WEB COMPLETE

HTML, CSS, JavaScript & PHP

#2
CSS

Cascading Style Sheet

CSS Introduction

What is CSS?

- **CSS** stands for **C**ascading **S**tyle **S**heets
- CSS 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**

Why Use CSS?

CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

CSS Solved a Big Problem

HTML was NEVER intended to contain tags for formatting a web page!

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 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 removed the style formatting from the HTML page!

CSS Saves a Lot of Work!

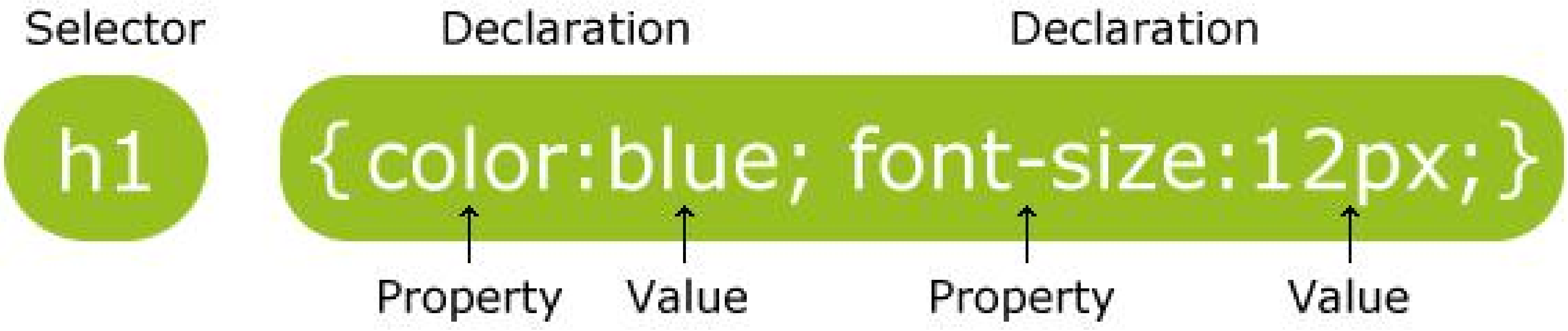
The style definitions are normally saved in external .css files.

With an external stylesheet file, you can change the look of an entire website by changing just one file!

CSS Syntax

CSS Syntax

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



CSS Example

```
<!DOCTYPE html>
<html>
<head>
  <style>
  p {
    color: red;
    text-align: center;
  }
  </style>
</head>
<body>
   <p>Hello World!</p>
   <p>These paragraphs are styled with CSS.</p>
</body>
</html>
```

CSS Selectors

CSS selectors are used to "find" (or select) HTML elements based on their element name, id, class, attribute, and more.

The element Selector

The element selector selects elements based on the element name.

You can select all <p> elements on a page like this (in this case, all <p> elements will be center-aligned, with a red text color):

CSS Example

```
<!DOCTYPE html>
<html>
<head>
  <style>
  p {
    text-align: center;
    color: red;
  }
  </style>
</head>
<body>
   <p>Every paragraph will be affected by the style.</p>
   <p id="para1">Me too!</p>
   <p>And me!</p>
</body>
</html>
```

The id Selector

The id selector uses the id attribute of an HTML element to select a specific element.

The id of an element should be 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 Example

```html
<!DOCTYPE html>
<html>
<head>
  <style>
  #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>
```

The class Selector

The class selector selects elements with a specific class attribute.

To select elements with a specific class, write a period (**.**) character, followed by the name of the class.

Note: A class name cannot start with a number!

CSS Example

```
<!DOCTYPE html>
<html>
<head>
  <style>
  .center {
    text-align: center;
    color: red;
  }
  </style>
</head>
<body>
   <h1 class="center">Red and center-aligned heading</h1>
   <p class="center">Red and center-aligned paragraph.</p>
</body>
</html>
```

The class Selector

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

In the example below, only <p> elements with class="center" will be center-aligned:

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

The class Selector

HTML elements can also refer to more than one class.

