*

Test Yourself with Exercises! *Try it!*

참고 - 그 외 주제들

- ❏ CSS Outline
- ❏ CSS – Text
 - Text Direction, Vertical Alignment
- ❏ CSS Fonts – Responsive Font Size, Google Fonts
- ❏ CSS Icons
- ❏ CSS Tables – Responsive Table