

CSS - Cascading Style Sheets

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- format the layout of a webpage
- cascading: style applies to all children elements
- CSS can be added to HTML documents in 3 ways:
 - Inline - by using the style attribute inside HTML elements
 - Internal - by using a `<style>` element in the `<head>` section
 - External - by using a `<link>` element to link to an external CSS file

Inline CSS: apply a unique style to a single HTML element

```
<!DOCTYPE html>
<html>
<body>
<h1 style="color:blue;">
A Blue Heading</h1>
<p style="color:red;">
A red paragraph.</p>
</body>
</html>
```

A Blue Heading

A red paragraph.

Internal CSS: define a style for a single HTML page

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: silver;}
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: define the style for many HTML pages

mypage.html

```
<!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>
```

styles.css

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

Overriding

- Internal or external style sheets override the browser default
- Inline style overrides any other style

```
<head>
<style>
h4 {color:green}
</style>
</head>
<body>
<h4>This is green</h4>
<h4 style="color:cyan">This is cyan</h4>
<h4 style="font-family:sans-serif">Green sans</h4>
</body>
```

This is green

This is cyan

Green sans

```
h1 { color:blue; font-size:12px;}
```

- selector (the html element we want to style)
- one or more declarations
- each declaration is in the form property:value;

Simple selectors

```
<head>
<style>
p {text-align:center;}
#hot {color:red;}
.xxl {font-size:300%;}
</style>
</head>

<body>
<p>Just centered</p>
<p id="hot">Centered red</p>
<p class="xxl">Centered large</p>
</body>
```

Just centered

Centered red

Centered large

Grouping and Universal Selector

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

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

Combinator selectors

```
div p { /* selects all p elements inside div elements */  
  background-color: yellow;  
}
```

This is a descendant selector. There are 4 combinator types:

- descendant selector (space)
- child selector (>)
- adjacent sibling selector (+)
- general sibling selector (~)

descendant selector (space)

```
<style>
div p {color:red;}
</style>
</head>
<body>
<div>
  <p>Child</p>
  <table><tr><td>
    <p>Descendant, not child</p>
  </td></tr></table>
</div>
<p>Not in a div, adjacent sibling</p>
<p>Not in div, general sibling</p>
```

Child

Descendant, not child

Not in a div, adjacent sibling

Not in div, general sibling

child selector (>)

```
<style>
div > p {color:red;}
</style>
</head>
<body>
<div>
  <p>Child</p>
  <table><tr><td>
    <p>Descendant, not child</p>
  </td></tr></table>
</div>
<p>Not in a div, adjacent sibling</p>
<p>Not in div, general sibling</p>
```

Child

Descendant, not child

Not in a div, adjacent sibling

Not in div, general sibling

adjacent sibling selector (+)

```
<style>
div + p {color:red;}
</style>
</head>
<body>
<div>
  <p>Child</p>
  <table><tr><td>
    <p>Descendant, not child</p>
  </td></tr></table>
</div>
<p>Not in a div, adjacent sibling</p>
<p>Not in div, general sibling</p>
```

Child

Descendant, not child

Not in a div, adjacent sibling

Not in div, general sibling

general sibling selector (~)

```
<style>
div ~ p {color:red;}
</style>
</head>
<body>
<div>
  <p>Child</p>
  <table><tr><td>
    <p>Descendant, not child</p>
  </td></tr></table>
</div>
<p>Not in a div, adjacent sibling</p>
<p>Not in div, general sibling</p>
```

Child

Descendant, not child

Not in a div, adjacent sibling

Not in div, general sibling

References

- <https://www.w3.org/standards/webdesign/htmlcss>
- <https://en.wikipedia.org/wiki/CSS>
- <https://www.w3schools.com/css/default.asp>