

Cal State Fullerton

CPSC 349 CSS Basics

By

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- Let's suppose we have created our web page using a simple HTML code, and we want something which can present our page in a correct format, and visibly attractive. So to do this, we can style our web page with CSS (Cascading Stylesheet) properties.
- CSS is used to apply the style in the web page which is made up of HTML elements. It describes the look of the webpage.
- CSS provides various style properties such as background color, padding, margin, border-color, and many more, to style a webpage.
- Each property in CSS has a name-value pair, and each property is separated by a semicolon (;)

Three ways to apply CSS

To use CSS with HTML document, there are three ways:

- **Inline CSS:** Define CSS properties using style attribute in the HTML elements.
- **Internal or Embedded CSS:** Define CSS using `<style>` tag in `<head>` section.
- **External CSS:** Define all CSS property in a separate .css file, and then include the file with HTML file using tag in section.

Inline CSS:

Inline CSS is used to apply CSS in a single element. It can apply style uniquely in each element.

To apply inline CSS, you need to use style attribute within HTML element. We can use as many properties as we want, but each property should be separated by a semicolon (;).

Example:

```
<h3 style="color: red;  
    font-style: italic;  
    text-align: center;  
    font-size: 50px;  
    padding-top: 25px;">Learning HTML using Inline CSS</h3>
```

Output:

*Learning HTML using Inline
CSS*

Internal CSS

- An Internal stylesheets contains the CSS properties for a webpage in <head> section of HTML document. To use Internal CSS, we can use class and id attributes.
- We can use internal CSS to apply a style for a single HTML page.

Example:

```
<!DOCTYPE html>
<html>
<head>
  <style>
    /*Internal CSS using element name*/
    body{background-color:lavender;
    text-align: center;}
    h2{font-style: italic;
    font-size: 30px;
    color: #f08080;}
    p{font-size: 20px;}
    /*Internal CSS using class name*/
    .blue{color: blue;}
    .red{color: red;}
    .green{color: green;}
  </style>
</head>
<body>
  <h2>Learning HTML with internal CSS</h2>
  <p class="blue">This is a blue color paragraph</p>
  <p class="red">This is a red color paragraph</p>
  <p class="green">This is a green color paragraph</p>
</body>
</html>
```

External CSS:

An external CSS contains a separate CSS file which only contains style code using the class name, id name, tag name, etc. We can use this CSS file in any HTML file by including it in HTML file using `<link>` tag.

If we have multiple HTML pages for an application and which use similar CSS, then we can use external CSS.

There are two files need to create to apply external CSS

- First, create the HTML file
- Create a CSS file and save it using the .css extension (This file only will only contain the styling code.)
- Link the CSS file in your HTML file using tag in header section of HTML document.

CSS file:

```
body{
background-color:lavender;
text-align: center;
}
h2{
font-style: italic;
size: 30px;
color: #f08080;
}
p{
font-size: 20px;
}

.blue{
color: blue;
}
.red{
color: red;
}
.green{
color: green;
}
```

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" type="text/css"
href="https://static.javatpoint.com/htmlpages/css/style.css">
</head>
<body>
  <h2>Learning HTML with External CSS</h2>
  <p class="blue">This is a blue color paragraph</p>
  <p class="red">This is a red color paragraph</p>
  <p class="green">This is a green color paragraph</p>
</body>
</html>
```

Learning HTML with External CSS

This is a blue color paragraph

This is a red color paragraph

This is a green color paragraph

Commonly used CSS properties:

Properties-name	Syntax	Description
background-color	background-color:red;	It defines the background color of that element.
color	color: lightgreen;	It defines the color of text of an element
padding	padding: 20px;	It defines the space between content and the border.
margin	margin: 30px; margin-left:	It creates space around an element.
font-family	font-family: cursive;	Font-family defines a font for a particular element.
Font-size	font-size: 50px;	Font-size defines a font size for a particular element.
text-align	text-align: left;	It is used to align the text in a selected position.

Defining an HTML class

To create an HTML class, firstly define style for HTML class using `<style>` tag within `<head>` section as following example

Example 1:

