

Diploma in Web Development

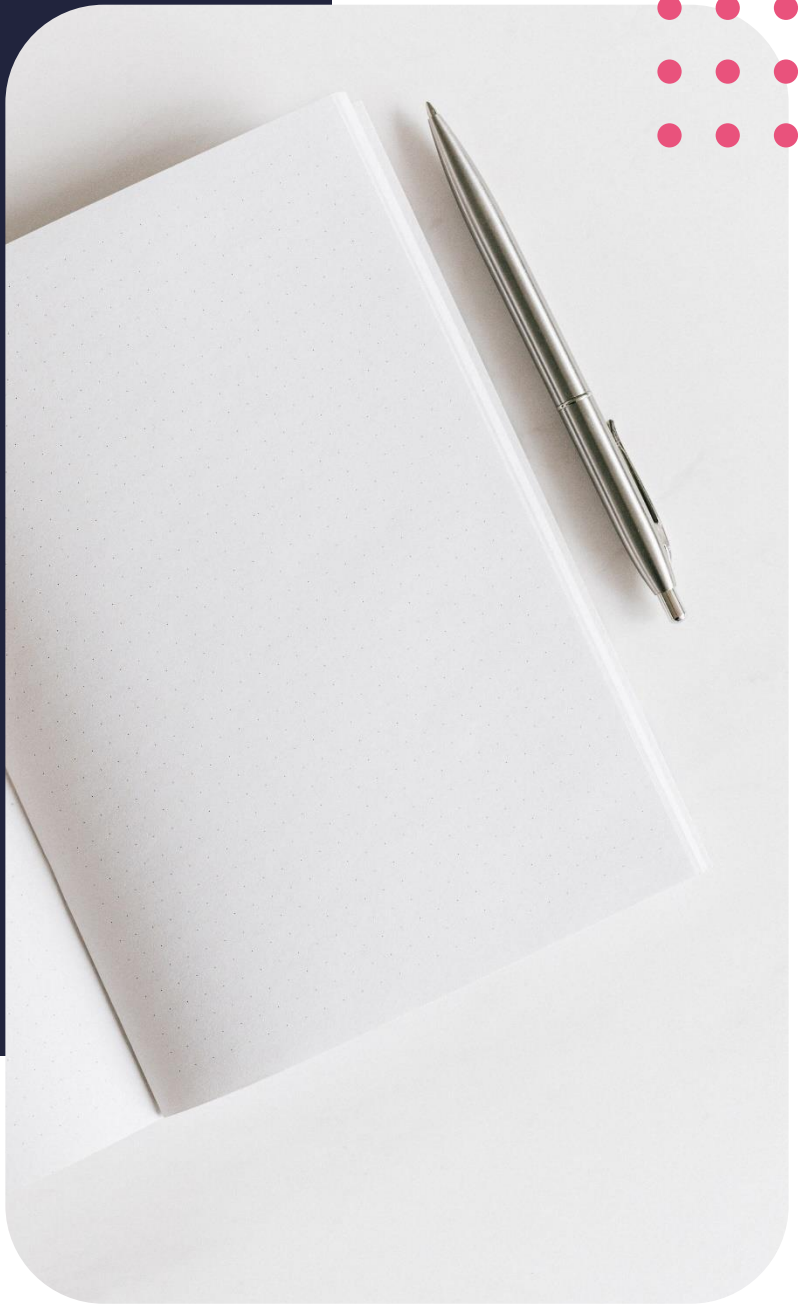
# Introduction to CSS

Summary Notes



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### Lesson outcomes

In this lesson, you will be introduced to CSS as a styling language. This will give you an idea of how we go about styling our bare bone website to something more appealing to end users. CSS is the most popular language used when it comes to styling our website and it is capable of dramatically improving the usability of a website. So stay tuned, because things are going to become a lot more.

