Introduction to Web Development

A sneak peek into HTML, CSS

Codetrain

HTML

THE CONTENT PART

What you need:

- A text editor (e.g. Sublime text)
- A web browser (e.g Chrome)

The Basic Structure

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demo.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Page Title</title>
5  </head>
6  <body>
7
8      <h1>My first Heading</h1>
9      <p>My first paragraph</p>
10 </body>
11 </html>
```

Visualization of Page Structure

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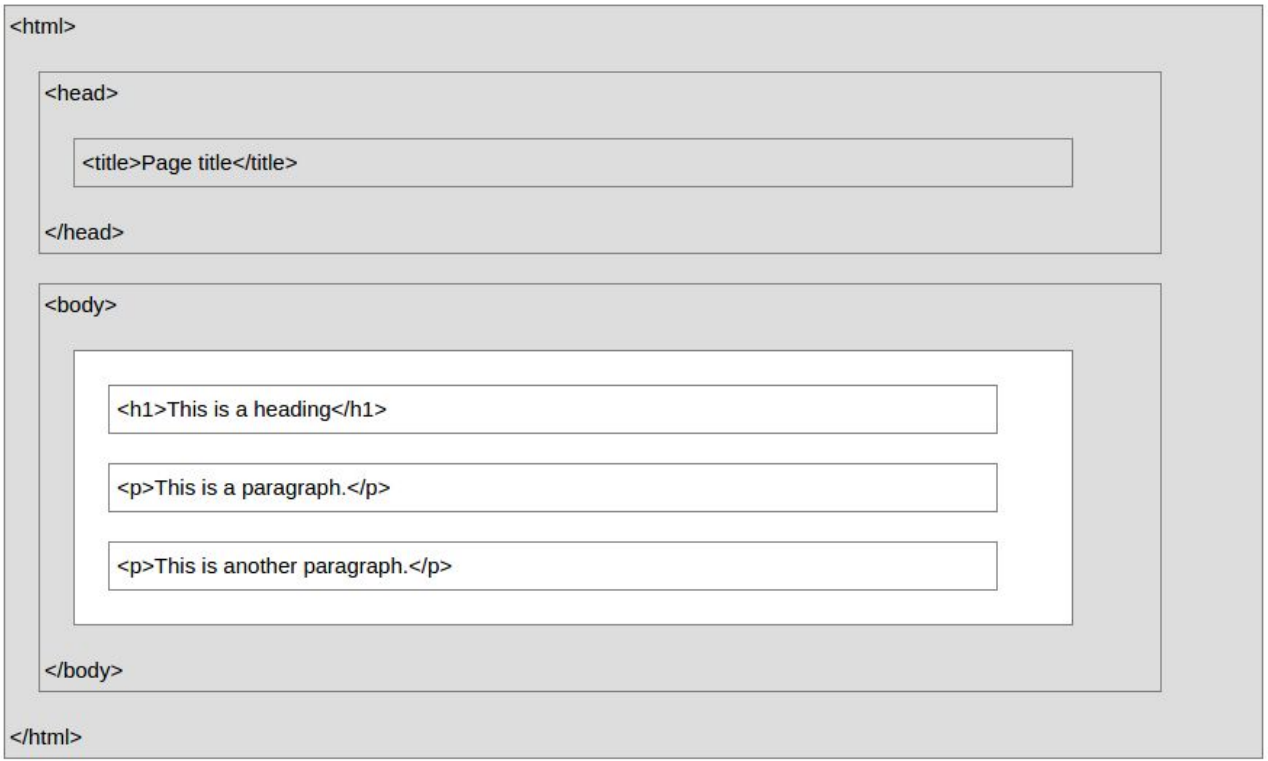

HTML Headings

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HTML headings are defined with the **<h1>** to **<h6>** tags.

<h1> defines the most important heading, and **<h6>** the least important.

```
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
```

HTML Paragraph

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HTML paragraphs are defined with the **<p>** tag.

```
<p>This is my first paragraph</p>
<p>This is another awesome paragraph</p>
```

HTML Links

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HTML links are defined with the **<a>** tag.

The link's destination is specified in the **href** attribute.

Attributes provide additional information about HTML elements.

```
<a href="https://www.codetraingh.com">Go to Codetrain website</a>
```

HTML Images

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HTML images are defined with the **<img>** tag.

The source file **(src)**, alternative text **(alt)**, **width** and **height** are provided as attributes .

```
<img src="codetrain-logo.png" alt="codetrain logo" width="200" height="150">
```

HTML Line Breaks

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HTML line breaks are defined with the **
** tag.

Use **
** if you want a new line without starting a new paragraph.

