

HTML

HTML

- HyperText Markup Language
- Not a programming language
- Stored in text files (just like Perl)

A basic page

```
<html>  
  
  <head>  
    <title>My web page title</title>  
  </head>  
  
  <body>  
  
    Your HTML content here  
  
  </body>  
</html>
```



A kosher page

```
<?xml version="1.0" encoding="utf-8"?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">

<head>
    <title>An XHTML 1.0 Strict standard template</title>
</head>

<body>

    <p>... Your HTML content here ...</p>

</body>
</html>
```

Why use web standards?

- Accessibility
 - To robots
 - To people
- Stability

<Tags />

- Most tags open and close
- Tags must be nested properly

Right

```
<strong>
  <em>
    Strong and emphasis
  </em>
</strong>
```

Wrong

```
<strong>
  <em>
    Strong and emphasis
  </strong>
</em>
```

- Some tags stand alone

```
<br /> <hr />
```

- Some tags take attributes

```

```

```
<a href="theonion.com">The Onion</a>
```

- Elements consist of start and end tags flanking content

XHTML tags

<!-->	<!DOCTYPE>	<a>	<abbr>	<acronym>	<address>	<area />		<base />	<bdo>
<big>	<blockquote>	<body>	 	<button>	<caption>	<cite>	<code>	<col />	<colgroup>
<dd>		<dfn>	<div>	<dl>	<dt>		<fieldset>	<form>	<frame />
<frameset>	<head>	<h1> - <h6>	<hr />	<html>	<i>	<iframe>		<input />	<ins>
<kbd>	<label>	<legend>		<link />	<map>	<meta />	<noframes>	<noscript>	<object>
	<optgroup>	<option>	<p>	<param />	<pre>	<q>	<samp>	<script>	<select>
<small>			<style>	<sub>	<sup>	<table>	<tbody>	<td>	<textarea>
<tfoot>	<th>	<thead>	<title>	<tr>	<tt>		<var>		

<http://www.w3schools.com/tags/>

Text tags

- Heading tag

```
<h1>This is a top level heading</h1>  
<h6>This is the bottom level heading</h6>
```

- Paragraph tag

```
<p>This is definitely a paragraph</p>
```

- Line break

```
This is just two lines<br />  
With a hard break
```

- Emphasis and Strong

```
That's <em>exactly</em> what I mean - I am <strong>sick</strong> of  
this slide
```

- Comment Tag

```
<!-- This is a comment. You won't see this on the web-->
```


Tables

```
<table border="1">
  <tr>
    <th>Column 1 heading</th>
    <th>Column 2 heading</th>
    <th>Column 3 heading</th>
  </tr>
  <tr>
    <td>Row 2, cell 1</td>
    <td colspan="2">Row 2, cell 2, also spanning Row 2, cell 3</td>
  </tr>
  <tr>
    <td rowspan="2">Row 3, cell 1, also spanning Row 4, cell 1</td>
    <td>Row 3, cell 2</td>
    <td>Row 3, cell 3</td>
  </tr>
  <tr>
    <td>Row 4, cell 2</td>
    <td>Row 4, cell 3</td>
  </tr>
</table>
```

output:

Column 1 heading	Column 2 heading	Column 3 heading
Row 2, cell 1	Row 2, cell 2, also spanning Row 2, cell 3	
Row 3, cell 1, also spanning Row 4, cell 1	Row 3, cell 2	Row 3, cell 3
	Row 4, cell 2	Row 4, cell 3

Lists

```
<ol>
  <li>First things first</li>
  <ul>
    <li>Who you know</li>
  </ul>
  <li>Not</li>
  <ul>
    <li>What you know</li>
    <li>What you can do with it</li>
  </ul>
</ol>
```

output:

1. First things first
 - Who you know
2. Not
 - What you know
 - What you can do with it

Links

- Relative

```
<a href="myDirectory/index.html">Go down a directory</a>
```

```
<a href="../index.html">Go up a directory</a>
```

- Absolute

```
<a href="/">Go to the root</a>
```

```
<a href="http://nytimes.com">Go to the NY Times</a>
```

