


HTML (& CSS)



Why do we need both
HTML and CSS?



HTML ⇒ Structure

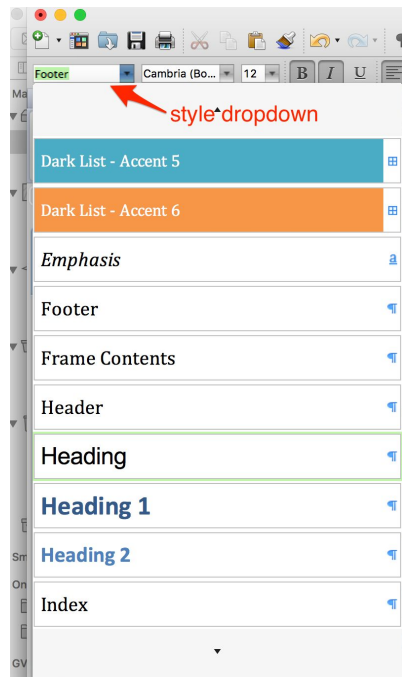


CSS ⇒ Style



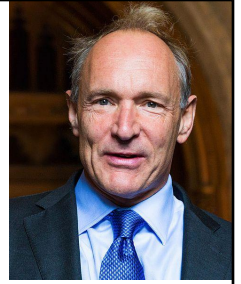
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Styles in
Microsoft Word



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History of HTML



- 1989 Tim Berners-Lee, CERN Lab (Switzerland)
 - How to share research papers
- 1991: WWW Talk presentation of HTML
- Marc Andreessen National Center for Supercomputer Applications
 - Mosaic browser (1993)
- 1995 Release of **Java (by Sun Microsystem) & Javascript (by Netscape)**

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HTML Versions



- 1991 HTML (20 tags/elements)
- 1995 HTML 2.0
- 1997 HTML 3.2
- 1999 HTML 4.01 (1st release of CSS)
- 2000 XHTML (HTML + XML)
- 2014 HTML5
- **Latest standard HTML 5.3** (Oct 2018)

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Example</title>
5     <link rel="stylesheet" href="sty
6   </head>
7   <body>
8     <h1>
9       <a href="/">Header</a>
10    </h1>
11    <nav>
12      <a href="one/">One</a>
13      <a href="two/">Two</a>
14      <a href="three/">Three</a>
15    </nav>
```

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The ultimate **first** website

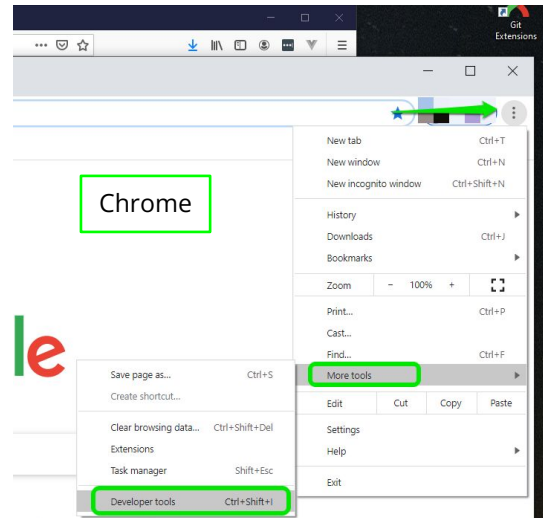
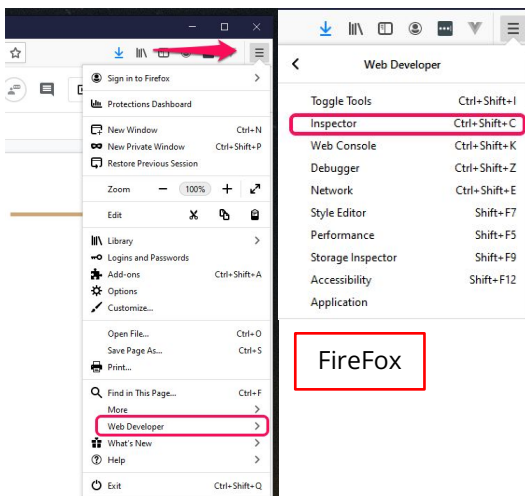
<http://info.cern.ch/>

.ch = TLD for Switzerland



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Browser DevTools



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Self Paced Tutorial

<https://www.w3schools.com/html/default.asp>
(try it yourself)

HTML

- Hypertext Markup Language
- **Not** a programming language, but a *presentation* language
- Code for **structuring** and **displaying** a web document
- Vocabularies
 - Tags/Elements
 - Attributes
 - key="value"
 - "boolean"

VSCode Demo

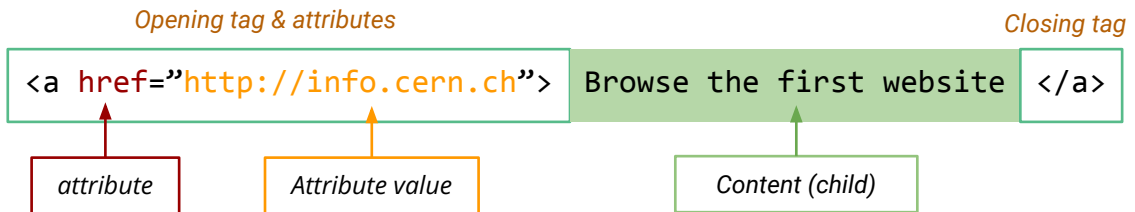
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VSCode Demo

- Screencast Mode On (for instructor's)
- Use **Open Folder** (instead of Open File)
- Search **Command Palette** (F1 or Ctrl-Shift-P)
- Emmets
- Multi Cursor (Ctrl-D)
- Code assist / suggested completion
- Extensions
 - Prettier (pay attention to automatic indentation)
 - Live Server

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HTML Elements/Tags/Nodes



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Empty Elements

- No closing tag
- No (child) content