## What is CSS?

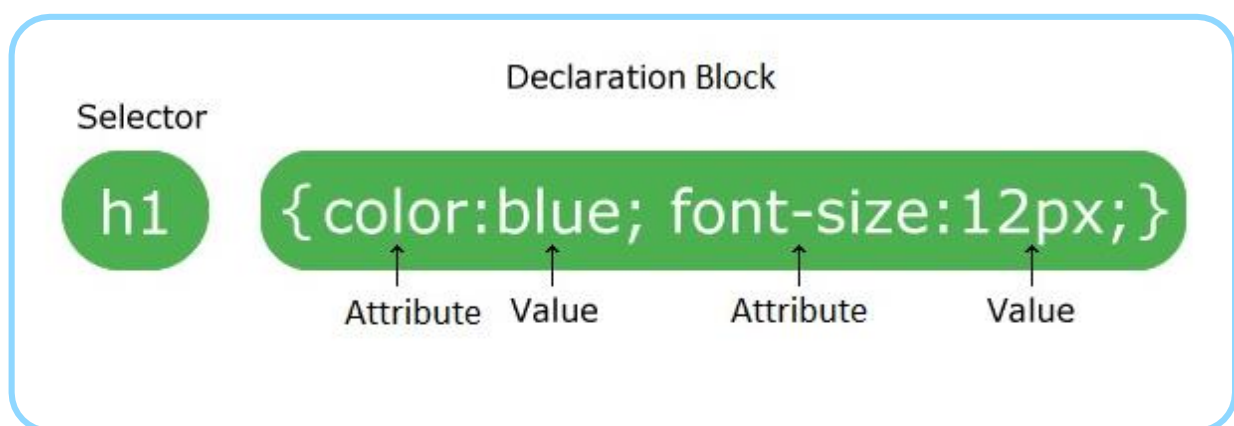
### CSS defined

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML, the language can be used to rendering various other media formats.

### Characteristics of CSS

- Allows computing devices to display web pages differently depending on the screen size or viewing device.
- Enable the separation of presentation and content, including aspects such as the layout, colors, and fonts.
- Improves content accessibility.
- Uses selectors in order to target HTML elements for visual manipulation.
- Declaration blocks are used to specify changes in element attributes

### Defining a CSS declaration block



- **Selector** - Points to the HTML element you want to style.
- **Declaration block** - Contains one or more declarations separated by semicolons.
- **Attribute** - The attribute or property of the HTML element to you want to change.
- **Value** - The value the specified attribute to be changed.

## Common selectors

Element/Tag	Example	Details
.class	.container	Selects all elements with a class name of <i>container</i>
#id	#student-number	Selects an element with a uniquely identifiable ID i.e <i>student number</i>
element	h1	Selects all <i>&lt;h1&gt;</i> elements
element,element	div, p	Selects all <i>&lt;div&gt;</i> elements and all <i>&lt;p&gt;</i> elements
element element	nav li	Selects all <i>&lt;li&gt;</i> elements inside <i>&lt;nav&gt;</i> elements
element+element	div + h2	Selects all <i>&lt;h2&gt;</i> elements that are placed immediately after <i>&lt;div&gt;</i> elements

