CSS
(Cascading Style Sheets)

https://www.w3schools.com/css/

INTRODUCTION TO INFORMATICS & COMPUTİNG

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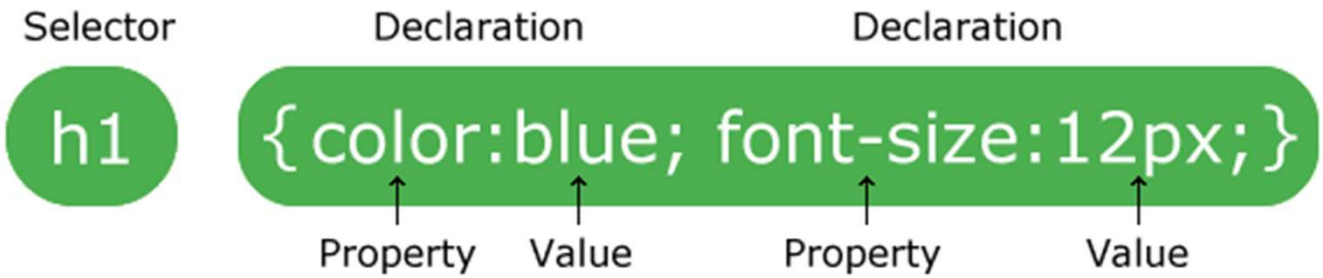
Syntax

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.

A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.



Hello World! (in 3 ways)

Hello World!

These paragraphs are styled with CSS.

1: External

Save this as **css/style.css**

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

And link it in your HTML code as below; <link … >

```
<html>
<head>
  <meta charset="UTF-8">
  <title>CSS Studies</title>
  <link rel="stylesheet" type="text/css" href="css/style.css">
</head>
<body>
  <p>Hello World!</p>
  <p>These paragraphs are styled with CSS.</p>
</body>
</html>
```

2: Internal

```
<!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>
```

3: Inline

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

Cascading Order

What style will be used when there is more than one style specified for an HTML element?

All the styles in a page 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

Selectors

Element

```
p {   }
```

ID

```
#para1 { }
```

Class

```
.center { }
```

Selectors: ID

Hello World!

This paragraph is not affected by the style.

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.

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

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

```
<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the style.</p>
```

Selectors: Class

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.

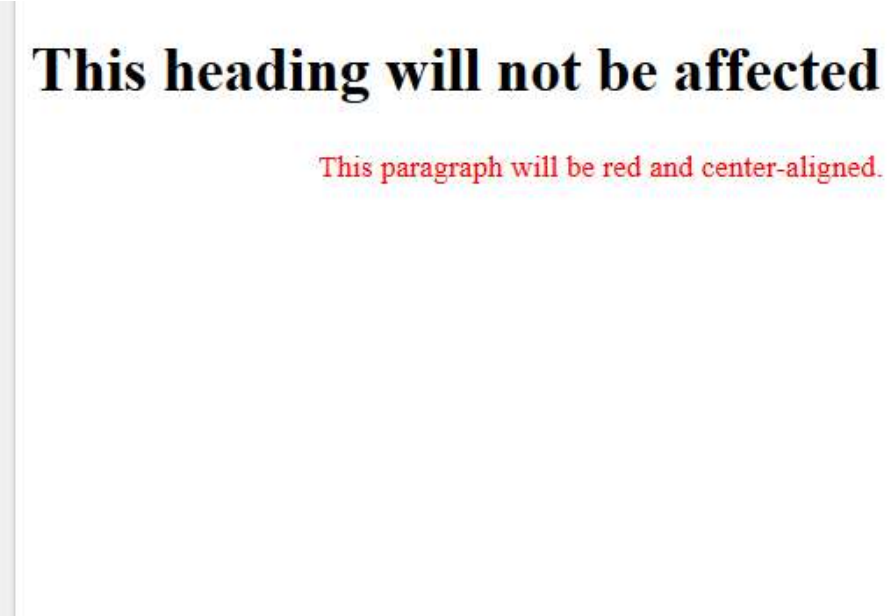
In the example below, all HTML elements with class="center" will be red and center-aligned:

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

```
<h1 class="center">Red and center-aligned heading</h1>
<p class="center">Red and center-aligned paragraph.</p>
```

