Lesson 03, Sect. 1 Introduction to CSS

HTML & CSS Foundations

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Introduction

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document. HTML is for organizing information, CSS is for controlling its appearance.

We used to style HTML "inline." Then CSS appeared and our lives got easier! CSS allows style rules to be shared by different HTML elements, and HTML pages.

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Set Up

> Everyone create a new directory called `css-basics` inside their `html100` directory.

> Inside it, create a new, valid HTML file called index.html.

> It should include two <p> elements with some text, and an `<h1>.` The topic of the content is up to you.

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Git

As a group, we'll initialize the box-model directory as a git repository, add index.html, and commit.

\<style> tag holds CSS inside HTML

```html
1  <head>
2    <meta charset="UTF-8">
3    <title>Learning CSS</title>
4    <style>
5      body {
6        color: red;
7      }
8    </style>
9  <head>
```

Comments

```
4  <style>
5    /* CSS comments look like this.
6       You can use them to take notes right inline */
7    body {
8      color: red;
9    }
10 </style>
```

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Basic Syntax

```
1  selector {style-type: value;}
2
3  selector {
4           style-type: value;
5           style-type: value;
6           style-type: value;
7  }
8
```

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<style> tag holds CSS inside HTML

```
1   <head>
2     <meta charset="UTF-8">
3     <title>Learning CSS</title>
4     <style>
5       body {
6         color: red;
7       }
8     </style>
9   <head>
```

Here, the selector is "body," an HTML element. The style type is "color," and the value is "red."

Color Names

140 names that can be used for color values, recognized by all browsers.

https://www.w3schools.com/colors/colors_names.asp

Styling by Class

```
1   <head>
2     <meta charset="UTF-8">
3     <title>Learning CSS</title>
4     <style>
5       .bright {
6         color: purple;
7       }
8     </style>
9  <head>
10 <body>
11    <p class="bright>UNICORN PARTY!</p>
12 <body>
```

Selectors

CSS Selector Type	Examples
HTML Element Name	`p {}` `img {}`
Class	`.class-name {}`
Id	`#id-name {}`

Pseudo-Class or -Element	`a:hover {}`
	`input:focus{}`
	`p::first-letter {}`
	`li::first-child {}`

Element by Attribute	`a[target] {}` `a[target="_blank"] {}`

Activity

Add two links to your page.

> They should link to two different (real) URLs.

> Remember that the clickable text between opening and closing <a> tags should always be descriptive of the link, never something like "click here".

> This clearly communicates how it will work to users, and is important for users who visit your site via a screen reader or other accessibility device.

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Time to Commit Again

Commit after each discrete, logical chunk of work.

Color Units

Unit	Examples
Name	red, aliceblue, papayawhip find more: w3schools.com/html/html_colornames.asp
Hexidecimal	#D5EBAC find more: colorpicker.com
RGB, RGBA	rgb(92, 213, 235) rgba(92, 213, 235, 0.4) find more: hslpicker.com
HSL, HSLA	hsl(285, 36%, 45%) hsla(285, 36%, 45%, 0.96) find more: hslpicker.com

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Size Units

Unit	Examples
Pixels - an absolute size	33px
Percentage - of parent element's size	33%
rem - equal to the root font size	3rem

More information: https://www.w3schools.com/cssref/css_units.asp

Pixels

A pixel is an absolute unit of measurement; it will appear about the same size on any screen it is viewed on.

Pixels are good to use for a thin border or other very small details of a design.

Percentages

Relative units of measurement, these refer to a percentage of the parent element's size.

To style an element to be half as wide as the element that contains it:

```css
width: 50%;
```

REM

REM is equivalent to the size of the root element's font size. It is a relative unit of measurement.

> On a laptop screen, approximately 16px
> On a mobile device's screen, approximately 10px
> On a screen that's been configured to have larger text (maybe because the user has low vision?), it will be the size of the base font size

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Responsivity

Responsive website: looks good on a wide variety of devices.

Using relative units of measurement is vital.

Elements will be sized differently based on context, like the user's screen size.

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Activity

Add two image elements to your page, with any sources you like.

Write a CSS rule that gives all image elements a fun border.

Options and ideas:
https://www.w3schools.com/css/css_border.asp

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Alt Attribute

Your images have good, descriptive alt tags, right? If not, add them now!

Quality alt tag information is one of the most important things developers can do to make their sites accessible.

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Image Border

Your border rule for images should look something like:

```
img {
    border: 2px dashed orange;
}
```

Style Image Size

- Use a relative unit of measurement

- Style the width or the height, but not both

```css
img {
        border: 2px dashed orange;
        width: 25%;
}
```

Time to Commit Again

Commit after each discrete, logical chunk of work.

How Browsers Resolve Style Conflicts

- Specificity of selector

- Rule most recently defined

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Specificity

Least specific: Type selectors (e.g., h1) and pseudo-elements (e.g., ::before).

More specific: Class selectors (e.g., .example), attributes selectors (e.g., [type="radio"]) and pseudo-classes (e.g., :hover).