## Working with pseudo-classes

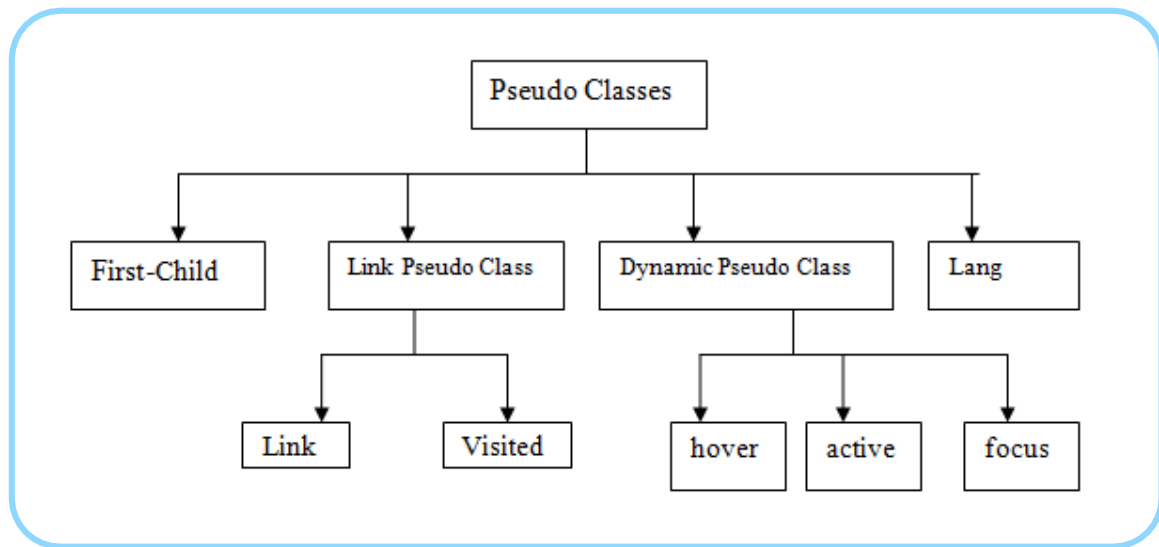
### Pseudo-classes

Used to define a special state of an element. Elements, much like most objects can exist in different states.

### Why use pseudo-classes?

- Enables improved navigation for end-user.
- Conveys meaning to selected elements through interactive elements
- Enhances user interface.

## Pseudo-class model



## Common pseudo-classes

Element/Tag	Example	Details
:active	a:active	Selects the active link
:hover	a:hover	Selects links on mouse over
:link	a:link	Selects all unvisited links
:visited	a:visited	Selects all visited links
:focus	input:focus	Selects the input element which has focus
:checked	input:checked	Selects every checked <input> element
:disabled	input:disabled	Selects every disabled <input> element
:first-child	p:first-child	Selects every <p> element that is the first child of its parent
:invalid	input:invalid	Selects all input elements with an invalid value

# Approaches to styling

## External styling

Considered best practice for most web development projects. Allows developers to change the styling of an entire website from a single style sheet.

```
/*My first Style Sheet*/

.pos-body{
    margin: 0;
}

.pos-wrapper{

    background-color: lightgrey;
    /*responsive design*/
    width: 40%;
    /*hard coded height use first and then remove*/
    /*height: 120px;*/
    /*short hand for padding*/
    padding:30px 10px 30px 10px;
    /*center div*/
    margin:30px auto;
    /*overrides % width specified earlier*/
    max-width: 800px;
    min-width: 400px;
    /*overrides px height specified earlier*/
    min-height: 120px;
    /*example of putting divs side by side*/
    /*display: inline-block;*/

}

.pos-wrapper-2
{
    background-color:brown;
    height:200px;
    width:10%;
    /*example of putting divs side by side*/
    /*display:inline-block;*/
}
```

## Internal styling

Embedded between the <head> tags of an HTML document. Styles all elements within a single document. Uses the <style> tag.

```
1  <!DOCTYPE>
2  <html>
3  <head>
4      <title> Products Page </title>
5  <style>
6      .product_heading{
7
8          text-decoration: underline;
9
10     }
11
12     .product_price{
13         font-style: italic;
14
15     }
16
17     #img_1 {
18         border-color: blue;
19         width: 400px
20     }
21
22     #img_2 {
23         border-color: red;
24         width: 400px
25     }
26
27     #img_3 {
28         border-color: orange;
29         width: 400px
30     }
31
32
33
34 </style>
35
36 </head>
37 <body>
38 <header>
39     <h1>Products</h1>
40 </header>
```