In the example below, the <p> element will be styled according to class="center" and to class="large":

CSS Example

```
<!DOCTYPE html>
<html>
<head>
  <style>
  p.center {
    text-align: center;
    color: red;
  }
  p.large {
    font-size: 300%;
  }
  </style>
</head>
<body>
   <h1 class="center">This heading will not be affected</h1>
   <p class="center">This paragraph will be red and center-aligned.</p>
   <p class="center large">This paragraph will be red, center-aligned, and in a large font-size.</p>
</body>
</html>
```

Grouping Selectors

If you have elements with the same style definitions, like this:

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

h2 {
    text-align: center;
    color: red;
}

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

Grouping Selectors

It will be better to group the selectors, to minimize the code.

To group selectors, separate each selector with a comma.

CSS Example

```
<!DOCTYPE html>
<html>
<head>
  <style>
  h1, h2, p {
    text-align: center;
    color: red;
  }
  </style>
</head>
<body>
   <h1>Hello World!</h1>
   <h2>Smaller heading!</h2>
   <p>This is a paragraph.</p>
</body>
</html>
```

CSS Comments

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

Comments are ignored by browsers.

A CSS comment starts with /* and ends with */. Comments can also span multiple lines

CSS Example

```
<style>
  p {
    color: red;
    /* This is a single-line comment */
    text-align: center;
  }

  /* This is
  a multi-line
  comment */
</style>
```

CSS How To

Three Ways to Insert CSS

There are three ways of inserting a style sheet:

- External style sheet
- Internal style sheet
- Inline style

External Style Sheet

With an external style sheet, you can change the look of an entire website by changing just one file!

Each page must include a reference to the external style sheet file inside the <link> element. The <link> element goes inside the <head> section:

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

CSS Example

```
body {
    background-color: lightblue;
}

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

Internal Style Sheet

An internal style sheet may be used if one single page has a unique style.

Internal styles are defined within the <style> element, inside the <head> section of an HTML page:

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: linen;
}
h1 {
    color: maroon;
    margin-left: 40px;
}
</style>
</head>
<body>
   <h1>This is a heading</h1>
   <p>This is a paragraph.</p>
   </body>
</html>
```

Inline Styles

An inline style may be used to apply a unique style for a single element.

To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

The example below shows how to change the color and the left margin of a <h1> element:

```
<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
```

CSS Example

```
<!DOCTYPE html>
<html>
<body>

<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

Multiple Style Sheets

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

CSS Example

If the internal style is defined after the link to the external style sheet, the <h1> elements will be "orange":

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

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 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

CSS Colors

CSS Colors

Colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values.

Color Names

In HTML, a color can be specified by using a color name:

Gray, Orange, Blue, Red, Tomato, Violet & more...

HTML supports 140 standard color names.

* https://www.w3schools.com/colors/colors_names.asp

CSS Example

```
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:Tomato;">Tomato</h1>
<h1 style="background-color:Orange;">Orange</h1>
<h1 style="background-color:DodgerBlue;">DodgerBlue</h1>
<h1 style="background-color:MediumSeaGreen;">MediumSeaGreen</h1>
<h1 style="background-color:Gray;">Gray</h1>
<h1 style="background-color:SlateBlue;">SlateBlue</h1>
<h1 style="background-color:Violet;">Violet</h1>
<h1 style="background-color:LightGray;">LightGray</h1>

</body>
</html>
```

Background Color

You can set the background color for HTML elements:

```
<h1 style="background-color:DodgerBlue;">Hello World</h1>
<p style="background-color:Tomato;">Lorem ipsum...</p>
```

CSS Example

```
<!DOCTYPE html>
<html>
<body>

<h1 style="background-color:DodgerBlue;">Hello World</h1>

<p style="background-color:Tomato;">
Lorem ipsum dolor sit amet, consectetuer 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.
</p>

</body>
</html>
```

Text Color

You can set the color of the text:

```
<h1 style="color:Tomato;">Hello World</h1>
<p style="color:DodgerBlue;">Lorem ipsum...</p>
<p style="color:MediumSeaGreen;">Ut wisi enim...</p>
```

CSS Example

```html
<!DOCTYPE html>
<html>
<body>

<h3 style="color:Tomato;">Hello World</h3>

<p style="color:DodgerBlue;">Lorem ipsum dolor sit amet, consectetuer adipiscing elit,
sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat
volutpat.</p>

