CMSC335

Web Application Development with JavaScript

CSSII

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Kinds of Selectors

- **Descendant selector**
  - Override the type, class, and id selector styles
  - Typically with two elements where the second is a descendant
- **Examples:**

    li a {font-size: 2em}

    #header h2 {font-weight: normal;}

    #content h2 {font-weight: bold;}

- **Example:** DescendantSelector.html, DescendantSelector.css

Kinds of Selectors

- **Pseudo-element**
  - Keyword added to a selector lets you style a specific element part. Pseudo-element employs a double-colon (:☺ so it can be distinguished from pseudo-class (in the past, a single colon was used)
  - **Examples: ::first-letter**, **::first-line**
- **Universal selector**
  - Applies to all elements in context
  - **Example: *** {font-family: arial, Helvetica; }
- **Example:** PseudoElementsUniv.html, PseudoElementsUniv.css

Child Selector

- A child selector matches when an element is the child of some element. A child selector is made up of two or more selectors separated by "**>**"

- **Examples:**

    body > p { line-height: 1.3 }

    » Sets the style of all p elements that are children of body

- **Examples:** ChildSelector.html

Attribute Selectors

- Match elements with certain attributes defined in the source document
- **Syntax**
  - **[att]** Matches when the element sets the "att" attribute, whatever the value of the attribute
  - **[att="val"]** Matches when the element's "att" attribute value is exactly "val"
- **Examples:**
  - **h1[title] { color: blue; }** → Matches all **h1** elements that specify the "title" attribute, whatever its value
  - **span[class="example"] { color: blue; }** →Matches all **span** elements whose "class" attribute has exactly the value "example"
  - **input[type = "submit"] { color:blue; }** → An input element with a type attribute that has the value submit
- **Examples:** AttributeSelector.html
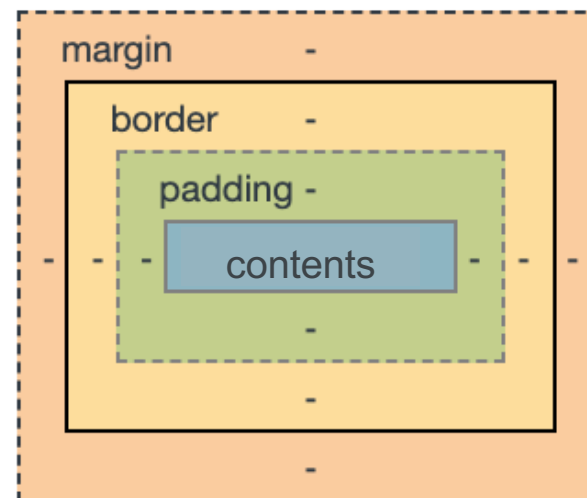
More Selector Examples

- **div.myPrefStyle { }**
  - A div with the class myPrefStyle
- **div#mySchedule { }**
- **p + div**
  - **div is an adjacent sibling of p**

Lorem Ipsum

- Lorem ipsum - placeholder text that serves to fill a space without actually saying anything

- Main reason for its use is, so people don't focus on the text

- It is rooted in Latin

- Comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero

- Reference: https://www.lipsum.com/

  - You can generate lorem ipsum lists, paragraphs, etc., using the previous site

- Use <html lang="zxx"> (HTML validation will fail otherwise)

Box Model

- CSS box model:
  - Box around an HTML element with the following components: margin, border, padding, content
- Allow us to define space between different elements
- Four sections can be identified:
  - **contents**: what lies in the middle of the box (text, image, etc.)
  - **padding**: surrounds the content
  - **border**: surrounds the padding and represents the box border
  - **margin**: surrounds the border

Box Model (Padding/Margin)

- You can adjust individual padding/margin properties by using:

  - padding-bottom, padding-left, padding-top, padding-right

  - margin-bottom, margin-left, margin-top, margin-right

- The margins, borders, paddings, and background properties of block elements (e.g., body, p, etc.) are not passed to the children
  - i.e., not inherited

- **Example:** BoxModel.html, BoxModel.css

Shorthand Property

- Allows you to specify several properties by using only one
  - If you don't specify one of the properties, a default value will be used
- Commonly used shorthand properties
  - background
  - font
  - list-style
  - margin
  - border
  - padding
- **Example:** ShorthandProperties.html, ShorthandProperties.css

Background properties

- **background-color** - color
- **background-image** - location (URL) of image
- **background-repeat** - how the image repeats
  - Possible values for repetition
    - » **no-repeat** - one instance of the image
    - » **repeat** - tile
    - » **repeat–y** - repeats on the y-axis
    - » **repeat–x** - repeats on the x-axis
- **background-attachment**
  - Indicates attachment of the image to the containing element
  - Possible values are:
    - » **scroll**: default value
    - » **fixed**: the image will stay stationary as the scrolling takes place

Background (cont.)

- **background-position**
  - Possible values (some combinations are valid)
    - » top, bottom, center, left, right
- **background-size**
  - Possible values
    - » auto auto - retains the original size
    - » 000px 000px
    - » x% y%
    - » contain | cover | …
- Background images can be used in elements other than body (e.g., div)
- There is a shorthand property for backgrounds
  - background: lightblue url("campusBldg.jpg") no-repeat fixed center;
- **Examples:** Background.html

Responsive Design with Media Queries

- **What is a Media Query?**
  - Media query is a CSS technique introduced in CSS3
  - Uses the **@media** rule to include a block of CSS rule only if a certain condition is true

- **Example:**

```
@media only screen and (max-width: 600px) {
    body {
        background-color: lightblue;
    }
}
```

  - Sets the background color only if the browser window is 600px or smaller

- **Reference:**

- https://www.w3schools.com/css/css_rwd_mediaqueries.asp

- **Example:** MediaQuery.html
  - Run directly in the browser and not in Live Server

Generic Font Families

- **serif**
  - Line or stroke added to letter or symbol
  - **Examples:** Times New Roman, Georgia
- **sans-serif**
  - No serif (no line or stroke added to letter or symbol)
  - **Examples:** Verdana, Arial
- **monospace**
  - **Example:** `Courier New`, `Consolas`
- **cursive** - *Lucida Handwriting*
- **fantasy** - Comic Sans MS, …
- See the effect using the **Background.html** example

Options for Choosing Fonts

- Specify a particular font
  - **font-family**: arial;
  - Works if the font is available on user's machine
- Specify a generic family
  - **font-family**: serif;
  - Choices include: serif, sans-serif, monospace, cursive, fantasy
- Specify a list of fonts
  - Will be attempted in order
  - **font-family:** foobar, arial, sans-serif;

Using Google Fonts

- Google supports a set of nice fonts anyone can link in HTML docs
- https://fonts.google.com/
- How to use
  - Select font (click on + after line with sample text)
  - At the top right you will see a bag icon (click on it)
  - You can add additional fonts under the one you see
  - Select <link> or @import to generate code to use
- Use the fonts with the "font-family" CSS property
- **Example:** GoogleFont.html, GoogleFont.css
  - Example illustrates how we can use @import in CSS to import the font