Introduction

CSS3

Where does CSS3 fit into the web?

When you visit a website in your web browser, you are met with a web page featuring a layout boasting text, imagery, forms, video, and potentially a host of other content and features.

Every one of these web pages, from the most basic-looking, to the most interactive and exciting, must be built out of 1 to 3 of the languages of the web. The one that must be there in every page, no matter what, is HTML.

HTML (Hypertext Markup Language) tells your browser what the text content is, and where to download media content like images or videos.

The other languages your browser understands include CSS (Cascading Stylesheets) and JS (JavaScript.)

CSS determines the look and layout of the website—everything from the font, to the colours, to the shape and size of the elements throughout a page.

JS allows for dynamic and interactive features in a web page. As an example, an online calculator would require JavaScript in order to calculate a result. HTML and CSS are not meant to think, only to describe content and appearance, respectively.

Languages of the World Wide Web

HyperText Markup Language (HTML)

The skeleton of the web -site. This is where the content lives, and where we can mark it up to give it meaning.

Cascading StyleSheets (CSS)

The skin or visual aspect of the website. Controls the layout, spacing, position, and sizing of elements in a web-page.

JavaScript (JS)

The brain of the website. Any interactive or dynamic features on a web-page are the responsibility of JavaScript.

CSS3

CSS is a stylesheet language. As stated previously, it is used in website development to colour, lay out, and style web pages.

The latest stable “release” is version 3, therefore modern CSS is referred to as CSS3. This can be a bit misleading, however, as “CSS3” has no true set standard; modules are being added onto CSS as a standard piece by piece.

It is important to note that CSS is built to be incredibly backwards-compatible across the web, the goal being: visiting a website built in 1998 should offer the same visual experience that would have been observed at its inception even if viewed today. It is for this reason you may encounter inconsistencies or sometimes features that are considered bad practice still included in the language.

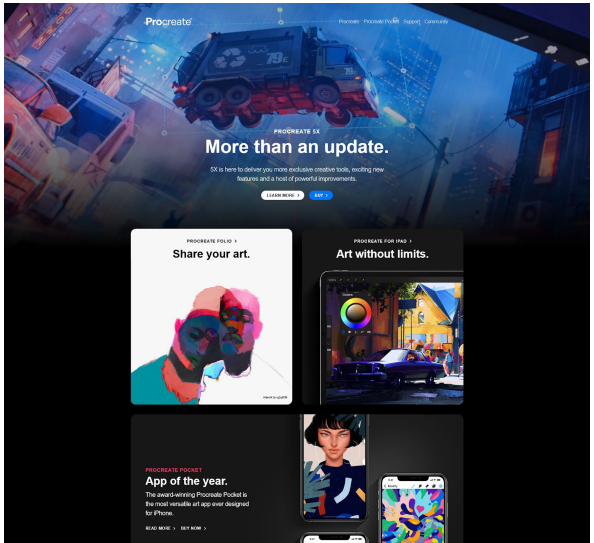
Why do we use CSS?

CSS is truly responsible for the layout and beauty we enjoy across the web.

See, for example, the difference CSS alone makes on the Procreate website (screenshots from 2020):

Without CSS

With CSS



Adding Style(s) to a Web Page

When it comes to dressing up the look and aesthetic of a web page, we must somehow include our CSS code in that page. The best way to do this is to include a link element inside of your website's head.

The link element is self-terminating, so there is no need for a closing tag. It expects an "href" attribute with a value describing the path to the CSS file.

It is also important to include the "rel" attribute to let the browser know what type of file this is and how it should be handled, as the link element can be used for relating various types of documents into your web page. For the sake of this course, we'll focus on stylesheets.

<link rel="stylesheet" href="folder/css-file.css">

Other Ways to Inject Style(s)

It is recommended you utilize the link element for adding style to any given page, as it is far more organized than alternative approaches. The link approach is what we will utilize throughout this course.

Note that other ways of adding and updating styling in a web page are cumbersome and typically very difficult to share across multiple pages. The link element also makes it easier for a web browser to load a page's content quickly regardless of included styles downloading, especially if a browser has CSS disabled.

