

Session 2. CSS3

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Based on the work "The LINGUIST List" by Dwight VanTuyl

CSS. Cascading Style Sheet

- **Cascading:** Multiple styles can **overlap** in order to specify a range of style from a whole web site down to a unique element. Which style gets applied is decided by the rules of CSS cascading logic.
- **Style:** CSS deals specifically with the **presentation** domain of designing a web page (color, font, layout, etc).
- **Sheet:** Normally, CSS is a **file separate** from the HTML file, linked to the HTML file through its <head> (the styles can also be defined in HTML file directly, but it is not recommended).

History:

- 1996 CSS 1: Allows styles regardless of browser and HTML
- 1998 CSS2: New features, but slow implementation
- 2000 CSS3 draft
- 2005 The development of CSS3 begins
- 2009 Implementation in some browsers of some parts of CSS3

CSS example: CSS Zen Garden

CSS Zen Garden

The Beauty of CSS Design

Cascading Style Sheets

A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page.

Download the example [html file](#) and [css file](#)

The Road to Enlightenment

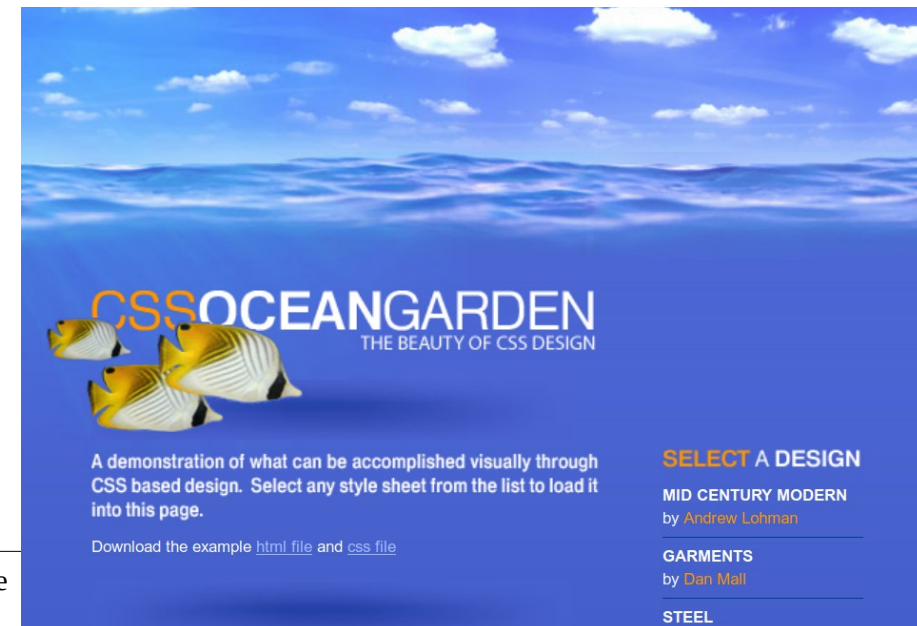
Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers.

We must clear the mind of the past. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP, and the major browser creators.

The CSS Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the time-honored techniques in new and invigorating fashion. Become one with the web.

So What is This About?

There is a continuing need to show the power of CSS. The Zen Garden aims to excite, inspire, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one



CSS advantages

- Allows for much **richer document appearances** than HTML.
- **Reduce workload** by centralizing commands for visual appearance instead of scattered throughout the HTML file.
- Use **same style on multiple pages**.
- Reduce page **download size**.

Use HTML for content; CSS for presentation.

CSS. Reference CSS from HTML

External CSS (recommended):

