

# Cascading Style Sheets Notes (Source: from w3schools.org)

## What is 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**

## Styles Solved a Big Problem

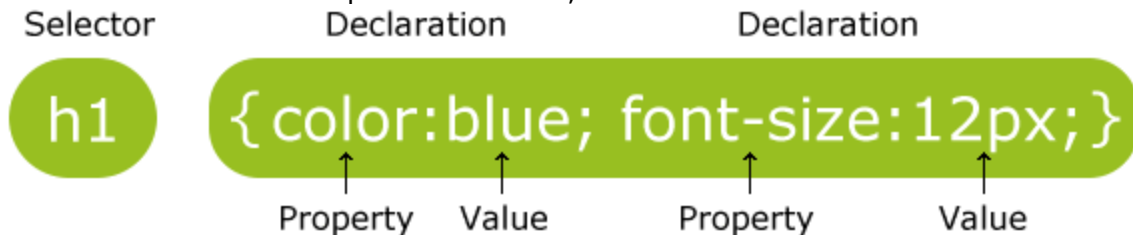
- HTML was never intended to contain tags for formatting a document.
- HTML was intended to define the content of a document, like:
  - `<h1>This is a heading</h1>`
  - `<p>This is a paragraph.</p>`
- When tags like `<font>`, and color attributes were added to the HTML 3.2 specification, it started a 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.

## 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!

## CSS Syntax

- A CSS rule has two main parts: a selector, and one or more declarations:



- 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.

## CSS Selectors

- Three types of CSS Selectors
- Element
- Class
- ID

## CSS Element Selector Example

- A CSS declaration 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;
}
```

## 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;
}
```

## The id and class Selectors

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

### The id Selector

- The id selector is used to specify a style for a single, unique element.
- The id selector uses the id attribute of the HTML element, and is defined with a "#".
- **Example**

Imagine within the body element of our html page, we have the following paragraph element

```
<p id="welcome">Welcome to the wonderful world of HTML</p>
```

We can then create a CSS rule with the id selector:

```
#welcome
{
text-align:center;
color:red;
}
```

### 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 many 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:
- **Example**

Imagine within the body element of our html page, we have the following header element

```
<h2 class="center">Summary</h2>
```

We can then create a CSS rule with the class selector:

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

- 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:
- **Example**
- `p.center {text-align:center;}`

## 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

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>
```

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.

## 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>
```

## 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>
```

# Multiple Styles 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.

## 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!

## CSS Background Properties

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

## 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:

### Example

```
body {background-color:#b0c4de;}
```

With CSS, a color is most often specified by:

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

Look at [CSS Color Values](#) for a complete list of possible color values.

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;}
```

## 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:

### Example

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

## Background Image - Repeat Horizontally or Vertically

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

Some images should be repeated only horizontally or vertically, or they will look strange.

To repeat an image only horizontally or vertically, use the background-repeat property.

```
body
{
background-image:url('gradient2.png');
background-repeat:repeat-x;
}
```

## Background Image - Set position and no-repeat



When using a background image, use an image that does not disturb the text.

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

### Example

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

## Background - Shorthand property

As you can see from the examples above, there are many properties to consider when dealing with backgrounds.

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

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