The other two ways of including styles are:

1. **In-line Styles**
   You can add styles to any element in the body of your web page by adding a "style" attribute to the target element.
   ```
   <h1 style="color:salmon">Main Page Heading</h1>
   ```

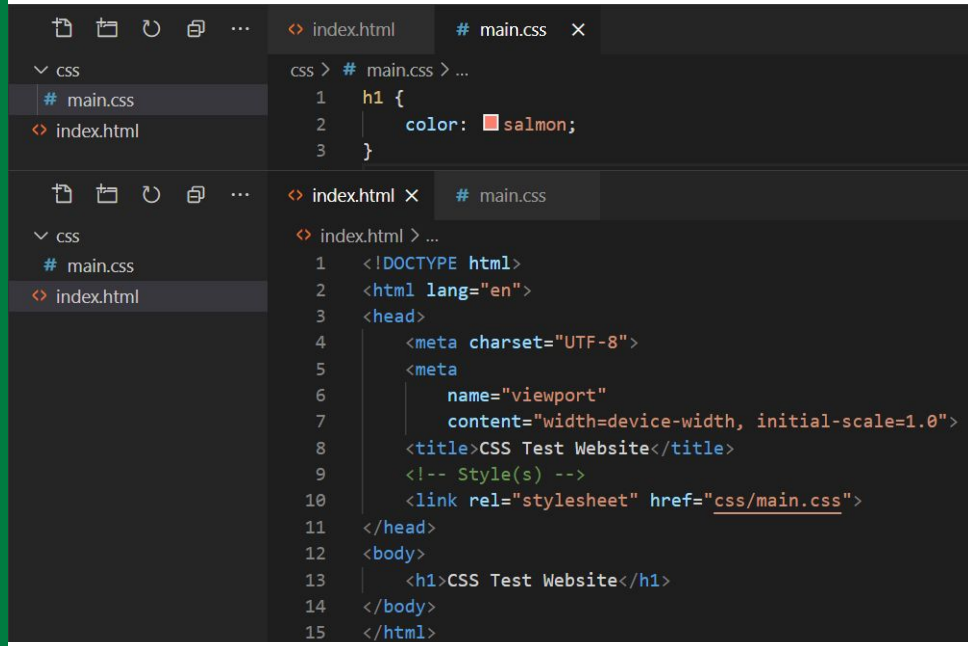
2. **Style Element**
   There is a style element capable of reading CSS code—simply add CSS code in between the opening and closing style tags.
   ```
   <style>
     h1 { color: salmon; }
   </style>
   ```

CSS Example

Create a basic website and link a stylesheet. Add the code featured in the screenshot to your file.

To link a CSS file to your HTML page, use the link element (add an href and rel attribute.)

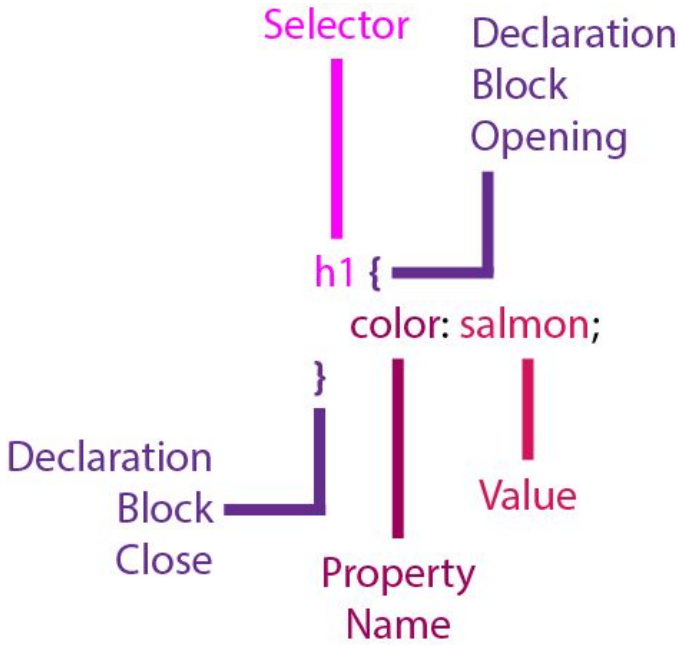
In our CSS let's select the H1 element, and give it a colour by specifying a color property value.



How CSS Code Works

To write CSS, the pattern (syntax) we follow in our code looks like so...