Most specific: ID selectors (e.g., #example).

```css
p.bright {
    color: red;
}
p {
    color: blue;
}
```

In this example, all paragraphs with class "bright" would have red text, because that is a more specific selector than just "p".
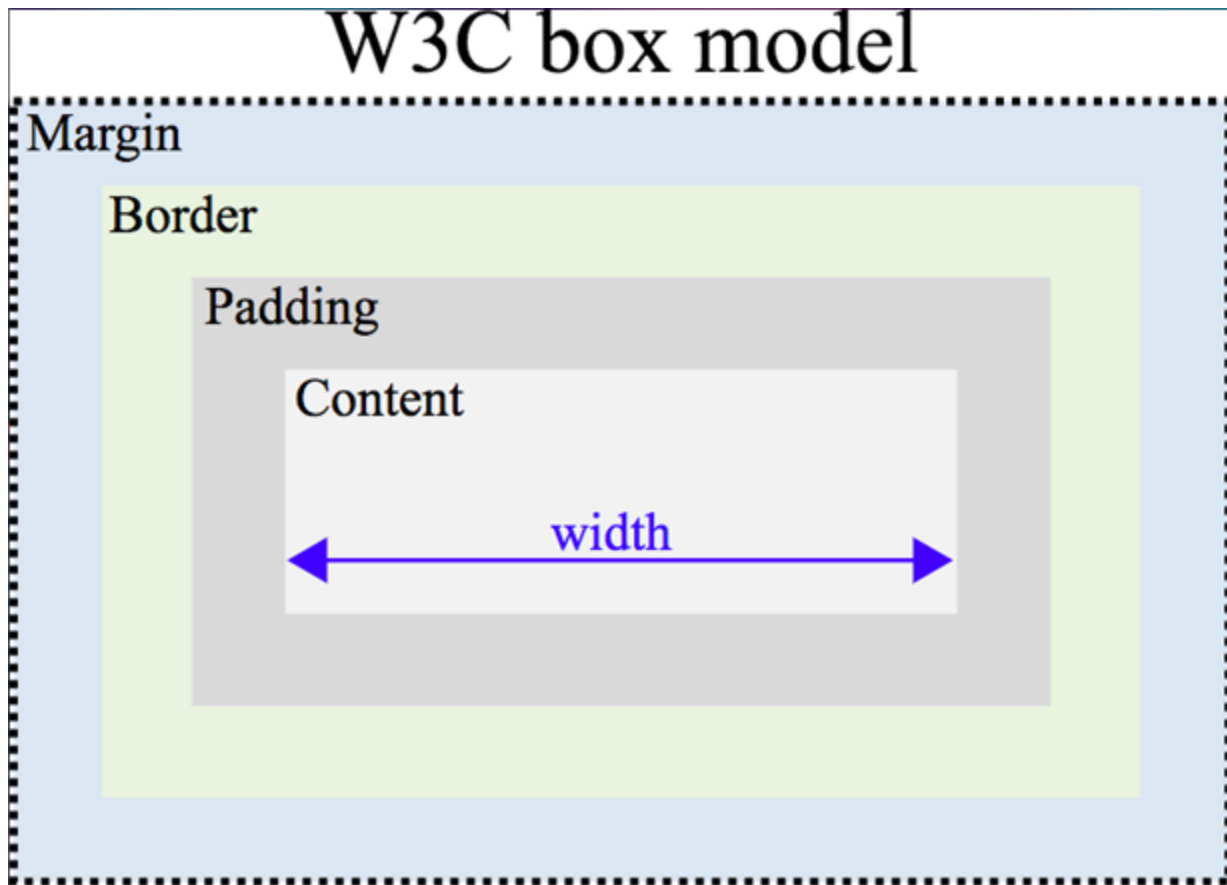
Rule Most Recently Defined

```css
p {
    color: blue;
}
p {
    color: red;
}
```

This is just the order that the rules are written in the CSS.

In this example, all paragraphs would have red text, because that was the rule defined last.

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Box Model

W3C Box Model, Creative Commons license https://commons.wikimedia.org/wiki/File:W3C_box_model.svg

Box Model

Content - The content of the box, where text and images appear.

Padding - Clears an area around the content. The padding is the same as the background color of the element.

Border - A border that goes around the padding and content (just like a real box).

Margin - Clears an area outside the border. The margin is transparent, does not have the element's background color.

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Box Model and Sizing

When you write sizing rules in CSS, they only apply to the content part of the element. So, this set of rules will give you an element that is 15rem wide, not 12.

```
width: 12rem;
margin: 1rem;
padding: .5rem;
```

12 + (1 * 2) + (.5 * 2) = 15

Box Model and Sizing

However, you can, and almost everyone does, outsmart it with the following rule:

```css
* {
    box-sizing: border-box;
}
```

The asterisk selector means "everything". Use it sparingly. Put this rule at the top of your CSS, and then all sizing rules will apply to the **content, padding, and border**. Margin will still be outside.

Box Sizing Border Box

With that rule in place, the following will give an element a total width of 14rem:

```
width: 12rem;
margin: 1rem;
padding: .5rem;
```

12 + (1 * 2)

More: w3schools.com/CSSref/css3_pr_box-sizing.asp

Time to Commit Again

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