

Web Engineering

Lecture 14

CSS

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HTML Styles - CSS

Styling HTML with 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.

CSS can be added to HTML elements in 3 ways:

- **Inline** - by using the style attribute in HTML elements
- **Internal** - by using a `<style>` element in the `<head>` section
- **External** - by using an external CSS file

The most common way to add CSS, is to keep the styles in separate CSS files. However, here we will use inline and internal styling, because this is easier to demonstrate,

Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the style attribute of an HTML element.

This example sets the text color of the `<h1>` element to blue:

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

<h1 style="color:blue;">This is a Blue Heading</h1>

</body>
</html>
```

This is a Blue Heading

Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the `<head>` section of an HTML page, within a `<style>` element:

Example

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: powderblue;}
h1   {color: blue;}
p    {color: red;}
</style>
</head>
<body>

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

</body>
</html>
```

This is a heading

This is a paragraph.

External CSS

An external style sheet is used to define the style for many HTML pages.

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

To use an external style sheet, add a link to it in the `<head>` section of the HTML page:

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

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

</body>
</html>
```

This is a heading

This is a paragraph.

An external style sheet can be written in any text editor. The file must not contain any HTML code, and must be saved with a .css extension.

Here is how the "styles.css" looks:

```
body {  
    background-color: powderblue;  
}  
h1 {  
    color: blue;  
}  
p {  
    color: red;  
}
```

CSS Fonts

The CSS `color` property defines the text color to be used.

The CSS `font-family` property defines the font to be used.

The CSS `font-size` property defines the text size to be used.

```
<!DOCTYPE html>
<html>
<head>
<style>
h1 {
  color: blue;
  font-family: verdana;
  font-size: 300%;
}
p {
  color: red;
  font-family: courier;
  font-size: 160%;
}
</style>
</head>
<body>

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

</body>
</html>
```

This is a heading

This is a paragraph.

CSS Border

The CSS `border` property defines a border around an HTML element:

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
  border: 1px solid powderblue;
}
</style>
</head>
<body>

<h1>This is a heading</h1>

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

</body>
</html>
```

This is a heading

This is a paragraph.

This is a paragraph.

This is a paragraph.

CSS Padding

The CSS `padding` property defines a padding (space) between the text and the border:

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
  border: 1px solid powderblue;
  padding: 30px;
}
</style>
</head>
<body>

<h1>This is a heading</h1>

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

</body>
</html>
```

This is a heading

This is a paragraph.

This is a paragraph.

This is a paragraph.

CSS Margin

The CSS `margin` property defines a margin (space) outside the border:

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
  border: 1px solid powderblue;
  margin: 50px;
}
</style>
</head>
<body>

<h1>This is a heading</h1>

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

</body>
</html>
```

This is a heading

This is a paragraph.

This is a paragraph.

This is a paragraph.

The id Attribute

To define a specific style for one special element, add an `id` attribute to the element:

```
<p id="p01">I am different</p>
```

then define a style for the element with the specific id:

```
<!DOCTYPE html>
<html>
<head>
<style>
#p01 {
  color: blue;
}
</style>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p id="p01">I am different.</p>

</body>
</html>
```

This is a paragraph.

This is a paragraph.

I am different.

The id of an element should be unique within a page, so the id selector is used to select one unique element!

The class Attribute

To define a style for special types of elements, add a `class` attribute to the element:

```
<p class="error">I am different</p>
```

then define a style for the elements with the specific class:

```
<!DOCTYPE html>
<html>
<head>
<style>
p.error {
  color: red;
}
</style>
</head>
<body>

<p>This is a paragraph.</p>
<p>This is a paragraph.</p>
<p class="error">I am different.</p>
<p>This is a paragraph.</p>
<p class="error">I am different too.</p>

</body>
</html>
```

This is a paragraph.

This is a paragraph.

I am different.

This is a paragraph.

I am different too.

External References

External style sheets can be referenced with a full URL or with a path relative to the current web page.

This example uses a full URL to link to a style sheet:

This example links to a style sheet located in the same folder as the current page:

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

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

</body>
</html>
```

This is a heading

This is a paragraph.