1. Selector (Targets one or more HTML Elements)
2. Declaration Block Start {
3. Declarations (if there are Multiple, Separate by Semicolons)
    a. Property Name
    b. Colon
    c. Value
    d. Semi-Colon
4. Declaration Block End }



Commenting your Code

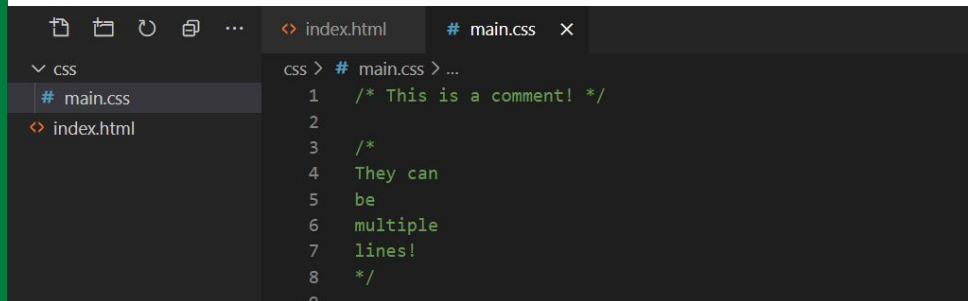
We can add notes, credits, and other information to our CSS code via comments.

Comments in CSS begin with a forward slash and asterisk, and end with an asterisk followed by a forward slash: /**/

The comment text between the opening and closing may be a single line or multiple lines.

Use comments to make notes as you learn, to help label and organize your file contents, and to give credits to where you find solutions.

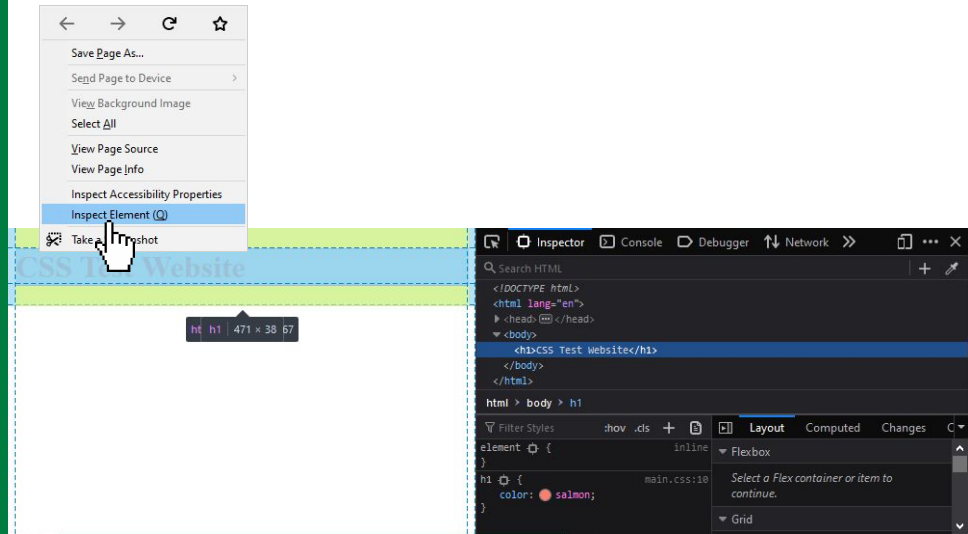
Comments are ignored by the web browser and will not cause errors normally caused by not following CSS' pattern / syntax.



Inspecting and Troubleshooting

The browser developer tools are your best friend! Get acquainted with'em, you'll be spending a lot of time with them.

You can right-click any element in a page, and the "Inspect Element" developer tool should be available to you. It will open the Inspector, which is composed of various panes. Check the HTML pane to ensure you are on the right element (you can simply click to select others.) Most of what you'll want to look at when working with CSS will be in the CSS pane, however.

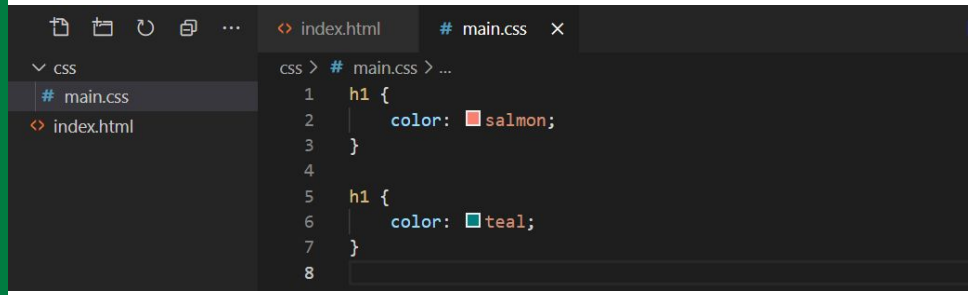


Why is Cascading in the name of CSS?

The last rule wins!

CSS Test Website

Try adding the following code...