<p style="color:MediumSeaGreen;">Ut wisi enim ad minim veniam, quis nostrud exerci
tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.</p>

</body>
</html>
```

Border Color

```html
<!DOCTYPE html>
<html>
<body>

<h1 style="border: 2px solid Tomato;">Hello World</h1>

<h1 style="border: 2px solid DodgerBlue;">Hello World</h1>

<h1 style="border: 2px solid Violet;">Hello World</h1>

</body>
</html>
```

Color Values

In HTML, 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%)
```

CSS Example

```
<!DOCTYPE html>
<html>
<body>

<p>Same as color name "Tomato":</p>
<h1 style="background-color:rgb(255, 99, 71);">rgb(255, 99, 71)</h1>
<h1 style="background-color:#ff6347;">#ff6347</h1>
<h1 style="background-color:hsl(9, 100%, 64%);">hsl(9, 100%, 64%)</h1>

<p>Same as color name "Tomato", but 50% transparent:</p>
<h1 style="background-color:rgba(255, 99, 71, 0.5);">rgba(255, 99, 71, 0.5)</h1>
<h1 style="background-color:hsla(9, 100%, 64%, 0.5);">hsla(9, 100%, 64%, 0.5)</h1>

</body>
</html>
```

RGB Value

In HTML, a color can be specified as an RGB value, using this formula:

```
rgb(red, green, blue)
```

Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255.

HEX Value

In HTML, a color can be specified using a hexadecimal value in the form:

```
#rrggbb
```

Where rr (red), gg (green) and bb (blue) are hexadecimal values between 00 and ff (same as decimal 0-255).

HSL Value

In HTML, a color can be specified using hue, saturation, and lightness (HSL) in the form:

```
hsl(hue, saturation, lightness)
```

Hue is a degree on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue.

Saturation is a percentage value, 0% means a shade of gray, and 100% is the full color.

Lightness is also a percentage, 0% is black, 50% is neither light or dark, 100% is white

RGBA Value

RGBA color values are an extension of RGB color values with an alpha channel - which specifies the opacity for a color.

An RGBA color value is specified with:

```
rgba(red, green, blue, alpha)
```

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

HSLA Value

HSLA color values are an extension of HSL color values with an alpha channel - which specifies the opacity for a color.

An HSLA color value is specified with:

```
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 Backgrounds

The CSS background properties are used to define the background effects for elements.

CSS background properties:

- background-color
- background-image
- background-repeat
- background-attachment
- background-position

Background Color

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

The background color of a page is set like this:

```
body {
    background-color: lightblue;
}
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    background-color: green;
}
div {
    background-color: lightblue;
}
p {
    background-color: yellow;
}
</style>
</head>
```

CSS Example

```
<body>

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

</body>
</html>
```

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");
}
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-image: url("paper.gif");
}
</style>
</head>
<body>

<h1>Hello World!</h1>
<p>This page has an image as the background!</p>

</body>
</html>
```

Background Image - Repeat Horizontally or Vertically

By default, the background-image property repeats an image both horizontally and vertically.

```
body {
    background-image: url("gradient_bg.png");
    background-repeat: repeat-x;
}
```

Tip: To repeat an image vertically, set `background-repeat: repeat-y;`

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-image: url("gradient_bg.png");
    background-repeat: repeat-x;
}
</style>
</head>
<body>
<h1>Hello World!</h1>
<p>Here, a background image is repeated only horizontally!</p>
</body>
</html>
```

Background Image - Set position and no-repeat

Showing the background image only once is also specified by the **background-repeat** property:

```
body {
    background-image: url("img_tree.png");
    background-repeat: no-repeat;
}
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-image: url("img_tree.png");
    background-repeat: no-repeat;
}
</style>
</head>
<body>
<h1>Hello World!</h1>
<p>W3Schools background image example.</p>
<p>The background image is only showing once, but it is disturbing the reader!</p>
</body>
</html>
```

Background Image - Set position and no-repeat

The position of the image is specified by the **background-position** property:

```
body {
    background-image: url("img_tree.png");
    background-repeat: no-repeat;
    background-position: right top;
}
```

Background Image - Fixed position

To specify that the background image should be fixed (will not scroll with the rest of the page), use the **background-attachment** property:

```
body {
    background-image: url("img_tree.png");
    background-repeat: no-repeat;
    background-position: right top;
    background-attachment: fixed;
}
```

Background - Shorthand property

To shorten the code, it is also possible to specify all the background properties in one single property. This is called a shorthand property.

The shorthand property for background is **background**:

```
body {
    background: #ffffff url("img_tree.png") no-repeat right top;
}
```

CSS Text

Text Color

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

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

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

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    color: blue;
}

h1 {
    color: green;
}
</style>
</head>
```

CSS Example

```html
<body>

<h1>This is heading 1</h1>
<p>This is an ordinary paragraph. Notice that this text is blue. The default text
color for a page is defined in the body selector.</p>

</body>
</html>
```

Text Alignment

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.

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    text-align: center;
}
h2 {
    text-align: left;
}
h3 {
    text-align: right;
}
</style>
</head>
```

CSS Example

```
<body>

<h1>Heading 1 (center)</h1>
<h2>Heading 2 (left)</h2>
<h3>Heading 3 (right)</h3>

<p>The three headings above are aligned center, left and right.</p>

</body>
</html>
```

Text Decoration

The text-decoration property is used to set or remove decorations from text.

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
    text-decoration: overline;
}
h2 {
    text-decoration: line-through;
}
h3 {
    text-decoration: underline;
}
</style>
</head>
```

CSS Example

```
<body>

<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>

</body>
</html>
```

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:

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
p.uppercase {
    text-transform: uppercase;
}
p.lowercase {
    text-transform: lowercase;
}
p.capitalize {
    text-transform: capitalize;
}
</style>
</head>
```

CSS Example

```
<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>
```

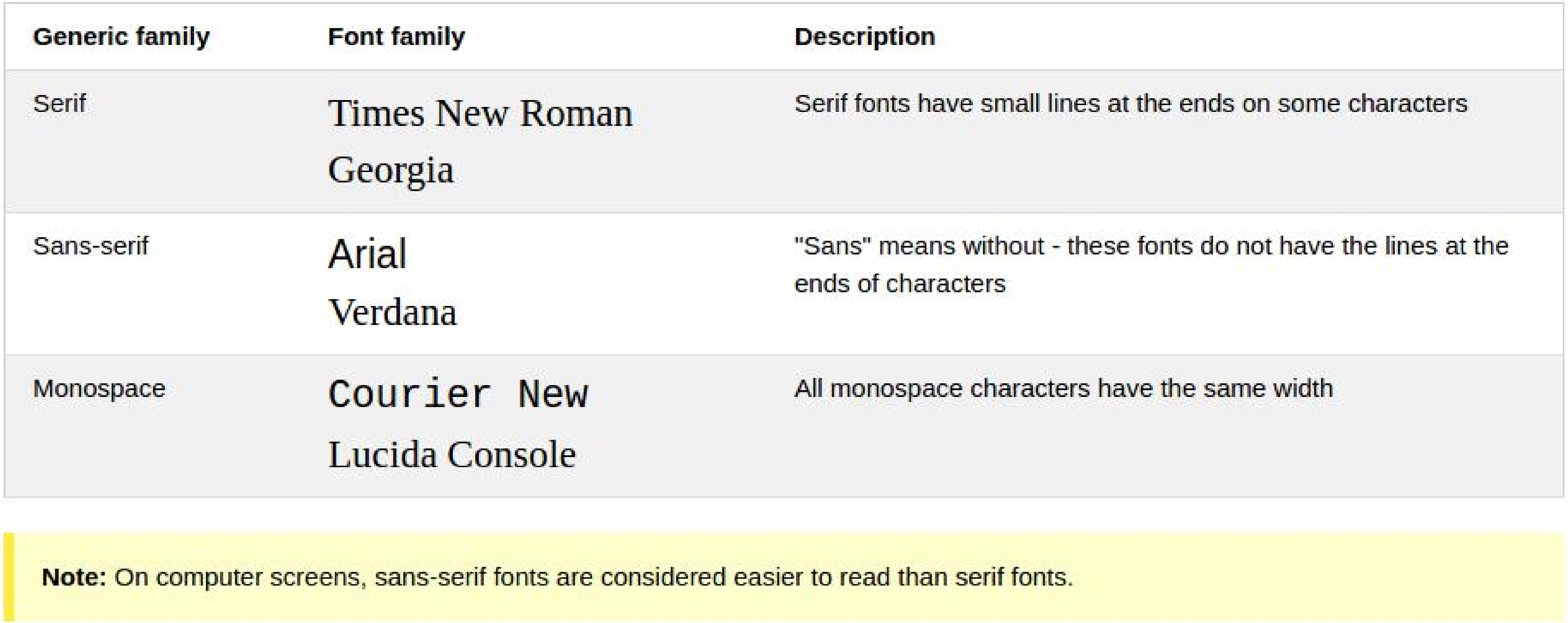
CSS Fonts

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")

CSS Font Families



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 Example

