Web Technologies
BITE304L

Cascading Style Sheets(CSS)

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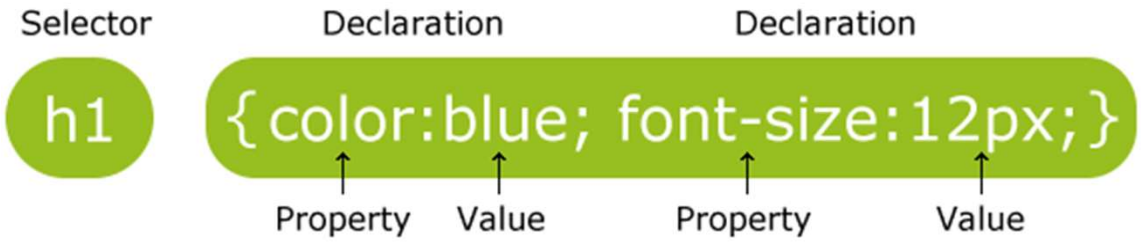
- Introduction to Cascading Style Sheets
- Inline Styles
- Style Sheets
- Grouping & Short Hand Properties
- Inheritances
- Classes
- Link
- Cascading Styles
- Dynamic Style.
- Box model
- Positioning

Cascading Style Sheets (CSS)

- CSS are a way to control the look and feel of your HTML documents in an organized and efficient manner.
- CSS defines HOW HTML elements are to be displayed.
- Development of large web sites, where fonts and color information were added to every single page, became a long and expensive process.
- To solve this problem, the World Wide Web Consortium (W3C) created CSS.
- In HTML 4.0, all formatting could be removed from the HTML document, and stored in a separate CSS file.
- Styles are normally saved in external .css files. External style sheets enable you to change the appearance and layout of all the pages in a Web site, just by editing one single file!

CSS Parts

- A CSS rule has two main parts: a selector, and one or more declarations:



- The selector is normally the HTML element you want to style.
- Each declaration consists of a property and a value.
- The property is the style attribute you want to change. Each property has a value.
- A CSS declaration always ends with a semicolon, and declaration groups are surrounded by curly brackets.

Comments

- Comments are ignored by browsers.

```
/*This is a comment*/
   p
   {
   text-align:center;
   /*This is another comment*/
   color:black;
   font-family:arial;
   }
```

CSS Demo

```
<html>
<head>
<style type="text/css">
body
{ background-color:#d0e4fe; }
h1
{  color:orange;
   text-align:center;  }
p
{    font-family:"Times New Roman";
     font-size:20px;  }
</style>   </head>
```

```
<body>
   <h1>CSS example!</h1>
   <p>This is a
   paragraph.</p>
</body>
</html>
```

Three Ways to Insert CSS

- External style sheet
- Internal style sheet
- Inline style

External Style Sheet

- An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing one file. Each page must link to the style sheet using the <link> tag.

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

- An external style sheet can be written in any text editor. The file should not contain any html tags. Your style sheet should be saved with a .css extension.

```
hr{color:sienna;}
p {margin-left:20px;}
body {background-image:url("images/back40.gif");}
```

- **Note:** Do not leave spaces between the property value and the units! "margin-left:20 px"

Internal Style Sheet

- An internal style sheet should be used when a single document has a unique style. You define internal styles in the head section of an HTML page, by using the <style> tag, like this:

```
<head>
        <style type="text/css">
                hr {color:red;}
                p {margin-left:20px;}
                body {background-
image:url("images/back40.gif");}
        </style>
</head>
```

Inline Styles

- An inline style loses many of the advantages of style sheets by mixing content with presentation.
- To use inline styles you use the style attribute in the relevant tag. The style attribute can contain any CSS property.

```
<p style="color:red;margin-left:20px">This is a paragraph.</p>
```

Multiple Style Sheets

- If some properties have been set for the same selector in different style sheets, the values will be inherited from the more specific style sheet.
- For example, properties for the h3 selector:

External style sheet

```
h3
{
color:red;
text-align:left;
font-size:8pt;
}
```

Internal style sheet

```
h3
{
text-align:right;
font-size:20pt;
}
```

internal style sheet also links to the external style sheet as final:

color:red;
text-align:right;
font-size:20pt;

Cascading Order

- Browser default
- External style sheet
- Internal style sheet (in the head section)
- Inline style (inside an HTML element)

- So, an inline style (inside an HTML element) has the highest priority, which means that it will override a style defined inside the <head> tag, or in an external style sheet, or in a browser (a default value).
- **Note:** If the link to the external style sheet is placed after the internal style sheet in HTML <head>, the external style sheet will override the internal style sheet!