CSS has to decide which rule will be applied if there are two that target the same element. The way it works is: the last declared rule wins.

Observe the effect the cascade has on our H1 in the example case...

CSS Test Website

The Cascade

There is a little more to the cascade than just the order in a single file.

If you have multiple link elements in a web page, referencing multiple external CSS documents, the order of those matter as well.

There are three general tiers to be considered:

1. In-line Styles
2. External Stylesheet Documents
3. Browser Defaults

In-line styles will override external sheets, and external sheet (using the link element) will override browser defaults. This ordering supersedes the “appears last” principle.

Browser Compatibility

There always exists the possibility, that in each browser, the default styles are different. This will affect the output you see in small—and sometimes large—ways.

One of the industry-leading ways of combating this is introducing what is typically known as a reset stylesheet.

These stylesheets are typically designed to give you a level playing field and consistent starting point across all the popular browsers.

Some popular reset stylesheets include:

- Normalize.css
- Eric A. and Kathryn S. Meyer's CSS Tools: Reset CSS
- Richard Clark's take on an HTML5 Reset Stylesheet
- Read more in CSS Tricks': Reboot, Resets, and Reasoning

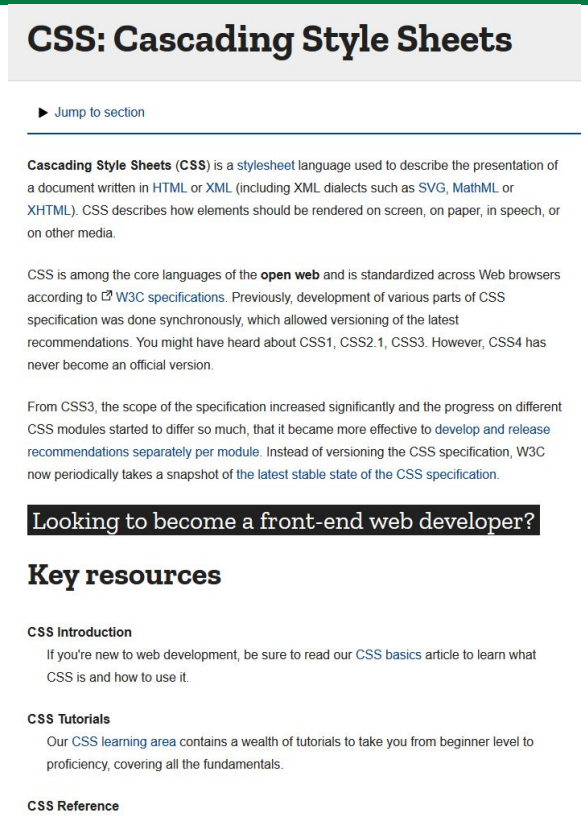
Get Familiar with Popular CSS Resources

Your journey in CSS has started, but it will never end. New features and techniques are always forming, so it is important to spend time on credible websites to learn about the today and tomorrow of the CSS language…

- Mozilla Developer Network (CSS)
- CSS Tricks
- W3Schools (CSS)

For inspiration, keep an eye on…

- Codepen
- Awwwards



CSS: Cascading Style Sheets

▶ Jump to section

Cascading Style Sheets (**CSS**) is a stylesheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS describes how elements should be rendered on screen, on paper, in speech, or on other media.

CSS is among the core languages of the **open web** and is standardized across Web browsers according to W3C specifications. Previously, development of various parts of CSS specification was done synchronously, which allowed versioning of the latest recommendations. You might have heard about CSS1, CSS2.1, CSS3. However, CSS4 has never become an official version.

From CSS3, the scope of the specification increased significantly and the progress on different CSS modules started to differ so much, that it became more effective to develop and release recommendations separately per module. Instead of versioning the CSS specification, W3C now periodically takes a snapshot of the latest stable state of the CSS specification.

Looking to become a front-end web developer?

Key resources

CSS Introduction

If you're new to web development, be sure to read our CSS basics article to learn what CSS is and how to use it.

CSS Tutorials

Our CSS learning area contains a wealth of tutorials to take you from beginner level to proficiency, covering all the fundamentals.

CSS Reference

Recommended Reading

For more on how CSS fits into the web, check out the following:

- Meyer, E. A; Weyl, E. (October 2017). CSS: The Definitive Guide, 4th Edition. O'Reilly Media, Inc.
  - Chapter 1. CSS and Documents
    - A Brief History of (Web) Style
    - Elements
    - Bringing HTML and CSS Together
    - Stylesheet Contents