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CSCI-UA-4-005
Intro to Web Design + Computer Principles

CSS – Day 1

Professor Emily Zhao
M/W 12:30PM – 1:45PM

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Agenda

— Review CSS Basics
— *NYC Website Demo*: CSS

Find the 6 HTML Errors

```html
<!DOCTYPE html>
<html>
<head>
    <title>My Page with Errors</title>
</head>
<body>
    <h1>Welcome to My Page</h2>

    <p>This is a <strong>paragraph.</p>

    <img src="image.jpg" alt="An image">

    <a href=https://www.example.com>Visit Example.com<a>

    <div>This is a div</div>

    <ul>
        <li>Item 1</li>
        <li>Item 2
            <ul>
                <li>Subitem 1
                <li>Subitem 2</li>
            </ul>
        </li>
    </ul>
</body>
</html>
```

CSS

```css
body {
  background-color: white;
}

h1 {
  color: #2d2d2d;
  font-family: Helvetica, sans-serif;
  font-size: 1.3em;
}

.title {
  font-size: 1.7em;
}

p {
  color: #2d2d2d;
  font-family: Georgia, serif;
  font-size: 1em;
  line-height: 1.4em;
}

a:link, a:visited {
  color: black;
  text-decoration: underline;
}

a:hover {
  color: black;
  background: orange;
}
```

History of CSS

1990s: Web pages were commonly styled with HTML tags and structured with tables

1996:   To separate content from presentation, the concept of CSS was proposed. In 1996, the World Wide Web Consortium (W3C) released the first CSS specification, CSS1 [fonts, colors, margins]

1998:   CSS2 [absolute positioning, improved support for tables, more sophisticated selectors for targeting elements]

Ongoing: CSS3 [gradients, animations, transitions, media queries, and more]

Cascading Style Sheets (CSS)

— Separates the content (HTML) from its presentation (styling)
— Allows you to style elements such as text, fonts, colors, backgrounds, borders, and spacing
— Enables you to define the layout of pages, including the positioning of elements, responsive design for various screen sizes, and multi-column layouts

CSS ZEN GARDEN

The Beauty of CSS Design

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.

MID CENTURY MODERN
by Andrew Lohman

GARMENTS
by Dan Mall

STEEL
by Steffen Knoeller

APOTHECARY
by Trent Walton

SCREEN FILLER
by Elliot Jay Stocks

CSS Application

CSS can be applied in 3 different ways to a web page:

1. Inline with HTML code
2. In the `<head>` section of an HTML document
3. In an external `.css` file*

preferred method

CSS Rule Set

Selector
Indicates which HTML element
will be formatted

Property/Value pair(s)
Specifies formatting to apply

Style rules are separated by a ;

```
h1 {
  color: red;
  text-align: center;
}
```

Specifying colors in CSS

Named color

`background-color: red;`

Hexadecimal code

`background-color: #FF0000;`

Red, green, blue (RGB)

`background-color: rgb(255, 0, 0);`

Hue, saturation, lightness (HSL)

`background-color: hsl(0, 100%, 50%);`

Units of Length

There are two types of length units in CSS: **relative** and **absolute**.

Relative units of length include:
— em (relative to font size)
— % (relative to the containing element)

Absolute units of length include:
— px (pixels)

Alternatively specifications:
— auto (browser calculates length)
— inherit (from the parent element)

ids

— An attribute used to uniquely
  identify a specific HTML
  element within a webpage
— Selected using a # followed by
  the id name.
— **Only <u>ONE</u> instance** of a id can
  be used on a HTML page

HTML

```html
<h1 id="title">

    ...

</h1>
```

CSS

```css
#title {
  color: yellow;
}
```

classes

— An attribute used to uniquely identify a specific HTML element within a webpage
— Selected using a . followed by the class name.
— **Several instances** of a style can be used on a HTML page

HTML

```
<article class="blog-post">

    ...

</article>
```

CSS

```
.blog-post {
  background: yellow;
}
```

Cascade

The principle of the "cascade" is applied when style rules are in conflict

Three primary factors determine which style rule wins out:

— Inheritance
— Specificity
— Location

Question 1

```html
<!DOCTYPE html>
<html>
<head>
  <style>
    .container {
      font-size: 18px;
      color: navy;
    }
  </style>
</head>
<body>
  <div class="container">
    <p>Paragraph 1</p>
    <div>
      <p>Paragraph 2</p>
    </div>
    <p style="color: green;">Paragraph 3</p>
  </div>
</body>
</html>
```

What will the styles of each of the paragraphs be?

All paragraphs inside the .container will inherit the font-size of 18px, but only paragraphs without inline styles will be colored navy.

Question 2

```html
<!DOCTYPE html>
<html>
<head>
<style>
  .container { color: blue; }
  p { color: green; }
</style>
</head>
<body class="container">
  <div>
    <p>This paragraph is inside a div, which is
inside a body with a 'container' class.</p>
  </div>
</body>
</html>
```

Which color will the text in the paragraph be?

The color of the paragraph will be green. The direct selector p has higher specificity than the inherited style from .container, thus the paragraph's color will be green.

Question 3

```html
<!DOCTYPE html>
<html>
<head>
<style>
  #main-text {
    color: blue;
  }
  .text-color {
    color: red;
  }
</style>
</head>
<body>
  <p id="main-text" class="text-color">This
is a paragraph.</p>
</body>
</html>
```

Which color will the text in the paragraph be?

Blue. ID selectors have higher specificity than class selectors.

Question 4

```html
<!DOCTYPE html>
<html>
<head>
<style>
  p {
    color: orange;
  }
  p {
    color: pink;
  }
</style>
</head>
<body>
  <p>This is a paragraph.</p>
</body>
</html>
```

Which color will the text in the paragraph be?

Pink. The last rule defined in CSS with the same specificity wins.

Question 5

```html
<!DOCTYPE html>
<html>
<head>
<style>
  .text-color {
    color: navy;
  }
  .main-text {
    color: silver;
  }
</style>
</head>
<body>
  <p class="text-color main-text">This is a
paragraph.</p>
</body>
</html>
```

Which color will the text in the paragraph be?

Silver. When multiple classes are applied to an element, the last one defined in the stylesheet with the same specificity wins.

Question 4

```html
<!DOCTYPE html>
<html>
<head>
    <link rel="stylesheet" type="text/css"
href="external.css">
    <style>
        body { color: purple; }
        p { color: blue; }
        .text { color: red; }
    </style>
</head>
<body>
    <p class="text" style="color:pink;">This is some
text.</p>
</body>
</html>
```

external.css

```css
p {
    color: green;
}
```

Which color will the text in the paragraph be?

Pink. In-line style rules are the most specific.

Question 7

```
<!DOCTYPE html>
<html>
<head>
<style>
  p {
    color: yellow !important;
  }
</style>
</head>
<body>
  <p style="color: black;">This is a
paragraph.</p>
</body>
</html>
```

Which color will the text in the paragraph be?

Yellow. The `!important` rule overrides other declarations even with lower specificity, including inline styles (except when the inline style also uses `!important`).

NYC Site: CSS

Using CSS Pseudo-classes

— Pseudo-classes are used to style elements that cannot be targeted using only standard element selectors.
— Pseudo-classes are denoted by a colon (":") followed by their name.

Styling Links

There are four primary link states:

a:link — Describes the styles that illustrate to the user that an element is a link; default is <u>blue underlined text</u>

a:visited — What a link looks like after it has been clicked on; default is <u>purple underlined text</u>

a:hover — What a link looks like when the mouse cursor is hovering on it

a:active — What a link looks like when you are actively clicking on the link