## Inline styling

Embeds styling within HTML elements, usually in the same instance in which elements are created.

```
1  <!DOCTYPE>
2  <html>
3  <head>
4      <title> My New Website </title>
5  </head>
6  <body>
7      <header>
8          <h1>Hello World</h1>
9      </header>
10     <nav>
11         <ul>
12             <li><a href="index.html">Home</a></li>
13             <li><a href="cart.html">Cart</a></li>
14             <li><a href="about.html">About Us</a></li>
15             <li><a href="register.html">Register</a></li>
16             <li><a href="prices.html">Price List</a></li>
17         </ul>
18     </nav>
19     <hr width="1300">
20 <section>
21
22     <p > Welcome to IFS 354. In this course, you will learn the basics of
23
24     <br>
25
26
27 </section>
28
29 <section>
30     <h2 style="color:blue;margin-left:30px;">What is HTML?</h2>
```



## Commenting in CSS

Developers usually insert comments to specify the purpose of the style sheet or to include author details.

To comment in CSS, we use the following notation:

**`/*comment*/`**

```
/*My first Style Sheet*/

.pos-body{
    margin: 0;
}

.pos-wrapper{

    background-color: lightgrey;
    /*responsive design*/
    width: 40%;
    /*hard coded height use first and then remove*/
    /*height: 120px;*/
    /*short hand for padding*/
    padding:30px 10px 30px 10px;
    /*center div*/
    margin:30px auto;
    /*overrides % width specified earlier*/
    max-width: 800px;
    min-width: 400px;
    /*overrides px height specified earlier*/
    min-height: 120px;
    /*example of putting divs side by side*/
    /*display: inline-block;*/

}

.pos-wrapper-2
{
    background-color:brown;
    height:200px;
    width:10%;
    /*example of putting divs side by side*/
    /*display:inline-block;*/
}
```

## Linking the style sheet

In order to link an externally created style sheet, use the `<link>` tag between the `<head>` within the HTML document.

```
<head>  
<link rel="stylesheet" type="text/css" href="mystyle.css">  
</head>
```

## Working with fonts

### Fonts in CSS

Typography is the art of designing the appearance of characters and letters on a page. Text characters are based on fonts that define the style and appearance of each character in the alphabet. By default, most websites use Times New Roman. This can be overridden using CSS. To alter the font of text, use the *font-family* property.

### Scaling fonts

Absolute	Relative
Sets the text to a specified size.	Sets the size relative to surrounding elements.
Does not allow a user to change the text size in all browsers.	Allows a user to change the text size in browsers.
Useful when the physical size of the output is known.	

## Absolute fonts sizes

Absolute font sizes generally use fixed values, such as pixels (px), to specify text sizes.

```
h1 {  
  font-size: 40px;  
}  
  
h2 {  
  font-size: 30px;  
}  
  
p {  
  font-size: 14px;  
}
```

## Relative fonts sizes

Setting font sizes using the em size enables users to resize the text and is often a preferred alternative to px. 1em is equal to the default text size of browsers, 16px.

```
h1 {  
  font-size: 2.5em; /* 40px/16=2.5em */  
}  
  
h2 {  
  font-size: 1.875em; /* 30px/16=1.875em */  
}  
  
p {  
  font-size: 0.875em; /* 14px/16=0.875em */  
}
```