```
<!DOCTYPE html>
<html>
<head>
  <style>
    .headings{
      color: lightgreen;
      font-family: cursive;
      background-color: black; }
  </style>
</head>
<body>
<h1 class="headings">This is first heading</h1>
<h2 class="headings">This is Second heading</h2>
<h3 class="headings">This is third heading</h3>
<h4 class="headings">This is fourth heading</h4>
</body>
</html>
```


Output:

This is first heading

This is Second heading

This is third heading

This is fourth heading

Another Example with different class name

Example:

Let's use a class name "Fruit" with CSS to style all elements.

```
<style>
.fruit {
  background-color: orange;
  color: white;
  padding: 10px;
}
</style>

<h2 class="fruit">Mango</h2>
<p>Mango is king of all fruits.</p>

<h2 class="fruit">Orange</h2>
<p>Oranges are full of Vitamin C.</p>

<h2 class="fruit">Apple</h2>
<p>An apple a day, keeps the Doctor away.</p>
```

Output:

Mango

Mango is king of all fruits.

Orange

Oranges are full of Vitamin C.

Apple

An apple a day, keeps the Doctor away.

Multiple Classes

You can use multiple class names (more than one) with HTML elements. These class names must be separated by a space.

For example,

Let's style elements with class name "fruit" and also with a class name "center".

```
<!DOCTYPE html>
<html>
<style>
.fruit {
  background-color: orange;
  color: white;
  padding: 10px;
}

.center {
  text-align: center;
}
</style>
<body>

<h2>Multiple Classes</h2>
<p>All three elements have the class name "fruit". In addition, Mango also have the class name "center", which center-aligns the text.</p>

<h2 class="fruit center">Mango</h2>
<h2 class="fruit">Orange</h2>
<h2 class="fruit">Apple</h2>

</body>
</html>
```


Same class with Different Tag

You can use the same class name with different tags like <h2> and <p> etc. to share the same style.

Example:

```
<!DOCTYPE html>
<html>
<style>
.fruit {
  background-color: orange;
  color: white;
  padding: 10px;
}
</style>
<body>
<h2>Same Class with Different Tag</h2>
<h2 class="fruit">Mango</h2>
<p class="fruit">Mango is the king of all fruits.</p>
</body>
</html>
```

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)

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;  
}
```

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

```
<p>Every paragraph will be affected by the style.</p>
<p id="para1">Me too!</p>
<p>And me!</p>

</body>
</html>
```

Every paragraph will be affected by the style.

Me too!

And me!

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;  
}
```



```
<!DOCTYPE html>
<html>
<head>
<style>
#para1 {
  text-align: center;
  color: red;
}
</style>
</head>
<body>

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

</body>
</html>
```

Hello World!

This paragraph is not affected by the style.

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;  
}
```

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

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

</body>
</html>
```

Red and center-aligned heading

Red and center-aligned paragraph.

CSS Selector Syntax

Selector(could be a tag, an id or a class) : {
 color: red (this could be any property: value pair)
 ...
 ...
}

```
label {  
    color:  red;  
}  
#fname {  
    background-color:  black;  
}  
#lblFname {  
    color:  greenyellow;  
}  
.passwd {  
    color:  blue;  
    font-size: 25px;  
}  
.fnameClass {  
    background-color:  chocolate;  
}
```

Example

The first one is an example of tag selector.

The second and third are examples of id selectors.

The fourth and fifth are examples of class selectors.

You can also specify that only specific HTML elements should be affected by a class.

Example

In this example only `<p>` elements with `class="center"` will be red and center-aligned:

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

```
<!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>
```

This heading will not be affected

This paragraph will be red and center-aligned.

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>
```

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

Output:

This heading will not be affected

This paragraph will be red and center-aligned.

