Web Programming

CS-406 – CSS Lecture # 03

CSS

- CSS Cascading Style Sheets is a W3C standard for describing the **presentation (or appearance)** of HTML elements.
- With CSS, we can assign
- font properties,
- colors,
- sizes,
- borders,
- background images,
- even the position of elements.

Why css?

- The code is more easily maintainable with CSS
- Taking care of presentation
- Sites with centralized CSS files are quicker to load as they support multiple HTML pages
- CSS can be used to adopt a page for different output mediums.

Browsers & CSS

- Not all browsers support all CSS features (Check on multiple browsers)

- Not all versions of a browser support the same CSS features (Verify with multiple versions of a browser)

- Can validate CSS through the W3C validator as well.

- It can control the layout of multiple web pages all at once.

- CSS can be added to HTML elements in 3 ways:
- **Inline** - by using the style attribute in HTML elements
- **Internal** - by using a <style> element in the <head> section
- **External** - by using an external CSS file

- The most common way to add CSS, is to keep the styles in separate CSS files.

Inline css

- An inline CSS is used to apply a unique style to a single HTML element.
- An inline CSS uses the style attribute of an HTML element.
- Example

```
<h1 style="color:blue;">Blue Heading</h1>
```

Internal CSS

- An internal CSS is used to define a style for a single HTML page.

- An internal CSS is defined in the <head> section of an HTML page, within a <style> element.

- <head>
  <style>
  body {background-color: powderblue;}
  h1   {color: blue;}
  p   {color: red;}
  </style>
  </head>
  <body>

  <h1>This is a heading</h1>
  <p>This is a paragraph.</p>

  </body>
  </html>

- An external style sheet is used to define the style for many HTML pages.

- With an external style sheet, you can change the look of an entire web site, by changing one file!

- To use an external style sheet, add a link to it in the <head> section of the HTML page.

- <head>
  <link rel="stylesheet" href="styles.css">
  </head>
  <body>

  <h1>This is a heading</h1>
  <p>This is a paragraph.</p>

  </body>

External css

External sheet

- An external style sheet can be written in any text editor.

- The file must not contain any HTML code.

- Must be saved with a .css extension.

- body {
   background-color: powderblue;
  }
  h1 {
   color: blue;
  }
  p {
   color: red;
  }

- A rule has a selector (to be effected), a property (to modify), and value (to modify with)

- The series of declarations is called the **declaration block**.

- Every CSS rule begins with a **selector**.

- Each individual CSS declaration must contain a **property**.

Syntax

declaration

selector { property: value; property2: value2; } — rule

declaration block

selector

em { color: red; }

property value

```
p {
    margin: 5px 0 10px 0;
    font-weight: bold;
    font-family: Arial, Helvetica, sans-serif;
}
```

Property Type	Property
Fonts	font font-family font-size font-style font-weight @font-face
Text	letter-spacing line-height text-align text-decoration text-indent
Color and background	background background-color background-image background-position background-repeat color
Borders	border border-color border-width border-style border-top border-top-color border-top-width etc

Property Type	Property
Spacing	padding padding-bottom, padding-left, padding-right, padding-top margin margin-bottom, margin-left, margin-right, margin-top
Sizing	height max-height max-width min-height min-width width
Layout	bottom, left, right, top clear display float overflow position visibility z-index
Lists	list-style list-style-image list-style-type

Values

- Each CSS declaration also contains a **value** for a property.
- Possible value may be chosen from a predefined list
- Numeric values are supported with Units
  - Absolute Units (pt, px, in)
  - Relative Units (%, em)

Relative units

Unit	Description	Type
px	Pixel. In CSS2 this is a relative measure, while in CSS3 it is absolute (1/96 of an inch).	Relative (CSS2) Absolute (CSS3)
em	Equal to the computed value of the font-size property of the element on which it is used. When used for font sizes, the em unit is in relation to the font size of the parent.	Relative
%	A measure that is always relative to another value. The precise meaning of % varies depending upon which property it is being used.	Relative

Absolute units

Unit	Description	Type
in	Inches	Absolute
cm	Centimeters	Absolute
mm	Millimeters	Absolute
pt	Points (equal to 1/72 of an inch)	Absolute
pc	Pica (equal to 1/6 of an inch)	Absolute

Color values

Method	Description	Example
Name	Use one of 17 standard color names. CSS3 has 140 standard names.	color: red; color: hotpink; /* CSS3 only */
RGB	Uses three different numbers between 0 and 255 to describe the Red, Green, and Blue values for the color.	color: rgb(255,0,0); color: rgb(255,105,180);
Hexadecimal	Uses a six-digit hexadecimal number to describe the red, green, and blue value of the color; each of the three RGB values is between 0 and FF (which is 255 in decimal). Notice that the hexadecimal number is preceded by a hash or pound symbol (#).	color: #FF0000; color: #FF69B4;

Comments

- It is often helpful to add comments to your style sheets. Comments take the form:

/* comment goes here */

CSS fonts

- h1 {
  color: blue;
  font-family: verdana;
  font-size: 300%;
  }
  p {
  color: red;
  font-family: courier;
  font-size: 160%;
  }

CSS Border, padding & margins

- p {
  border: 1px solid powderblue;
  padding: 30p;
  }

- p {
  border: 1px solid powderblue;
  margin: 50px;
  }

ID & Class

- <p **id**="p01">I am different</p>
- **#**p01 {
  color: blue;
  }

- <p **class**="error">I am different</p>
- .error {
  color: red;
  }

Do it Yourself

Canvas

References

- https://www.w3schools.com