```
<link rel="stylesheet" href=".....">
```

```

```

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Type of Elements

Two categories of HTML elements based on their effect on **new line**

- **Block:** induces a new line **before** and **after** its surrounding context
 - Examples: p, h[1-6], ol, ul, pre, blockquote, dl, div, form, hr, table
- **Inline:** contained within block-level elements **without starting newlines**
 - Examples: b, i, tt, code, em, strong, a, br, img, span, sub, sup, button, input, select

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Inline vs Block Elements

```
<!-- block elements -->  
<p>I taught myself</p><p>HTML</p>
```

I taught myself

HTML

```
<!-- inline elements -->  
<span>And also</span>  
<span>CSS</span>
```

And also CSS

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Overall Structure of HTML Documents

```
<html>
  <head>
    <meta charset="UTF-8">
    <title>Sample Page</title>
  </head>
  <body>
    <h1>Welcome</h1>
    <p>Hello world!</p>
  </body>
</html>
```

Document is parsed:

- Left-to-right
- top -to-bottom
- Understanding this order becomes important when you write `<script>s`

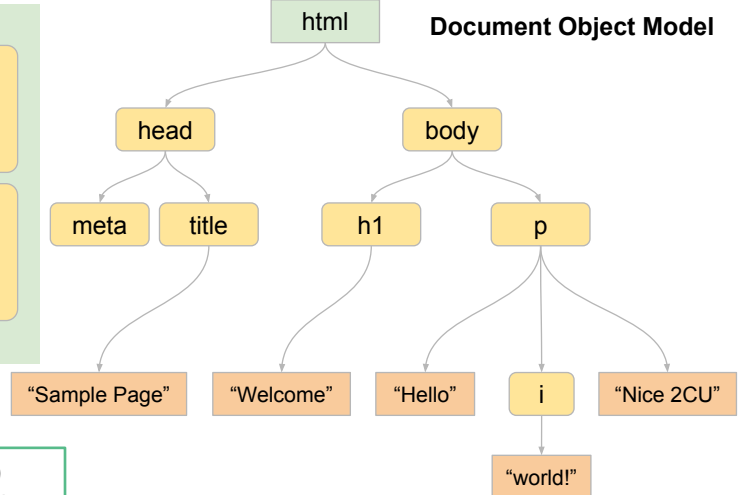
`<head>`: parsed by web browsers, but **not rendered**

`<body>`: **parsed and rendered** by web browsers

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HTML Documents and DOM Tree

```
<html>
  <head>
    <meta charset="UTF-8">
    <title>Sample Page</title>
  </head>
  <body>
    <h1>Welcome</h1>
    <p>Hello <i>world!<i> Nice 2CU</p>
  </body>
</html>
```

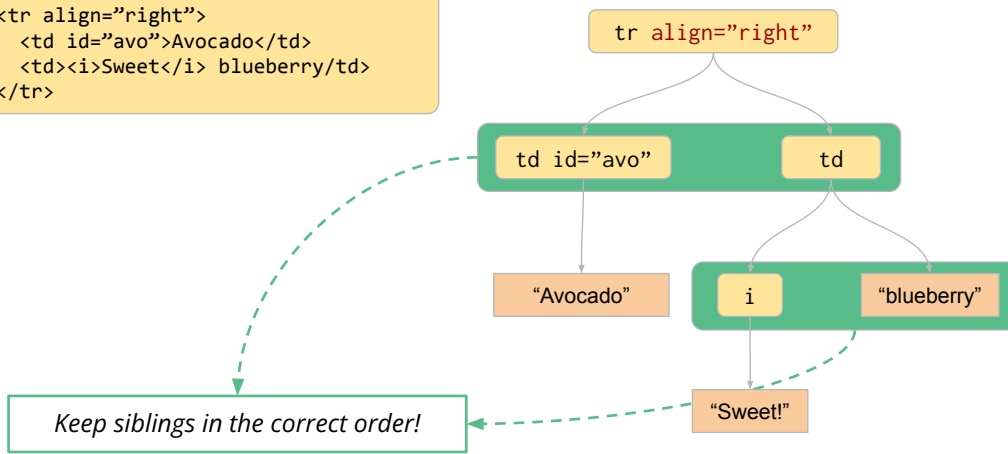


Parent-child, siblings (older vs younger)
Use indentation result (of "Prettier") as hint

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Attributes stay with its element

```
<tr align="right">  
  <td id="avo">Avocado</td>  
  <td><i>Sweet</i> blueberry</td>  
</tr>
```



Group Exercise: HTML to DOM Tree

HTML Tags/Elements

- [Alphabetical List](#)
- [Categorical List](#)

<meta>

- Meta tags are used for “machine readable” information about the document
 - Document character encoding
 - Content Description for web bots
- App specific metadata that can be used to customize embedding of web contents into another (app)
 - Facebook
 - Twitter
 - Pinterest
 - Slack
 - WhatsApp, and many more...

Comments and Special Characters

```
<!-- this is a comment -->
```

Special Character	Encoding
<	<
>	>
&	&
“	"
‘	'

```
<!-- in HTML -->  
Bonnie &amp; Clyde
```

Bonnie & Clyde

Complete Reference: <https://dev.w3.org/html5/html-author/charref>

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VS Code Demo (Special Characters)

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