```
<p>
    My Bonnie lies over the ocean.

    My Bonnie lies over the sea.

    My Bonnie lies over the ocean.

    Oh, bring back my Bonnie to me.
</p>
```

```
<p>
    My Bonnie lies over the ocean.<br>

    My Bonnie lies over the sea.<br>

    My Bonnie lies over the ocean.<br>

    Oh, bring back my Bonnie to me.
</p>
```

HTML Text Formatting

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HTML also define special elements for defining text with a special meaning.

- **<b>** - Bold text
- **** - Important text
- **<i>** - Italic text
- **** - Emphasized text
- **<mark>** - Marked text
- **<small>** - Small text
- **<del>** - Deleted text
- **<ins>** - Inserted text
- **<sub>** - Subscript text
- **<sup>** - Superscript text

Example:

```
<b>This text is bold</b>  <br>
<i>This text is italic.</i>
<mark>This text is highlighted</mark>
```

HTML Comments

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You can add **comments** to your HTML source code. Comments are not displayed in the browser.

Example:

```
<!-- That's why I'm here. I'm a comment -->
<p>I don't know what this paragraph is talking about.</p>
```

Notice there's an exclamation mark (!) in the opening tag, but not in the closing tag.

HTML Lists

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An Unordered List:

- Item
- Item

Example:

```
<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

An Ordered List:

1. First item
2. Second item

Example:

```
<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```

The and Elements

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:

The ** ** element is often used as a container for other HTML elements.

When used together with CSS, the ** ** element can be used to style blocks of content:

```
<div style="background-color:black; color:white;">
  <h2>London</h2>
  <p>London is the capital city of England.</p>
</div>
```

:

The **** element is often used as a container for some text.

When used together with CSS, the **** element can be used to style parts of the text:

```
<h1>My <span style="color:red">Important</span> Heading</h1>
```

HTML ‘class’ and ‘id’ attributes

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Class:

The HTML **class** attribute makes it possible to define equal styles for elements with the same class name.

```
<!-- Using classes with divs -->
<div class="cities">
  <h2>London</h2>
  <p>London is the capital and most populous city in the United Kingdom.</p>
</div>

<div class="cities">
  <h2>Paris</h2>
  <p>Paris is the capital and most populous city of France.</p>
</div>
```

id:

The HTML **id** attribute makes it possible to define styles for a particular element because it is unique to one element only.

```
<div id="accra">
    <h2>Accra</h2>
    <p>
        Accra is the capital city of Ghana
    </p>
</div>

<div id="kumasi">
    <h2>Kumasi</h2>
    <p>
        Kumasi is the capital city of the Ashanti Region
    </p>
</div>
```

Project 1:

Build a one page website about yourself or your favourite pet with the HTML stuff we've studied so far.

PROJECT 1 TEMPLATE

- **Some big heading**
- Some paragraphs of text (with a link maybe? And line breaks? And oh you may wanna format the text too :>)
- A nice image (or images?)
- **Another heading maybe?**
- Your time table can go here (or anything you wanna display in a table is fine)
- **Another heading?**
- A list of books you've read? Or list of tricks your pet can do? (or whatever, it's your story not mine lol)
- Now you may wanna group your content using divs and/or spans and throw some IDs and classes in there too

“Practice, they say, makes perfect”

https://www.codecademy.com/learn/learn-html

CSS

THE STYLING PART

What is CSS

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- **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
- External stylesheets are stored in **CSS files (** with the extension **‘.css’)**

CSS Syntax

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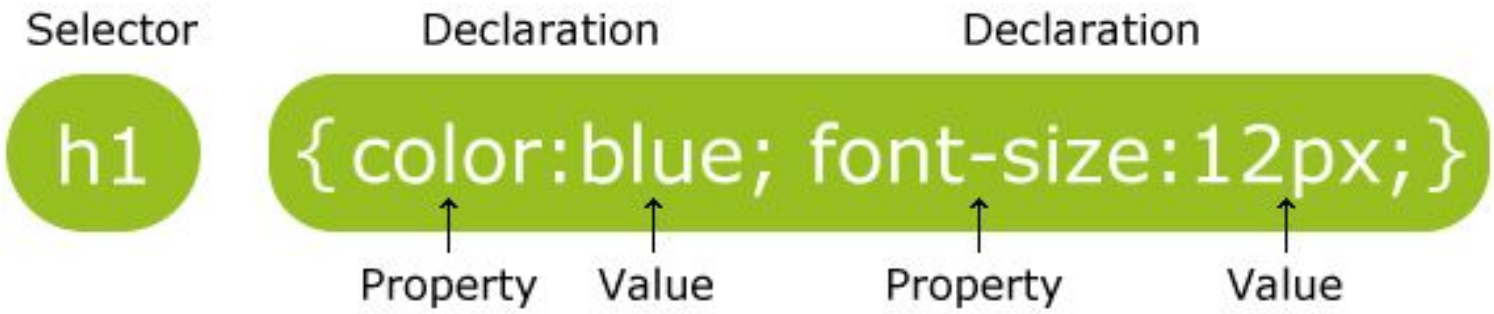
A CSS rule-set consists of a selector and a declaration block:



CSS Syntax continued

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- 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**.

CSS Syntax continued

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Example:

In the following example all **<p>** elements will be center-aligned, with a red text color:

```
/* This targets all the 'p' elements and styles them accordingly */
p {
    color: red;
    text-align: center;
}
```

CSS Element Selector

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The element selector selects elements based on the element name.

Example:
You can select all **<p>** elements on a page like this (in this case, all **<p>** elements will be center-aligned, with a red text color):

```
/* This targets all the 'p' elements and styles them accordingly */
p {
    color: red;
    text-align: center;
}
```

The id Selector

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- The **id** selector uses the id attribute of an HTML element to select a **specific element**.

- To select an element with a specific **id**, write a hash **(#)** character, followed by the id of the element.

```
/* This targets an id element'para1' and styles it accordingly */
#para1 {
  text-align: center;
  color: red;
}
```

The class Selector

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- 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.

```
/* This targets a class element 'center' and styles it accordingly */
.center {
  text-align: center;
  color: blue;
}
```

The class Selector continued

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

- In the example below, only **<p>** elements with **class="center"** will be center-aligned:

```
/* Only 'p' elements with class 'center' will be styled */
p.center {
  text-align: center;
  color: red;
}
```

Grouping Selectors

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- If you have elements with the same style definitions, you can group them.

```css
/* Two selectors with same declarations */
h1 {
  text-align: center;
  color: red;
}

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

```css
/* Grouping keeps code clean and simple */
h1 , p {
  text-align: center;
  color: red;
}
```

Three ways to insert CSS

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- External style sheet
- Internal style sheet
- Inline style

External Style Sheet

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- With an **external style sheet**, you can change the look of an entire website by changing just one file!

- Each page must include a **reference** to the external style sheet file inside the **<link>** element. The **<link>** element goes inside the **<head>** section:

```
<!-- Linking an external CSS to your HTML document -->
<head>
  <link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

Internal Style Sheet

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- An internal style sheet may be used if one single page has a unique style.
- Internal styles are defined within the **<style>** element, inside the **<head>** section of an HTML page:

```
<!-- Linking CSS to your HTML document internally -->
<head>
  <style>
    body {
      background-color: linen;
    }

    h1 {
      color: maroon;
      margin-left: 40px;
    }
  </style>
</head>
```

Inline Styles

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- An **inline style** may be used to apply a unique style for a single element.

- To use **inline styles**, add the **style attribute** to the relevant **element**. The style attribute can contain any **CSS property.**

- The example below shows how to change the color and the left margin of a **<h1>** element:

```
<!-- Weaving your styling directly in your HTML -->
<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
```

CSS background properties

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- background-color
- background-image
- background-repeat
- background-attachment
- background-position

```
h1 {
    background-color: green;
}

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

div {
    background: #ffffff url("img_tree.png") no-repeat right top;
}
```

CSS border properties

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The CSS border properties allow you to specify the style, width, and color of an element's border.

- Border-style e.g dotted, solid etc
- Border-width e.g 5px
- Border-color e.g red
- Border-radius e.g 5%

```
p {
    border: 5px solid red;
    border-radius: 5%;
}
```

CSS margins

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The CSS margin properties are used to create space around elements, outside of any defined borders.

- margin-top
- margin-right
- margin-bottom
- margin-left

```
Html element {
    margin: top right bottom left;
}
```

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

Ask me what **margin: auto** does!

CSS paddings

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The CSS padding properties are used to create space around elements, inside of any defined borders.

- padding-top
- padding-right
- padding-bottom
- padding-left

```
Html element {
    padding: top right bottom left;
}
```

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

CSS Height and Width

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The height and width properties are used to set the height and width of an element.

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

CSS layout - Float

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The CSS float property specifies how an element should float.

- **left** - The element floats to the left of its container
- **right**- The element floats to the right of its container
- **none** - The element does not float (will be displayed just where it occurs in the text). This is default
- **inherit** - The element inherits the float value of its parent