- Anchors

```
<a href="#theEnd">Go to the end</a>
```

```
<h1 id="theEnd">This is the end</h1>
```

Images

```

```



Forms

```
<form name="input" action="html_form_submit.pl" method="post">
```

- **POST vs GET**

Text fields

```
<form name="input" action="handleMyForm.pl" method="get">  
  First name:  
  <input type="text" name="firstname" />  
  <br />  
  Last name:  
  <input type="text" name="lastname" />  
  <input type="submit" value="Submit" />  
</form>
```

output:

First name:

Last name:

Radio buttons

```
<form name="input" action="handleMyForm.pl" method="get">  
  <input type="radio" name="sex" value="male" /> Male  
  <br />  
  <input type="radio" name="sex" value="female" /> Female  
  <br />  
  <input type="submit" value="Submit" />  
</form>
```

output:

Male
 Female

xHTML + CSS = Web

```
<body>
<div id="wrap">
  <div id="header"><h1>Simple 2 column CSS layout, final layout</h1></div>
  <div id="nav">
    <ul>
      <li><a href="#">Option 1</a></li>
      <li><a href="#">Option 2</a></li>
      <li><a href="#">Option 3</a></li>

      <li><a href="#">Option 4</a></li>
      <li><a href="#">Option 5</a></li>
    </ul>
  </div>
  <div id="main">
    <h2>Column 1</h2>
    <p><a href="#">456 Berea Street Home</a></p>

    <p><a href="/lab/developing_with_web_standards/csslayout/2-col/">Simple 2 column CSS layout</a>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris vel magna. Mauris risus
    <p>Nulla a lacus. Nulla facilisi. Lorem ipsum dolor sit amet, consectetur adipiscing elit.
    <p>Aenean tempor. Mauris tortor quam, elementum eu, convallis a, semper quis, purus. Cras at
    <h3>Consectetur adipiscing elit</h3>
    <p>Nulla dictum. Praesent turpis libero, pretium in, pretium ac, malesuada sed, ligula. Sed

    <p>Maecenas eu velit nec magna venenatis consequat. In neque. Vivamus pellentesque, lacus eu
  </div>
  <div id="sidebar">
    <h2>Column 2</h2>
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris vel magna.</p>
    <ul>
      <li><a href="#">Link 1</a></li>

      <li><a href="#">Link 2</a></li>
      <li><a href="#">Link 3</a></li>
      <li><a href="#">Link 4</a></li>
      <li><a href="#">Link 5</a></li>
      <li><a href="#">Link 6</a></li>
      <li><a href="#">Link 7</a></li>

      <li><a href="#">Link 8</a></li>
      <li><a href="#">Link 9</a></li>
      <li><a href="#">Link 10</a></li>
      <li><a href="#">Link 11</a></li>
      <li><a href="#">Link 12</a></li>
      <li><a href="#">Link 13</a></li>

      <li><a href="#">Link 14</a></li>
      <li><a href="#">Link 15</a></li>
    </ul>
  </div>
  <div id="footer">
    <p>Footer</p>
  </div>
</div>
</body>
```

+

```
<style type="text/css">
body,html {
  margin:0;
  padding:0;
  color:#000;
  background:#a7a09a;
}
#wrap {
  width:750px;
  margin:0 auto;
  background:#99c;
}
#header {
  padding:5px 10px;
  background:#ddd;
}
h1 {
  margin:0;
}
#nav {
  padding:5px 10px;
  background:#c99;
}
#nav ul {
  margin:0;
  padding:0;
  list-style:none;
}
#nav li {
  display:inline;
  margin:0;
  padding:0;
}
#main {
  float:left;
  width:480px;
  padding:10px;
  background:#9c9;
}
h2 {
  margin:0 0 1em;
}
#sidebar {
  float:right;
  width:230px;
  padding:10px;
  background:#99c;
}
#footer {
  clear:both;
  padding:5px 10px;
  background:#cc9;
}
#footer p {
  margin:0;
}
* html #footer {
  height:1px;
}
</style>
```

=

Simple 2 column CSS layout, final layout

[Option 1](#) [Option 2](#) [Option 3](#) [Option 4](#) [Option 5](#)

Column 1

[456 Berea Street Home](#)

[Simple 2 column CSS layout](#)

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris vel magna. Mauris risus nunc, tristique varius, gravida in, lacinia vel, elit. Nam ornare, felis non faucibus molestie, nulla augue adipiscing mauris, a nonummy diam ligula ut risus. Praesent varius. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus.