This paragraph will be red,
center-aligned, and in a large
font-size.

HTML id and class attributes

When an HTML element is given an id, it serves as a unique identifier for that element.

On the other hand, when an HTML element is given a class, it now belongs to that class. More than one element can belong to a single class but every element must have a unique id (if assigned).

We can add multiple classes to an element like this,

```
<div id = 'first' class = 'C1 C2 C3'>  
    ...  
</div>
```


Example:

```
index.html •
< index.html > html > body > section.red.bg-blue
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta http-equiv="X-UA-Compatible" content="IE=edge">
7      <meta name="viewport" content="width=device-width, initial-scale=1.0">
8      <title>Document</title>
9  </head>
10
11 <body>
12     <div id="first">
13         first
14     </div>
15     <div id="second">
16         second
17     </div>
18     <section class="red">
19
20     </section>
21     <section class="red bg-blue">
22
23     </section>
24 </body>
25
26 </html>
```

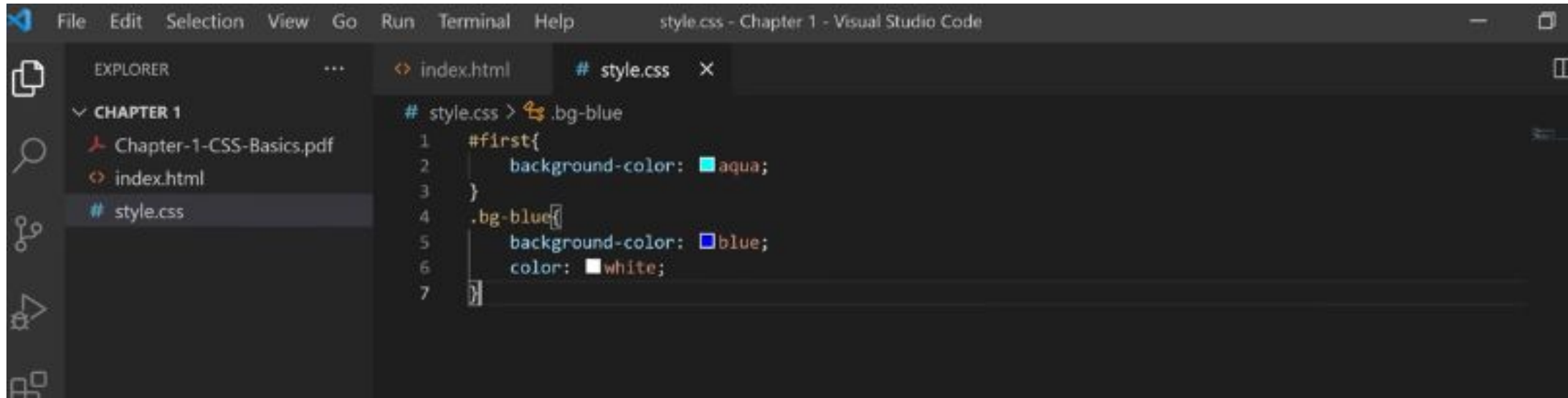
One way to declare css is adding a style tag in the head tag and include everything ,example:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
  #first{
    background-color: aqua;
  }
  .bg-blue{
    background-color: blue;
    color: white;
  }
</style>
<head>
</head>
<body>
  <div id="first">
    first
  </div>
  <div id="second">
    second
  </div>
  <section class="red">
    red
  </section>
  <section class="red bg-blue border-purple">
    red bg blue and border purple
  </section>
</div>
```

Second way: If we remove style and add style in div like this,

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<!-- <style>
  #first{
    background-color: aqua;
  }
  .bg-blue{
    background-color: blue;
    color: white;
  }
</style> -->
</head>
<body>
  <div id="first" style="background-color: aqua;">
    first
  </div>
  <div id="second">
    second
  </div>
  <section class="red">
    red
  </section>
  <section class="red bg-blue border-purple">
    red bg blue and border purple
  </section>
</div>
```