# Source code

## index.html

```
<!DOCTYPE html>
<html>
<title> Cars </title>

<head>
<link rel="stylesheet" type="text/css" href="css/stylesheet.css">
</head>

<body>
  <header>
    <h1>Cars</h1>
    <div>
      <!-- THIS IS MY NAVIGATION SYSTEM WITH 4 LINKS-->
      <nav>
        <ul>
          <li> <a href="index.html">Cars</a> </li>
          <li><a href="drag-race.html">View race</a></li>
          <li><a href="login-signup-form.html">Log out</a></li>

          </ul>
        </nav>
      </div>
      <hr width="1000px">
    </header>

    <section>
      <h2 class="headings">Toyota GR Supra</h2>

      <p class="prices">Price: $51,945</p>

      <table border="1px">
        <tr>
          <th>Information</th>
          <th>Details</th>

        </tr>
        <tr>
          <td>Drivetrain</td>
          <td>front-engine, rear-wheel-drive</td>
        </tr>
        <tr>
          <td>Engine type</td>
          <td>turbocharged, inline-6</td>
        </tr>
        <tr>
          <td>Power</td>
          <td>382 hp @ 6500 rpm</td>
        </tr>
        <tr>
          <td>Torque</td>
          <td>368 lb-ft @ 1800 rpm</td>
        </tr>
        <tr>
          <td>0 - 60mph</td>
          <td>3.8 sec</td>
        </tr>
        <tr>
          <td>Transmission</td>
          <td>8-speed automatic</td>
        </tr>
      </table>
    </section>
  </body>
</html>
```

```

        <tr>
            <td>Fuel Economy</td>
            <td>Combined/city/highway: 25/22/30 mpg</td>
        </tr>

    </table>

</section>

<br>
<hr width="1000px">

<section>
    <h2 class="headings">BMW M2 Competition</h2>

    <p class="prices">Price: $59,895</p>

    <table border="1px">
        <tr>
            <th>Information</th>
            <th>Details</th>

        </tr>
        <tr>
            <td>Drivetrain</td>
            <td>front-engine, rear-wheel-drive</td>
        </tr>
        <tr>
            <td>Engine type</td>
            <td>front-engine, rear-wheel-drive</td>
        </tr>
        <tr>
            <td>Power</td>
            <td>405 hp @ 7000 rpm</td>
        </tr>
        <tr>
            <td>Torque</td>
            <td>406 lb-ft @ 2350 rpm</td>
        </tr>
        <tr>
            <td>0 - 60mph</td>
            <td>3.9 sec</td>
        </tr>
        <tr>
            <td>Transmission</td>
            <td>6-speed manual</td>
        </tr>
        <tr>
            <td>Fuel Economy</td>
            <td>Combined/city/highway: 19/17/23 mpg</td>
        </tr>

    </table>

</section>

<br>
<hr width="1000px">
</body>
</html>

```

## drag-race.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">

<head>
  <meta charset="utf-8">
  <title>View race</title>
</head>

<body>
  <h1>View race</h1>

  <li> <a href="index.html">Cars</a> </li>
  <li><a href="drag-race.html">View race</a></li>
  <li><a href="login-signup-form.html">Log out</a></li>

  <hr width="1000px">
  <br>
  <video src="m2-supra-drag-race.mp4" controls width="720px">

  </video>
</body>

</html>
```

## login-signup-form.html

```
<!DOCTYPE html>
<html lang="en" dir="ltr">

<head>
  <link rel="stylesheet" type="text/css" href="css/styleSheet.css">
  <meta charset="utf-8">
  <title></title>
</head>

<body>

  <h1>Login</h2>

  <li> <a href="index.html">Cars</a> </li>
  <li><a href="drag-race.html">View race</a></li>
  <li><a href="login-signup-form.html">Log out</a></li>

  <form id="my-form" action="">
    <p>Username</p>
    <input type="text" name="user-name">
    <br>
    <p>Password</p>
    <input type="password" name="pwd">
    <br>
    <br>
    <input id="submit-btn" type="submit" value="Login">
    <br>
    <a href="#">Sign up</a>
    <br>
    <a href="#">Forgot password?</a>
  </form>

</body>

</html>
```

## stylesheet.css

```
#supra {
  border-color: blue;
  width: 450px;
}

#supra:hover {
  width: 720px;
  border-radius: 10px;
  border-color: #64e764;
}

#m2 {
  border-color: orange;
  width: 450px;
}

#m2:hover {
  width: 720px;
  border-radius: 10px;
  border-color: #64e764;
}

.headings {
  font-style: italic;
}

.prices {
  font-style: italic;
}

a:visited {
  color: orange;
}

h1 {
  font-family: arial black;
}

#submit-btn:hover {
  background-color: orange;
  color: white;
}

input:focus{
  background-color: #64e764;
}
```