Nulla a lacus. Nulla facilisi. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce pulvinar lobortis purus. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Donec semper ipsum et urna. Ut consequat neque vitae felis. Suspendisse dapibus, magna quis pulvinar laoreet, dolor neque lacinia arcu, et luctus mi erat vestibulum sem. Mauris faucibus iaculis lacus. Aliquam nec ante in quam sollicitudin congue. Quisque congue egestas elit. Quisque viverra. Donec feugiat elementum est. Etiam vel lorem.

Aenean tempor. Mauris tortor quam, elementum eu, convallis a, semper quis, purus. Cras at tortor in purus tincidunt tristique. In hac habitasse platea dictumst. Ut eu lectus eu metus molestie iaculis. In ornare. Donec at enim vel erat tempor congue. Nullam varius. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla feugiat hendrerit risus. Integer enim velit, gravida id, sollicitudin at, consequat sit amet, leo. Fusce imperdiet condimentum velit. Phasellus nonummy interdum est. Pellentesque quam.

Consectetur adipiscing elit

Nulla dictum. Praesent turpis libero, pretium in, pretium ac, malesuada sed, ligula. Sed a urna eu ipsum luctus faucibus. Curabitur fringilla. Suspendisse sit amet quam. Sed vel pede id libero luctus fermentum. Vestibulum volutpat tempor lectus. Vivamus convallis tempus ante. Nullam adipiscing dui blandit ipsum. Nullam convallis lacus ut quam. Mauris semper elit at ante. Vivamus tristique. Pellentesque pharetra ante at pede. In ultrices arcu vitae purus. In rutrum, erat at mollis consequat, leo massa consequat libero, ac vestibulum libero tellus sed risus. Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Maecenas eu velit nec magna venenatis consequat. In neque. Vivamus pellentesque, lacus eu aliquet semper, lorem metus rhoncus metus, a ornare orci ante a diam. Nunc sem nisl, aliquet quis, elementum nec, imperdiet in, wisi. Proin in lorem. Etiam molestie diam eget ante. Morbi quis tortor id lacus mollis venenatis. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam vel orci sit amet tellus mollis eleifend. Donec urna diam, viverra eget, ultricies gravida, ultrices eu, erat. Proin vel arcu. Sed diam. Cras hendrerit arcu sed augue. Sed justo felis, luctus a, accumsan in, tincidunt facilisis, libero. Phasellus eu eros.

Footer

Column 2

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris vel magna.

- [Link 1](#)
- [Link 2](#)
- [Link 3](#)
- [Link 4](#)
- [Link 5](#)
- [Link 6](#)
- [Link 7](#)
- [Link 8](#)
- [Link 9](#)
- [Link 10](#)
- [Link 11](#)
- [Link 12](#)
- [Link 13](#)
- [Link 14](#)
- [Link 15](#)

Cascading Style Sheets

- Help separate **content** from **appearance**
- One style sheet can be applied to hundreds of web pages
- Change styles in just one location