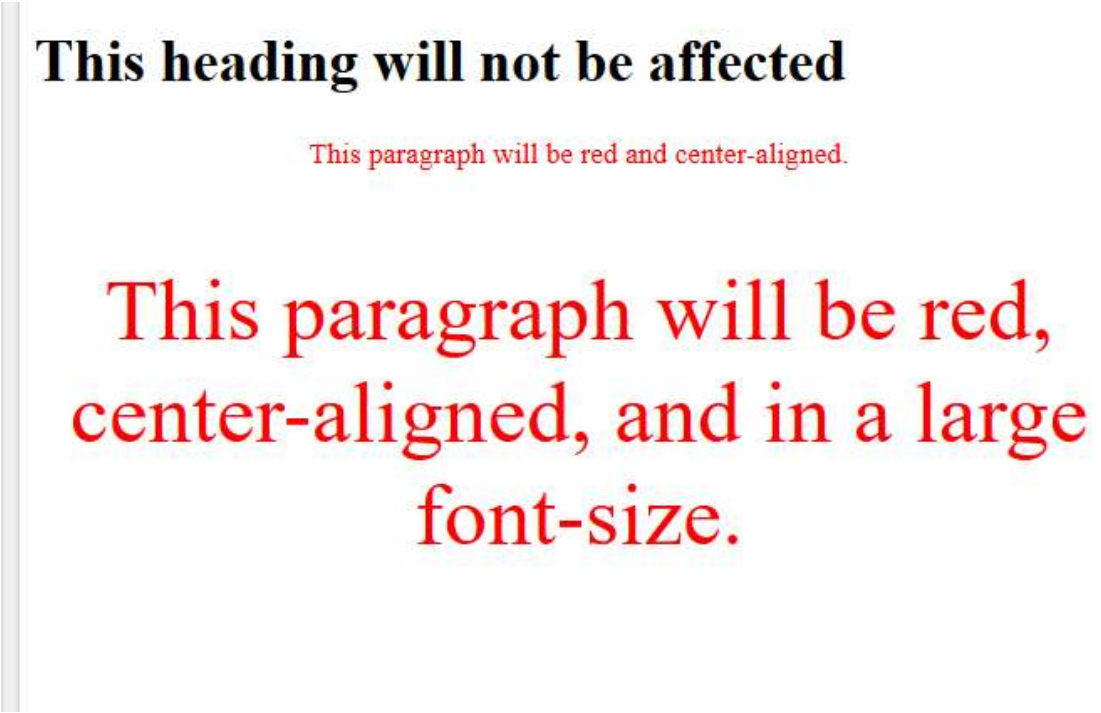
You can also specify that only specific HTML elements should be affected by a class.
Only <p> elements with class="center" will be center-aligned

```
<!DOCTYPE html>
<html>
<head>
<style>
p.center {
  text-align: center;
  color: red;
}
</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>

</body>
</html>
```



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":

```
<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

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

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

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

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

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:

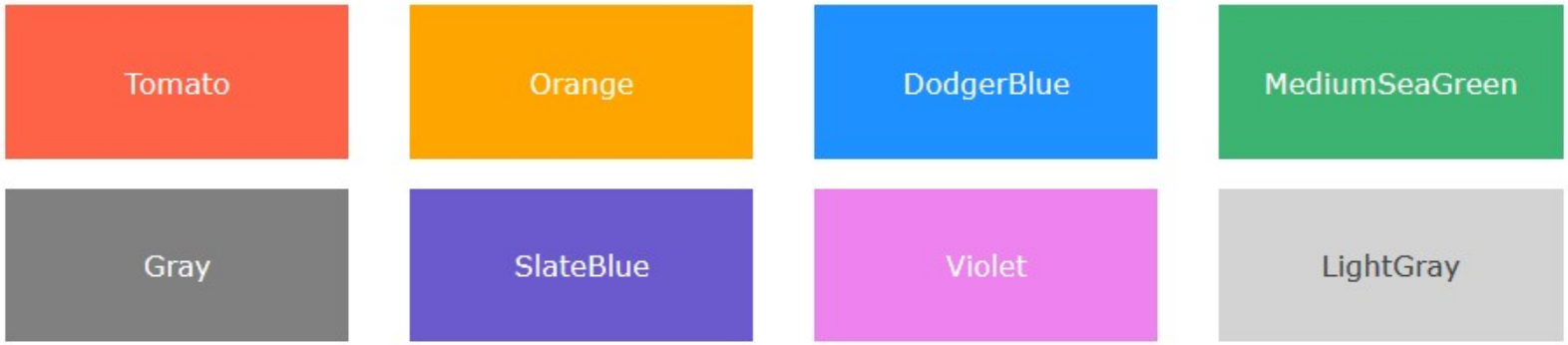
```
p {
  color: red;
  /* This is a single-line comment */
  text-align: center;
}

