

CMSC388A

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

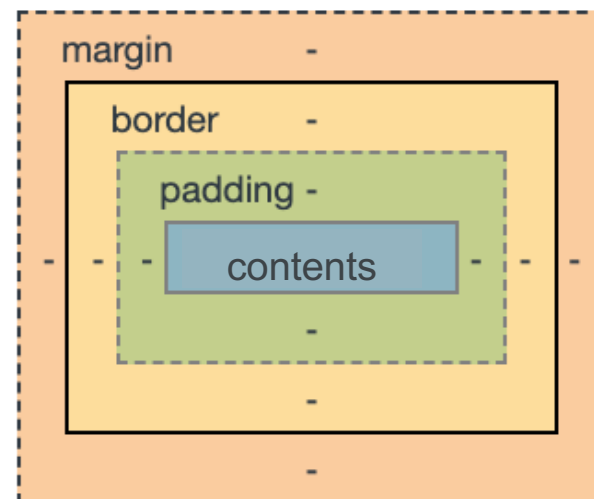
- **div.myPrefStyle { }**
 - A div with the class myPrefStyle
- **div#mySchedule { }**
- **p + div**
 - div is an adjacent sibling of p

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