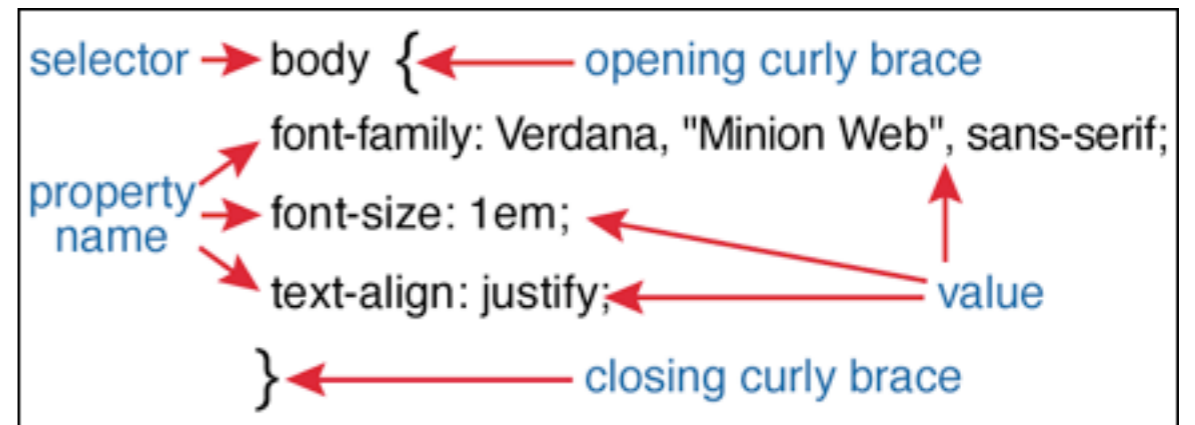
How CSS works

- Statements consist of

- Selectors

- Declarations

- Properties: Values (units)



CSS: Where do I put it?

- Embedded in the `<head>` of each page

```
<head><style type="text/css"> </style></head>
```

- Linked in the `<head>`

Advantages: templating, speed

```
<link rel="stylesheet" type="text/css"
href="/styles/style.css" />
```

- Inline (avoid this)

```
<p style="color: red">text</p>
```

CSS Selectors

- HTML selectors - raw tags in the style sheet)
- Class selectors
 - use `.className` in style sheet
 - use `class="className"` in HTML
- ID selectors
 - use `#idName` in style sheet
 - use `id="idName"` in HTML

Divs and Spans

- Divs
 - Use `<div id="myDiv"> </div>` to define block elements. Useful for both formatting and positioning.
 - The id is unique. It refers to one element
- Spans
 - Use when you want to apply a class to some text inline
 - This is my sequence
`ACTGATCTAGCT`

BlueprintCSS

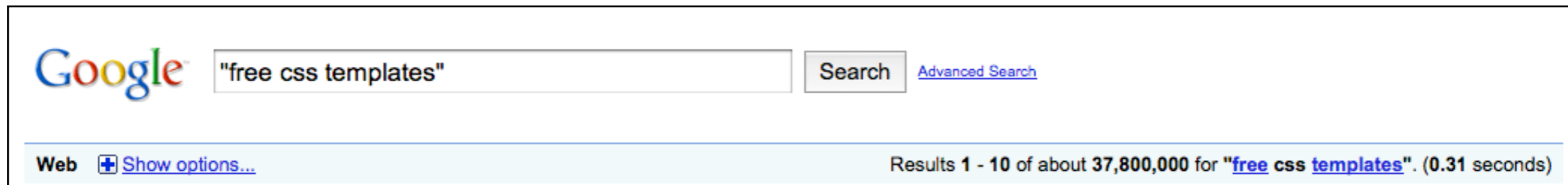
- CSS framework
- grid
- “sensible typography”
- stylesheet for printing

Blueprint Tests: grid.css

The screenshot displays several grid layouts on a light blue and white checkerboard background. The first row shows three columns of text. The second row shows three columns of text. The third row shows three columns of text. The fourth row shows two columns of text. The fifth row shows a grid with 24 columns and 1 row. The sixth row shows a grid with 24 columns and 1 row. The seventh row shows a grid with 24 columns and 1 row. The eighth row shows a grid with 24 columns and 1 row. The ninth row shows a grid with 24 columns and 1 row. The tenth row shows a grid with 24 columns and 1 row.

1	2	3	4	5	3																		
1	2	3	4	5	3																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2	23																						

Do Not Reinvent the Wheel



Results 1 - 10 of about 317,000 for "two column css". (0.40 seconds)

- <http://www.freecsstemplates.org>

Where does my website go?

- On Mac OS X
 - Personal web: `~/Sites`
 - Main web: `/Library/Webserver/Documents`
- Linux: `/var/www/html` or `/var/apache2/htdocs`
- XP Home: `C:\Program Files\ApacheGroup\Apache\htdocs`
- Could be elsewhere. Don't give up!