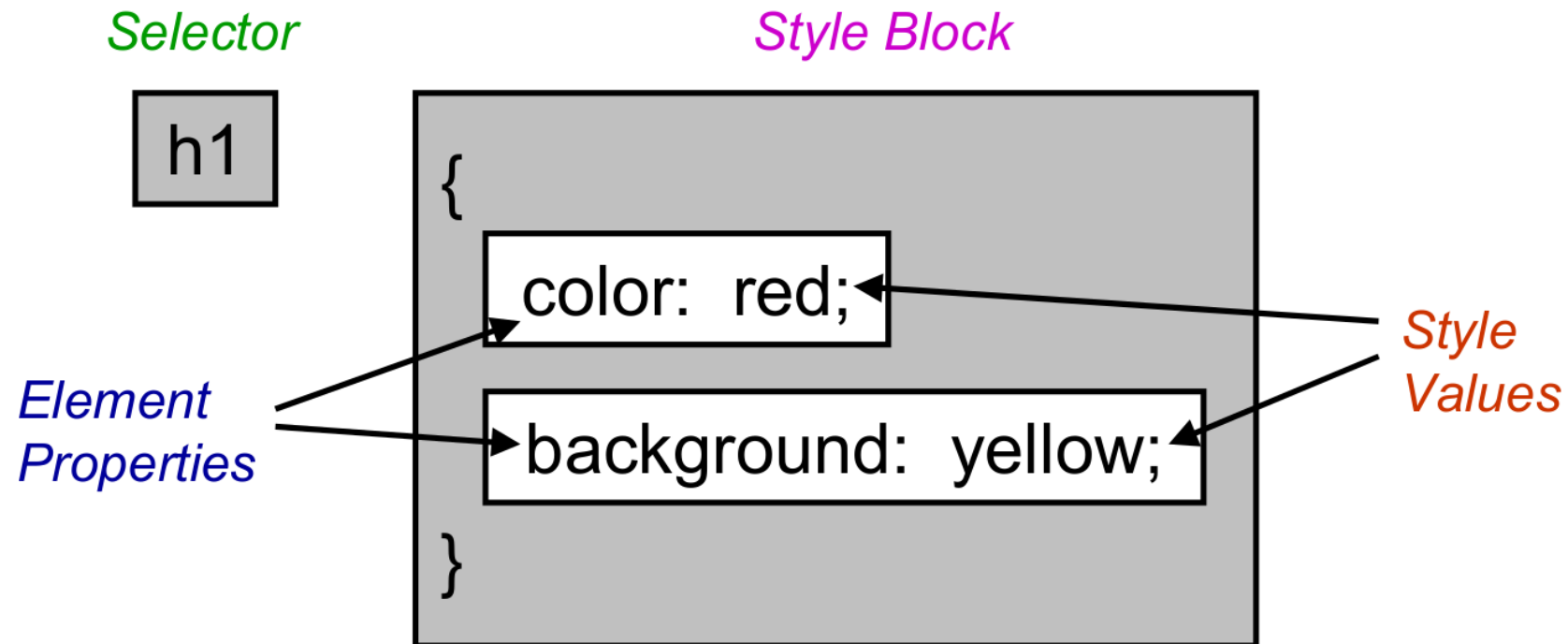
```
<html>
  <head>
    <link rel="stylesheet" type="text/css" href="file.css" />
  </head>
  ...
</html>
```

Internal CSS:

```
<html>
  <head>
    <style> ... </style>
  </head>
  ...
</html>
```

Inline: `<p style="font-size: 16px; color: blue;">Special text</p>`

CSS syntax



The **Selector** selects elements on the HTML page.

The associated **Style Block** applies its **Style Values** to the selected **Element Properties**.

CSS selectors

Select elements to apply a declared style.

Selector types:

- **Universal selector:** * (asterisk) selects **all** the elements.
- **Element selectors:** selects **all** elements of a specific **type** (<body>, <h1>, <p>, <div>, ...).
- **Class selectors:** selects **all** elements that belong to a given **class**.
- **ID selectors:** selects a **single** element that's been given a unique **id**.
- **Pseudo selectors:** combines a selector with a user activated state (:hover, :link, :visited)

CSS element selectors

Finds **all** HTML elements that have the specified element **type**.

Example:

```
h1 {  
  color: blue;  
}
```

Finds all elements of type `<h1>` and makes the text color blue.

CSS class selectors

Finds **all** elements of a given class based on the attribute's **class** value.

Syntax: **.classname** (the dot means class selector)

Example:

```
.legs {  
    font-weight: bold;  
    background: pink;  
}
```

Finds all elements whose class="legs" and makes their font bold and their backgrounds pink.

CSS ID selectors

Finds a **single** element that's been given a unique id based on the attribute's **id** value.

Syntax: **#idname** (the pound-sign means id selector)

Example:

```
#snout{  
    border: solid red;  
}
```

Finds a single element whose id="snout" and gives it a solid red border.

CSS pseudo selectors

Apply styles to a user activated state of an element.

General purpose pseudo selector:

- **:hover** Element with mouse over.

Specific to hyperlinks (and/or buttons):

- **a:active** A link or button that is currently being clicked on.
- **a:link** A link that has NOT been visited yet.
- **a:visited** A link that HAS been visited.

Specific to forms:

- **:enabled** An enabled field.
- **:disabled** A disabled field.
- **:checked** A checked field.

