CSS Introduction

What is CSS?

- CSS stands for Cascading Style Sheets
- 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 Example

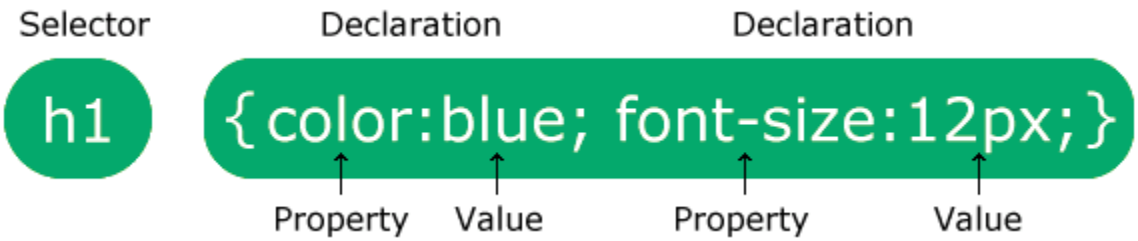
```
body {
  background-color: red;
}

h1 {
  color: blue;
  text-align: center;
}

p {
  font-family: verdana;
  font-size: 50px;
}
```

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



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 semicolons, and declaration blocks are surrounded by curly braces.

Example:

In this example all <p> elements will be center-aligned, with a red text color:

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

Example Explained

- `p` is a selector in CSS (it points to the HTML element you want to style: <p>).
- `color` is a property, and `red` is the property value
- `text-align` is a property, and `center` is the property value

•CSS Selectors

CSS selectors are 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)

This page will explain the most basic CSS selectors.

The CSS element Selector

The element selector selects HTML elements based on the element name.

Example:

Here, all <p> elements on the page will be center-aligned, with a red text color:

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

The CSS id Selector

The id selector 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.

Example:

The CSS rule below will be applied to the HTML element with id="para1":

```
#para1 {
  text-align: center;
  color: red;
}
```

The CSS class Selector

The 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.

Example:

In this example all HTML elements with class="center" will be red and center-aligned:

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

HTML elements can also refer to more than one class.

Example:

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

```
<p class="center large">This paragraph refers to two classes.</p>
```

The CSS Universal Selector

The universal selector (*) selects all HTML elements on the page.

Example:

The CSS rule below will affect every HTML element on the page:

```
* {
  text-align: center;
  color: blue;
```

The CSS Grouping Selector

The grouping selector selects all the HTML elements with the same style definitions.

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.

Example:

In this example we have grouped the selectors from the code above:

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

Three Ways to Insert CSS

There are three ways of inserting a style sheet:

- External CSS
- Internal CSS
- Inline CSS
-

•External CSS

With an external style sheet, 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.

Example:

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

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

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

</body>
</html>
```

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.

Here is how the "mystyle.css" file looks:

"mystyle.css"

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

h1 {
  color: blue;
  margin-left: 10px;
}
```

•Internal CSS

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

The internal style is defined inside the <style> element, inside the head section.

Example:

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

```
<!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 CSS

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.

Example:

Inline styles are defined within the "style" attribute of the relevant element:

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

<h1 style="color:blue;text-align:center;">This is a heading</h1>
<p style="color:red;">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 is placed inside the `<style>` element, and starts with `/*` and ends with `*/`:

Example

```
/* This is a single-line comment */
p {
  color: red;
}
```

You can add comments wherever you want in the code:

```
p {
  color: blue  /* Set text color to red */
}
```

•HTML and CSS Comments

From the HTML tutorial, you learned that you can add comments to your HTML source by using the `<!--...-->` syntax.

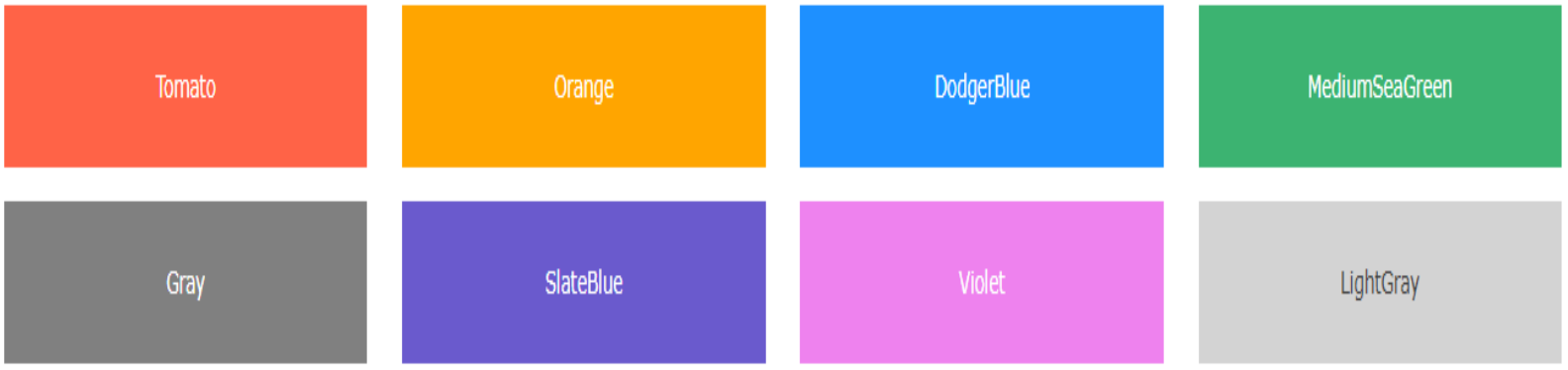
In the following example, we use a combination of HTML and CSS comments:

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
  color: purple; /* Set text color to red */
}
</style>
</head>
<body>

<h2>My Heading2</h2>

<!-- These paragraphs will be red -->
<p>Hello World!</p>
<p>This paragraph is styled with CSS.</p>
<p>CSS comments are not shown in the output.</p>

</body>
</html>
```

•CSS Color Names

In CSS, a color can be specified by using a predefined color name:



•CSS Background Color

You can set the background color for HTML elements:

Example:

```
<h1 style="background-color: Dodger Blue;">Hello World</h1>
```

Hello World

•CSS Text Color

You can set the color of text:

Example:

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

Hello World

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.

•CSS Border Color

You can set the color of borders:

Example:

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

Hello World

Hello World

•CSS Color Values

In CSS, colors can also be specified using RGB values, HEX values, HSL values, RGBA values, and HSLA values:

Same as color name "Tomato":

Example:

```
<h1 style="background-color:rgb(255, 99, 71);">...</h1>
<h1 style="background-color:#ff6347;">...</h1>
<h1 style="background-color:hsl(9, 100%, 64%);">...</h1>
```

rgb(255, 99, 71)

#ff6347

hsl(9, 100%, 64%)

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

```
<h1 style="background-color:rgba(255, 99, 71, 0.5);">...</h1>
<h1 style="background-color:hsla(9, 100%, 64%, 0.5);">...</h1>
```

rgba(255, 99, 71, 0.5)

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