/* This is
a multi-line
comment */
```

Colors

RGB, HEX, HSL, RGBA, HSLA values

HTML supports 140 standard color names

Some colors:



rgb(255, 99, 71)

RED 255

GREEN 99

BLUE 71

rgb(255, 0, 0)

rgb(0, 0, 255)

rgb(60, 179, 113)

rgb(238, 130, 238)

rgb(255, 165, 0)

rgb(106, 90, 205)

#ff0000

#0000ff

#3cb371

#ee82ee

#ffa500

#6a5acd

hsl(0, 100%, 50%)

hsl(240, 100%, 50%)

hsl(147, 50%, 47%)

hsl(300, 76%, 72%)

hsl(39, 100%, 50%)

hsl(248, 53%, 58%)

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

Alpha channel for transparency

Same as color name "Tomato":

rgb(255, 99, 71)

#ff6347

hsl(9, 100%, 64%)

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

rgba(255, 99, 71, 0.5)

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

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

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

Colors: Background color example


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

Colors: Borders


```
<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>
```

CSS Backgrounds

background-color

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

background-image

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

background-repeat

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

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

CSS Border Properties

```
p.dotted {border-style: dotted;}
p.dashed {border-style: dashed;}
p.solid {border-style: solid;}
p.double {border-style: double;}
p.groove {border-style: groove;}
p.ridge {border-style: ridge;}
p.inset {border-style: inset;}
p.outset {border-style: outset;}
p.none {border-style: none;}
p.hidden {border-style: hidden;}
p.mix {border-style: dotted dashed solid double;}
```

A dotted border.

A dashed border.

A solid border.

A double border.

A groove border. The effect depends on the border-color value.

A ridge border. The effect depends on the border-color value.

An inset border. The effect depends on the border-color value.

An outset border. The effect depends on the border-color value.

No border.

A hidden border.

A mixed border.

CSS Margins

Create space around elements, outside of any defined borders.

```css
p {
  margin-top: 100px;
  margin-bottom: 100px;
  margin-right: 150px;
  margin-left: 80px;
}
```

```css
p {
  margin: 25px 50px 75px 100px;
}
```

CSS Padding

Generate space around an element's content, inside of any borders.

```css
div {
  padding-top: 50px;
  padding-right: 30px;
  padding-bottom: 50px;
  padding-left: 80px;
}
```

```css
div {
  padding: 25px 50px 75px 100px;
}
```

CSS Height and Width

The height and width can be set to auto (this is default: browser calculates them),

or be specified in length values, like px, cm, etc.,

or in percent (%) of the containing block.

```
div {
  height: 200px;
  width: 50%;
  background-color: powderblue;
}
```

This element has a height of 200 pixels and a width of 50%

CSS Box Model

Margin - Clears an area outside the border. The margin is transparent
Border - A border that goes around the padding and content
Padding - Clears an area around the content. The padding is transparent
Content - The content of the box, where text and images appear

```css
div {
  width: 300px;
  border: 15px solid green;
  padding: 50px;
  margin: 20px;
}
```

320px (width)
+ 20px (left + right padding)
+ 10px (left + right border)
+ 0px (left + right margin)
= **350px**

CSS Text

```css
body {
  color: blue;
}

h1 {
  color: green;
}
```

```css
div {
  text-align: justify;
}
```

```css
h1 {
  text-align: center;
}

h2 {
  text-align: left;
}

h3 {
  text-align: right;
}
```

```css
a {
  text-decoration: none;
}
```

```css
h1 {
  text-decoration: overline;
}

h2 {
  text-decoration: line-through;
}

h3 {
  text-decoration: underline;
}
```

```css
p.uppercase {
  text-transform: uppercase;
}

p.lowercase {
  text-transform: lowercase;
}

p.capitalize {
  text-transform: capitalize;
}
```

```css
p {
  text-indent: 50px;
}
```

```css
h1 {
  letter-spacing: 3px;
}

h2 {
  letter-spacing: -3px;
}
```

```css
p.small {
  line-height: 0.8;
}

p.big {
  line-height: 1.8;
}
```

```css
h1 {
  word-spacing: 10px;
}

h2 {
  word-spacing: -5px;
}
```

```css
h1 {
  text-shadow: 3px 2px red;
}
```