```
<!DOCTYPE html>
<html>
<head>
<style>
p.serif {
    font-family: "Times New Roman", Times, serif;
}

p.sansserif {
    font-family: Arial, Helvetica, sans-serif;
}
</style>
</head>
```

CSS Example

```html
<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>
```

Font Style

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)

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
p.normal {
    font-style: normal;
}
p.italic {
    font-style: italic;
}
p.oblique {
    font-style: oblique;
}
</style>
</head>
```

CSS Example

```
<body>

<p class="normal">This is a paragraph in normal style.</p>
<p class="italic">This is a paragraph in italic style.</p>
<p class="oblique">This is a paragraph in oblique style.</p>

</body>
</html>
```

Font Size

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.

Always use the proper HTML tags, like <h1> - <h6> for headings and <p> for paragraphs.

CSS Example

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

CSS Example

```
<body>


<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<p>This is a paragraph.</p>
<p>This is another paragraph.</p>


</body>
</html>
```

Font Weight

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

```
p.normal {
    font-weight: normal;
}

p.thick {
    font-weight: bold;
}
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
p.normal {
    font-weight: normal;
}

p.light {
    font-weight: lighter;
}

p.thick {
    font-weight: bold;
}
```

CSS Example

```
p.thicker {
    font-weight: 900;
}
</style>
</head>
<body>

<p class="normal">This is a paragraph.</p>
<p class="light">This is a paragraph.</p>
<p class="thick">This is a paragraph.</p>
<p class="thicker">This is a paragraph.</p>

</body>
</html>
```