Third way : Create a style.css file




The screenshot shows the Visual Studio Code editor with a file named `style.css` open. The Explorer sidebar on the left shows a project structure with a folder named `CHAPTER 1` containing `Chapter-1-CSS-Basics.pdf`, `index.html`, and `style.css`. The `style.css` file is selected and its content is displayed in the main editor area. The code defines two CSS selectors: `#first` and `.bg-blue`. The `#first` selector sets the background color to `aqua`. The `.bg-blue` selector sets the background color to `blue` and the color to `white`.

```
# style.css > .bg-blue
1  #first{
2      background-color: aqua;
3  }
4  .bg-blue{
5      background-color: blue;
6      color: white;
7  }
```

And add a link of style.css like this,

```
index.html X
index.html > html > body
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta http-equiv="X-UA-Compatible" content="IE=edge">
7      <meta name="viewport" content="width=device-width, initial-scale=1.0">
8      <title>Document</title>
9      <link rel="stylesheet" href="style.css">
10     <!-- <style>
11         #first{
12             background-color: aqua;
13         }
14         .bg-blue{
15             background-color: blue;
16             color: white;
17         }
18     </style> -->
19 </head>
20
21
```

Example where Background color is red only. But, Not content included in <p> </p>.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Css Selectors</title>
  <style>
    h1{
      color:  red;
    }
  </style>
</head>
<body>
  <div>
    <h1>This is my CSS Selector page</h1>
    <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi nes
iure dolorum in rerum cupiditate necessitatibus at sed corrupti perspiciat
molestiae, totam esse beatae laudantium soluta iste dolore perferendis a?
Numquam, inventore?</p>
```


Output

This is my CSS Selector page

Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi nesciunt iure dolorum in rerum cupiditate necessitatibus at sed corrupti perspiciatis eius molestiae, totam esse beatae laudantium soluta iste dolore perferendis a? Numquam, inventore?



Adding style to div will affect h1 and p both

```
cssSelectors.html > html > head > style > div
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Css Selectors</title>
8      <style>
9          h1{
10             color: red;
11         }
12         div{
13             background-color: antiquewhite;
14         }
15     </style>
16 </head>
17 <body>
18     <div>
19         <h1>This is my CSS Selector page</h1>
20         <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi nes
```

Output

This is my CSS Selector page

Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi nesciunt iure dolorum in rerum cupiditate necessitatibus at sed corrupti perspiciatis eius molestiae, totam esse beatae laudantium soluta iste dolore perferendis a? Numquam, inventore?

Question: If I add another h1 tag what will be the output. will it be in red color too?

```
cssSelectors.html > html > head > style > h1
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Css Selectors</title>
8      <style>
9          h1{
10             color: red;
11         }
12         div{
13             background-color: antiquewhite;
14         }
15     </style>
16 </head>
17 <body>
18     <div>
19         <h1>This is my CSS Selector page</h1>
20         <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi n
iure dolorum in rerum cupiditate necessitatibus at sed corrupti perspici
molestiae, totam esse beatae laudantium soluta iste dolore perferendis a
inventore?</p>
21         <h1>This is another h1</h1>
22     </div>
```

Output: Every h1 tag will be in red color. It is called element selector.

This is my CSS Selector page

Lorem ipsum dolor sit amet consectetur adipisicing elit. Amet sequi nesciunt iure dolorum in rerum cupiditate necessitatibus at sed corrupti perspiciatis eius molestiae, totam esse beatae laudantium soluta iste dolore perferendis a? Numquam, inventore?

This is another h1

Some Resources on MDN.
You can explore more from these links.

<https://developer.mozilla.org/en-US/docs/Web/CSS/background-attachment>

<https://developer.mozilla.org/en-US/docs/Web/CSS/background-size>

<https://developer.mozilla.org/en-US/docs/Web/CSS/background-repeat>

THANK YOU