CSS. Grouping selectors

Lets say you want to apply the same style to several different selectors.

Don't repeat the style, use a **comma**.

Syntax: **sel1, sel2, sel3** (the comma groups several different selectors)

Example:

```
h1, .legs, #snout{  
    font-size: 20pt;  
}
```

Finds all elements of type <h1>, all elements with class="legs" and the single element whose id="snout", then makes their font-size 20pt.

CSS. Conflict resolution

It's possible to have **different** styles applied to the **same** selector (CascadingSS), but what if the styles tell the browser to do **conflicting** things?

Rules:

- Which selector is more **specific**?
- If the selectors are the same, then which style was applied **last**?

CSS. Sharpen your selector

Order of specificity:

(specific) **id, class, element type** (ambiguous)

Combine selectors:

Elementtype.classname or **Elementtype#idname**

p.legs or *h2#snout*

Descendant Selectors:

Specify the context in the HTML tree from each ancestor down to the desired element, each separated by a space.

body.pig p.pig-head #snout

```
<body class="pig">
  <p class="pig-head">
    <h1 id="snout">
      Snout Snout Snout
    </h1>
  </p>
</body>
```

CSS. Web inspector (Developer tools in the browser)

Tool for figuring out what styles are being applied to which element (and which are being overwritten due to conflict resolution).

In Firefox:

- Right-click on an element, then select “Inspect Element” from the dropdown menu, or
- Select "Web developer / Inspector" in the application menu and select an element in the HTML code.