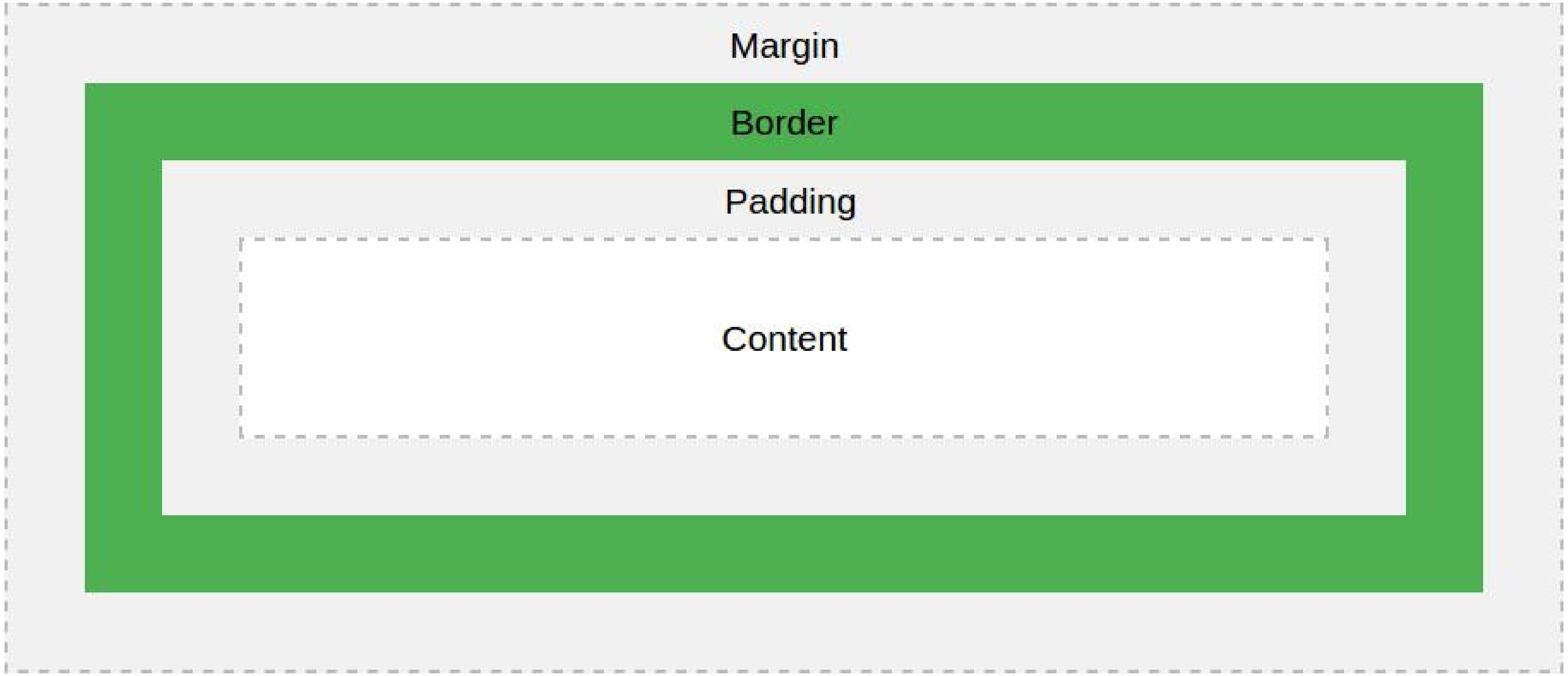
CSS Box Model

The CSS Box Model

All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout.

The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.

The CSS Box Model



Explanation of the different parts:

- **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 Example

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    background-color: lightgrey;
    width: 300px;
    border: 25px solid green;
    padding: 25px;
    margin: 25px;
}
</style>
</head>
```

CSS Example

```
<body>

<h2>Demonstrating the Box Model</h2>

<p>The CSS box model is essentially a box that wraps around every HTML element. It
consists of: borders, padding, margins, and the actual content.</p>

<div>This text is the actual content of the box. We have added a 25px padding, 25px
margin and a 25px green border. Ut enim ad minim veniam, quis nostrud exercitation
ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in
reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.
Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt
mollit anim id est laborum.</div>