Naming your html files

- .html .htm
- Why index.html is special

Resource: HTML

- HTML Dog
<http://htmldog.com>



- W3C tags
<http://www.w3schools.com/tags>



Resources: CSS

Selectors	Box Model	Boxes
<ul style="list-style-type: none"> * All elements div <div> div * All elements within <div> div span within <div> div, span <div> and div > span with parent <div> div + span preceded by <div> .class Elements of class "class" div.class <div> of class "class" #itemid Element with id "itemid" div#itemid <div> with id "itemid" a[attr] <a> with attribute "attr" a[attr='x'] <a> when "attr" is "x" a[class~='x'] <a> when class is a list containing 'x' a[lang]='en' <a> when lang begins "en" 	<p>The diagram illustrates the Box Model with a central 'Visible Area' (content box) surrounded by 'Padding', 'Border', and 'Margin'. Arrows indicate the extent of each layer.</p>	<ul style="list-style-type: none"> margin x border-color x margin-top border-top-color margin-right border-right-color margin-bottom border-bottom-color margin-left border-left-color padding x border-style x padding-top border-top-style padding-right border-right-style padding-bottom border-bottom-style padding-left border-left-style border x border-width x border-top x border-top-width border-bottom x border-right-width border-right x border-bottom-width border-left x border-left-width
Pseudo-Selectors and Pseudo-Classes	Positioning	Tables
<ul style="list-style-type: none"> :first-child First child element :first-line First line of element :first-letter First letter of element :hover Element with mouse over :active Active element :focus Element with focus :link Unvisited links :visited Visited links :lang(var) Element with language "var" :before Before element :after After element 	<ul style="list-style-type: none"> display clear position z-index top direction + right unicode-bidi bottom overflow left clip float visibility 	<ul style="list-style-type: none"> caption-side + border-spacing + table-layout empty-cells + border-collapse + speak-header +
Sizes and Colours	Dimensions	Paging
<ul style="list-style-type: none"> 0 0 requires no unit Relative Sizes em 1em equal to font size of parent (same as 100%) ex Height of lower case "x" % Percentage Absolute Sizes px Pixels cm Centimeters mm Millimeters in Inches pt 1pt = 1/72in pc 1pc = 12pt Colours #789abc RGB Hex Notation #acf Equates to "#aacfff" rgb(0,25,50) Value of each of red, green, and blue. 0 to 255, may be swapped for percentages. 	<ul style="list-style-type: none"> width min-height min-width max-height max-width vertical-align height 	<ul style="list-style-type: none"> size page-break-inside + marks page + page-break-before orphans + page-break-after widows +
Color / Background	Text	Interface
<ul style="list-style-type: none"> color + background-repeat background x background-image background-color background-position background-attachment 	<ul style="list-style-type: none"> text-indent + word-spacing + text-align + text-transform + text-decoration white-space + text-shadow line-height + letter-spacing + 	<ul style="list-style-type: none"> cursor + outline-style outline x outline-color outline-width
Fonts	Aural	Miscellaneous
<ul style="list-style-type: none"> font + x font-weight + font-family + font-stretch + font-style + font-size + font-variant + font-size-adjust + 	<ul style="list-style-type: none"> volume + elevation speak + speech-rate pause x voice-family pause-before pitch pause-after pitch-range cue x stress cue-before richness cue-after speak-punctuation play-during speak-numeral azimuth + 	<ul style="list-style-type: none"> content list-style-type + quotes + list-style-image + counter-reset list-style-position + counter-increment marker-offset list-style + x
Note Shorthand properties are marked x Properties that inherit are marked +	Available free from www.AddedBytes.com	

Cheat sheet:

<http://www.addedbytes.com/download/css-cheat-sheet-v2/pdf/>

CSS tutorial

http://westciv.com/wiki/Main_Page

Two column style sheet and tutorial

http://www.456bereastreet.com/lab/developing_with_web_standards/csslayout/2-col/

Tools of the Trade

- Web Developer Plugin for Firefox
- CSS editors
 - MacRabbit CSSEdit
 - SimpleCSS
 - TopStyle (Windows)