```
ul > li {
    float: left;
}
```

CSS layout - Clear

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The CSS clear property specifies what elements can float beside the cleared element and on which side.

- **none** - Allows floating elements on both sides. This is default
- **left** - No floating elements allowed on the left side
- **right**- No floating elements allowed on the right side
- **both** - No floating elements allowed on either the left or the right side
- **inherit** - The element inherits the clear value of its parent

```
.box {
    clear: both;
}
```

Project 2:

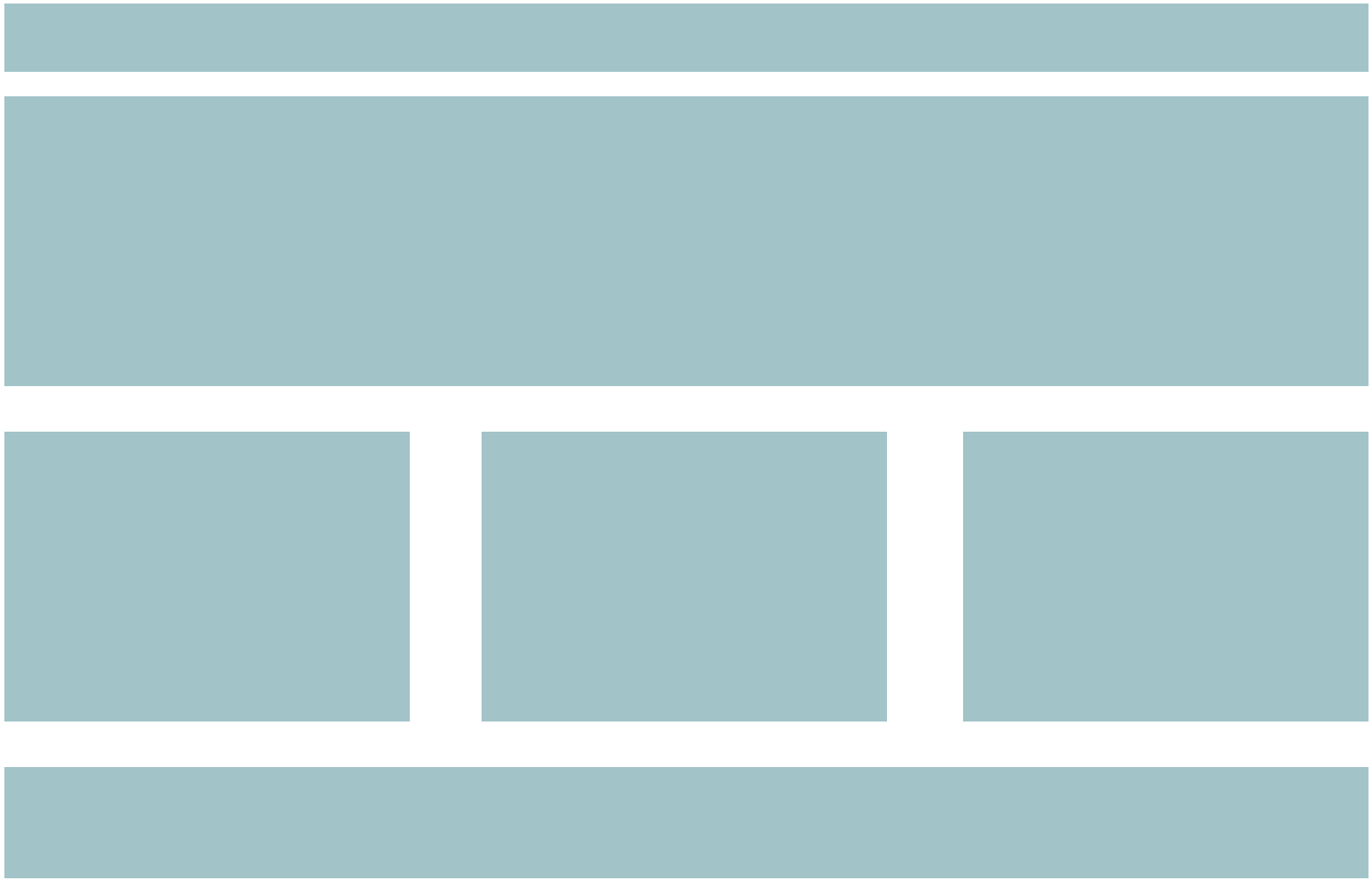
You remember the website we built in the HTML lesson?

Yeah! Let's use our CSS knowledge to 'spice' it up. :)

Project 3:

Build a simple layout of a basic webpage without any content.

You may use the sample layout on the slide below as a guide.
Cheers! :)



“If you want to be good at something, do it many times. If you want to be better at it, do it many times, many more!”

https://www.codecademy.com/learn/learn-css

Thanks!

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