The id Selector

The id selector is used to specify a style for a single, unique element.

```
<html>
<head>
<style type="text/css">
#para1
{   text-align:center;
    color:red;   }
#para2
{  text-align:right;
   color:blue;  }
</style> </head>
<body>
<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the
  style.</p>
<p id="para2">The id selector uses the
  id attribute of the HTML element, and
  is defined with a "#".The style rule
  below will be applied to the element
  with id="para2" </p>
</body>
</html>
```

The class Selector

- It is used to specify a style for a group of elements.
- It uses the HTML class attribute, and is defined with a ".“
- **Eg:** .center {text-align:center;}
- You can also specify that only specific HTML elements should be affected by a class.
- **Eg:** p.center {text-align:center;}

```
<html>
<head>
<style type="text/css">
.redcenter
{   text-align:center;
    color:red;  }
</style></head>
<body>
<h1 class="redcenter">Center-
  aligned heading</h1>
<p class="redcenter">Center-
  aligned paragraph.</p>
</body></html>
```

CSS3-backgrounds

- background: [background-image] [background-position] / [background-size] [background-repeat] [background-attachment] [background-origin] [background-clip] [background-color];

Property	Description
background	A shorthand property for setting all the background properties in one declaration
background-clip	Specifies the painting area of the background
background-image	Specifies one or more background images for an element
background-origin	Specifies where the background image(s) is/are positioned
background-size	Specifies the size of the background image(s)

CSS - Background Properties

- CSS background properties are used to define the background effects of an element.
- CSS properties used for background effects:
  - background-color
  - background-image
  - background-repeat
  - background-attachment
  - background-position

background-color

- body {background-color:#b0c4de;}
- p {background-color:#e0ffff;}
- div {background-color:#b0c4de;}
- h4 { background-color: white; }
- ul { background-color: rgb(149, 206, 145); }

background-image

- By default, the image is repeated so it covers the entire element

```
body {background-image:url("paper.gif");}
```

- You can have a background image repeat vertically (y-axis), horizontally (x-axis), in both directions, or in neither direction.

```
p {   background-image: url("smallPic.jpg");
      background-repeat: repeat; }
h4 {  background-image: url("../smallPic.jpg");
      background-repeat: repeat-y;}
ol {  background-image: url("../image/smallPic.jpg");
      background-repeat: repeat-x;}
ul {  background-image: url("c:/IWP/image/smallPic.jpg");
      background-repeat: no-repeat;}
```

Background-attachment

- You may choose to have your background scroll naturally, or to have it in a fixed position.
- body {

  background-image: url(smallPic.jpg);

  background-attachment: fixed; }
- body {

  background-image: url(smallPic.jpg);

  background-attachment: scroll;}

background-position

- If you would like to define where exactly an image appears within an HTML element, you may use CSS's background-position.
- Three different ways of defining position:
  - length, percentages, and keywords.
- p { background-image: url(smallPic.jpg);
  background-position: 20px 10px; }
  h4 { background-image: url(smallPic.jpg);
  background-position: 30% 30%; }
  ol { background-image: url(smallPic.jpg);
  background-position: top center; }
- The location of the image will be (A)px from the left of the screen and (B)px from the top of the screen.

Background - Shorthand property

- To shorten the code, it is also possible to specify all the properties in one single property. This is called a shorthand property.

  body {background:#ffffff url("img_tree.png") no-repeat right top;}

- When using the shorthand property the order of the property values are:
  - background-color
  - background-image
  - background-repeat
  - background-attachment
  - background-position
- It does not matter if one of the property values is missing, as long as the ones that are present are in this order.