CSS. `` and `<div>` element tag

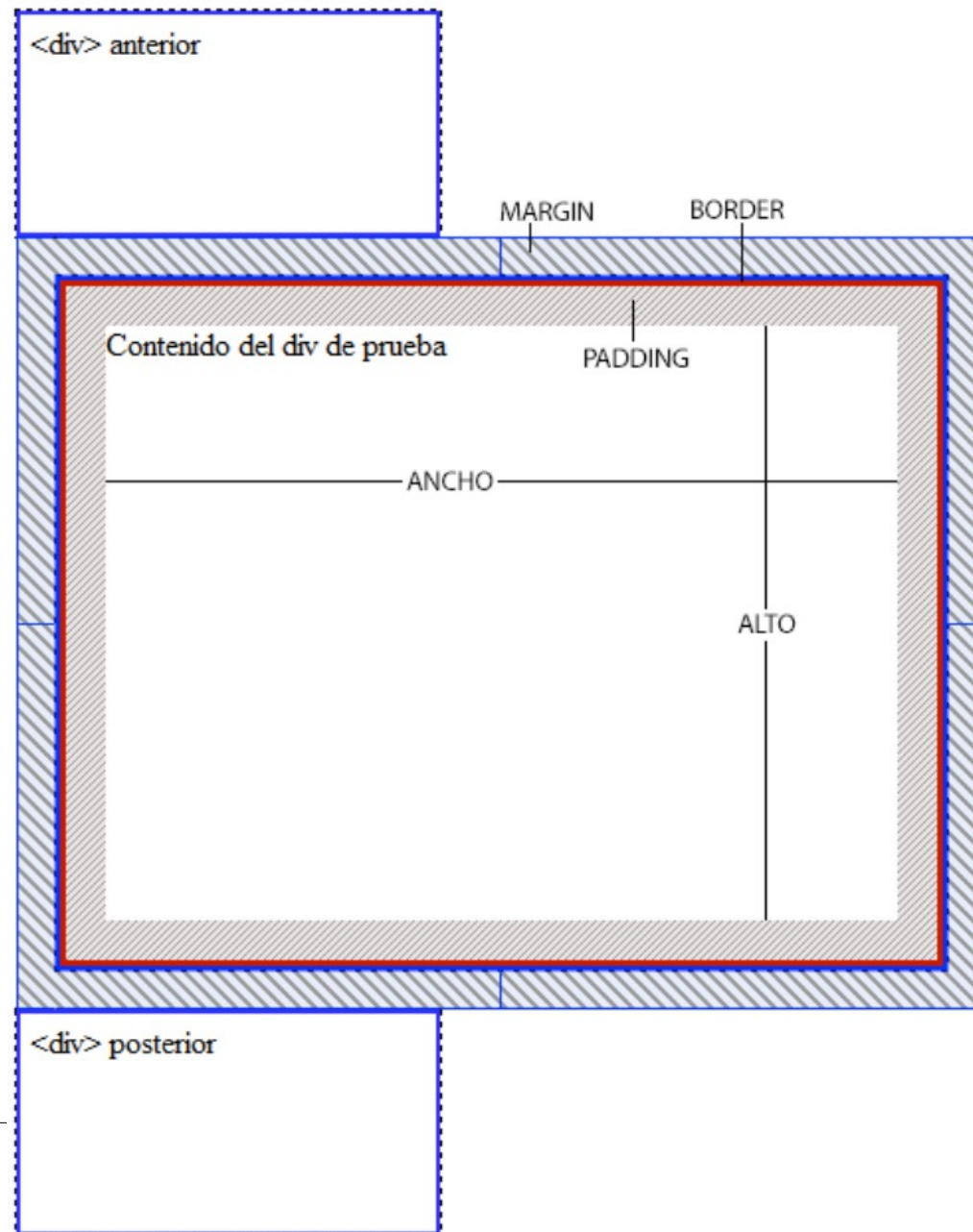
`` tag

- Useful for applying style to text within another HTML element.
- Use SPARINGLY – unlike `<h1>` or `<p>`, `` has no semantic meaning.
- HTML is for content and HTML tags are for describing that content to non-human or visually-impaired readers. `` is just used to make things “pretty.”

`<div>` tag

- Useful for dividing parts of the page into sections.
- Creates a “box” with the following attributes: margin, padding, border, height, width, ...
- Primary element used for CSS Layouts.

CSS. width, height, padding, margin, border



CSS. Color Properties

- **color**: specifies the text color.
- **background-color**: specifies the background color.

Color can be defined by color **name** or **HEX**, **RGB**, **RGBA**, **HSL**, **HSLA** value

black; #000000; **rgb**(0, 0, 0);

red; #FF0000; **rgb**(255, 0, 0);

lime; #00FF00; **rgb**(0, 255, 0);

blue; #0000FF; **rgb**(0, 0, 255);

white; #FFFFFF; **rgb**(255, 255, 255);

https://www.w3schools.com/css/css3_colors.asp

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

CSS. Background image properties

- **background-image:** url(../location/of/image.jpg)
- **background-repeat:** tile image in background
- **background-position:** vertical (top, center, bottom, or size) horizontal (left, center, right, or size)
- **background-attachment:** (scroll or fixed)

CSS. Font properties

- **font-family:** times, arial, serif, sans-serif, monospace;
- **font-style:** *italic*;
- **font-weight:** (bold, bolder, lighter, or 100 – 900;)
- **font-size:** size;

Or shorthand:

- **font:** style weight size family;

CSS. Text properties

- **text-indent**: indents first line of a paragraph according to size
- **text-align**: right; or left; or center; or justify;
- **text-decoration**: none; or underline;
- **text-transform**: Capitalize;
- **line-height**: added vertical space to each line of text according to size

CSS. List properties

- **list-style-type**: none, disc, circle, square, (other types available)
- **list-style-position**: inside or outside
- **list-style-image**: url(../path/to/image.jpg)

Or shorthand:

- **list-style**: type position image

CSS. Border properties

- **border-width:** (thin, medium, thick, or size)
- **border-style:** (none, hidden, dotted, dashed, solid, double, groove, ridge, inset, or outset)
- **border-color:** color

Or shorthand:

- **border(-top, -right, -left, -bottom):** width style color

CSS3 media

CSS3 allows you to adapt the presentation to PCs, mobiles, tablets or printers with the **media** attribute that will activate the specific style of each device.

```
<link rel="stylesheet" media="mediatype and|not|only (expressions)"  
href="file.css">
```

mediatype can be: all screen print speech

```
<link rel="stylesheet" media="screen" href="screen.css">  
<link rel="stylesheet" media="(min-width:380px)" href="style1.css" >
```


CSS exercise



Add to your personal Web page a navigation bar mixing lists with links inside a `<nav>` tag. Add these options "Skills", "Hobbies", "Music and Movies", "Contact me" to the menu.

You can use bookmarks to jump to specific parts of a Web page:

```
<h1 id="C2">Chapter 2</h1>
```

```
<a href="#C2">Jump to Chapter 2</a>
```

Create an external CSS file to store the styles of your personal Web page. Add several styles to give a pretty appearance to your Web page.



Create an external CSS file to store the styles of the memory game Web page.

Exercise: Online CSS quiz & CSS exercises

You can review your knowledge about CSS doing these online resources:

- [CSS quiz](#)
- [CSS exercises](#)