</body>
</html>
```

The CSS Box Model

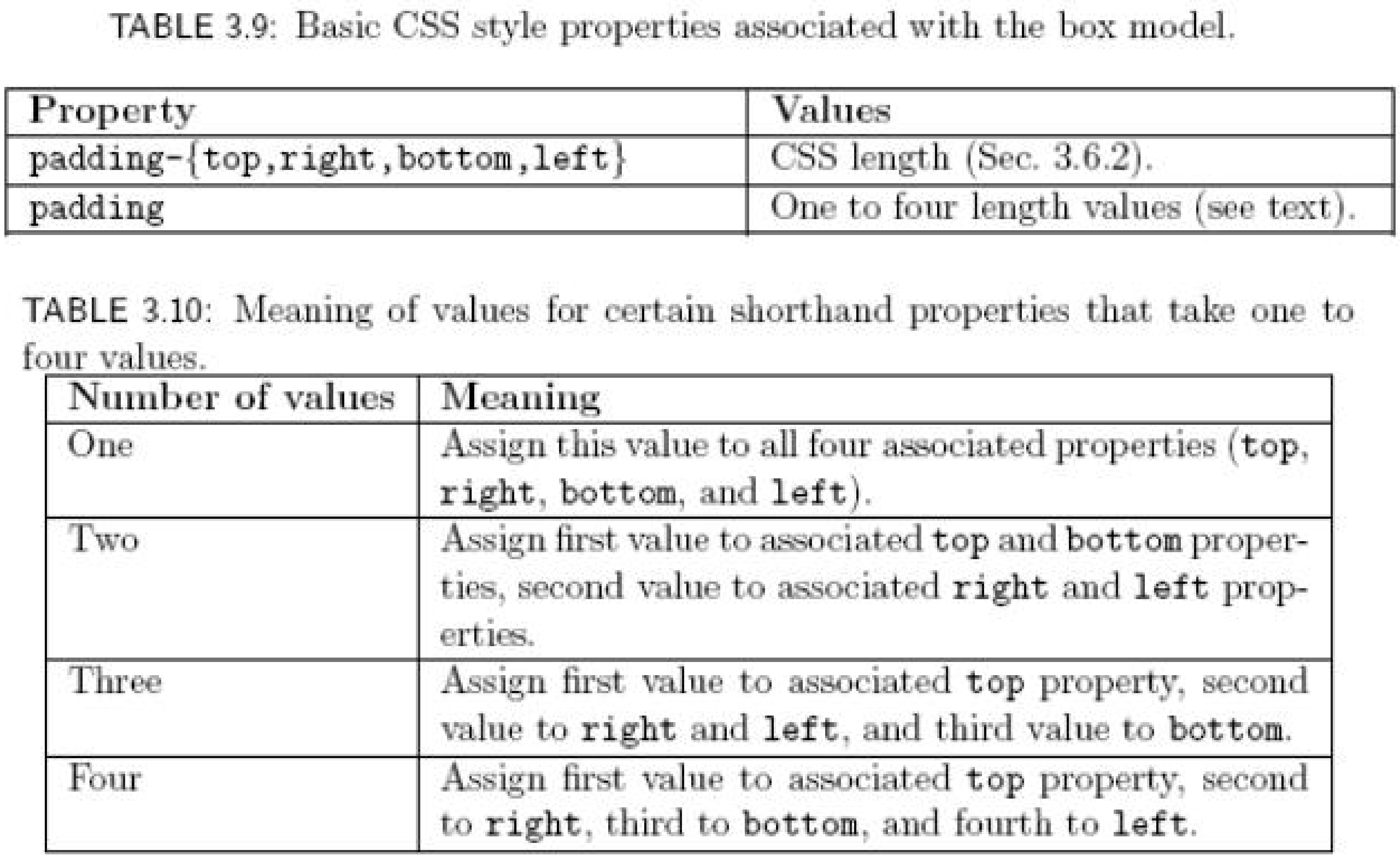


TABLE 3.9: Basic CSS style properties associated with the box model.

Property	Values
`padding-{top,right,bottom,left}`	CSS length (Sec. 3.6.2).
`padding`	One to four length values (see text).

TABLE 3.10: Meaning of values for certain shorthand properties that take one to four values.

Number of values	Meaning
One	Assign this value to all four associated properties (`top`, `right`, `bottom`, and `left`).
Two	Assign first value to associated `top` and `bottom` properties, second value to associated `right` and `left` properties.
Three	Assign first value to associated `top` property, second value to `right` and `left`, and third value to `bottom`.
Four	Assign first value to associated `top` property, second to `right`, third to `bottom`, and fourth to `left`.

CSS Pseudo-classes

What are Pseudo-classes?

A pseudo-class is used to define a special state of an element.

For example, it can be used to:

- Style an element when a user mouses over it
- Style visited and unvisited links differently
- Style an element when it gets focus

What are Pseudo-classes?

CSS Pseudo-class adalah selector dalam CSS yang berfungsi memberikan efek pada bagian HTML yang tidak bisa diakses dengan selector biasa.

Berikut adalah pseudo-class yang biasa digunakan:

- **:link** : untuk menambahkan style pada link yang belum pernah di kunjungi atau pernah di klik
- **:hover** : untuk menambahkan style pada elemen pada saat mouse berada di atasnya
- **:active** : untuk menambahkan style pada elemen yang sedang aktif
- **:visited** : untuk menambahkan style pada link yang sudah pernah di kunjungi

Syntax

The syntax of pseudo-classes:

```
selector:pseudo-class {
    property:value;
}
```

CSS Example

```
<!DOCTYPE html>
<html>
<head>
<style>
/* unvisited link */
a:link {
    color: red;
}

/* visited link */
a:visited {
    color: green;
}
```

CSS Example

```
/* mouse over link */
a:hover {
    color: hotpink;
}

/* selected link */
a:active {
    color: blue;
}
</style>
</head>
```

CSS Example

```
<body>

<p><b><a href="link.html" 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>
```

Thanks!

Any questions?

You can find me at:
@edoriansyah
edo@nurulfikri.com

Credits

Special thanks to :

- Presentation template by SlidesCarnival
- w3schools.com