CSS3-backgrounds

- background: [background-image] [background-position] / [background-size] [background-repeat] [background-attachment] [background-origin] [background-clip] [background-color];

Property	Description
background	A shorthand property for setting all the background properties in one declaration
background-clip	Specifies the painting area of the background
background-image	Specifies one or more background images for an element
background-origin	Specifies where the background image(s) is/are positioned
background-size	Specifies the size of the background image(s)

CSS3-multiple backgrounds

- add multiple background images for an element, through the **background-image** property.

```
#example1 {
  background-image: url(img_flwr.gif), url(paper.gif);
  background-position: right bottom, left top;
  background-repeat: no-repeat, repeat;}
```

background: url(img_flwr.gif) right bottom no-repeat, url(paper.gif) left top repeat;

CSS3-background-origin

- **background-origin** property specifies where the background image is positioned.
- **border-box** - the background image starts from the upper left corner of the border
- **padding-box** - (default) the background image starts from the upper left corner of the padding edge
- **content-box** - the background image starts from the upper left corner of the content

```
#example2 {   border: 10px solid black;   padding: 35px;
  background: url(flower1.jpg);
  background-repeat: no-repeat;
  background-origin: border-box;}
```

CSS3-background-clip

- **background-clip** property specifies the painting area of the background.
- The property takes three different values:
- **border-box** - (default) the background is painted to the outside edge of the border
- **padding-box** - the background is painted to the outside edge of the padding
- **content-box** - the background is painted within the content box

CSS3-background-size

- **background-size→**allows you to specify the size of background images.
- The size can be specified in lengths, percentages, or by using one of the two keywords**: contain or cover.**
- **contain→**scales the background image to be as large as possible (but both its width and its height must fit inside the content area)
- **cover→**scales the background image so that the content area is completely covered by the background image (both its width and height are equal to or exceed the content area)

CSS – Text Properties

Text Color

- The color property is used to set the color of the text.

```
body{color:blue;}
h1{color:#00ff00;}
h2 {color:rgb(255,0,0);}
```

Text Alignment

- The text-align property is used to set the horizontal alignment of a text.
- Text can be centered, or aligned to the left or right, or justified.
- When text-align is set to "justify", each line is stretched so that every line has equal width, and the left and right margins are straight (like in magazines and newspapers).

```
h1 {text-align:center;}
p.main {text-align:justify;}
```

Text Decoration

- The text-decoration property is used to set or remove decorations from text.

```
h1 {text-decoration:overline;}
h2 {text-decoration:line-through;}
h3 {text-decoration:underline;}
h4 {text-decoration:blink;}
```

`a {text-decoration:none;}` → remove underlines from links

- **Note:** The "blink" value is not supported in IE, Chrome, or Safari.

- **Text Transformation**

  It can be used to turn everything into uppercase or lowercase letters, or capitalize the first letter of each word.

  p {text-transform:uppercase;} → lowercase or capitalize

- **Text Indentation**

  It is used to specify the indentation of the first line of a text.

  p {text-indent:50px;}

- **Word Spacing**

  It is used to specify the exact value of the spacing between your words.

  p { word-spacing: 10px; }

- **Letter Spacing**

  It is used to specify the exact value of the spacing between your letters.

  p { letter-spacing: 3px; }

- **Line Height**

  The line-height property is used to specify the space between lines:

```
p {line-height:1.8}
```

- **Text direction**

  The direction property is used to change the text direction of an element:

```
p {direction:rtl;}
```

Font Properties

Order must be: style, variant weight, size, line height,font family(s)

p{**font:**font-style font-variant font-weight font-size font-family}

Font Family

- If the name of a font family is more than one word, it must be in quotation marks, like font-family: "Times New Roman".
- More than one font family is specified in a comma-separated list:

p{font-family:"Times New Roman";}

Font Style

- This property has three values:
  - normal - The text is shown normally
  - italic - The text is shown in italics
  - oblique - The text is "leaning" (oblique is very similar to italic, but less supported)

p{font-style:normal;}

Font Size - sets the size of the text.

```
p {font-size:14px;}
p {font-size:0.875em;} /* 14px/16=0.875em */
p { font-size: 20%; }
```

- The default text size in browsers is 16px. So, the default size of 1em is 16px.

Font Color

```
h4 { color: red; }
```

Font Weight

- If you want to control the weight of your font (its thickness), using font weight is the best way to go about it.
- You only use font-weight in multiples of 100 (e.g. 200, 300, etc) .The values range from 100 (thin)-900 (thick).

```
p { font-weight: 100; }
ul{ font-weight: bolder; }
```

- Available key terms for font-weight: ***bold or bolder, lighter and normal.***

Font Variant - allows you to convert your font to all small caps to upper case with small size font.

```
p { font-variant: small-caps; }
p { font-variant: normal; }
```