HNDIT11062 – Web Development

Week 11: CSS

What is CSS?

- Stands for **Cascading Style Sheet**
- CSS allows you to style HTML elements, or define how they are displayed.
- Styles are normally stored in **Style Sheets**
- **External Style Sheets** can save you a lot of work
- External Style Sheets are stored in **CSS files**
- Multiple style definitions will **cascade** into one

- Examples:
  - Changing the color of text
  - Specifying the size and position of a div

What is CSS? (cont.)

- CSS is an alternative to the “style” attribute.
  - <div style=“height:500px; width:200px”>
- Advantages:
  - Can control the style of many different elements with a single command.
  - Separation of function: HTML can focus on content while CSS handles styling.

CSS (Cascading Style Sheet)

- **Simple mechanism for adding style to web page**
- **Code be embedded into the HTML file**
- **HTML tag:**

  <style type="text/css">CODE</style>
- **Also be in a separate file FILENAME.css**
- **HTML tag:**

  <link rel="stylesheet" href="scs.css" type="text/css">
- **Style types mainly include:**
  - **Font**
  - **Color**
  - **Spacing**

Style Attribute

- Allows you to control the style of HTML elements.
- Redundant with CSS. “quick and dirty” styling.
- E.g.

```
<h1 style="color:blue; text-align:center">This is a header</h1>
<p style="color:green">This is a paragraph.</p>
```

- The name-value pairs in the style definition are actually CSS property/value pairs.

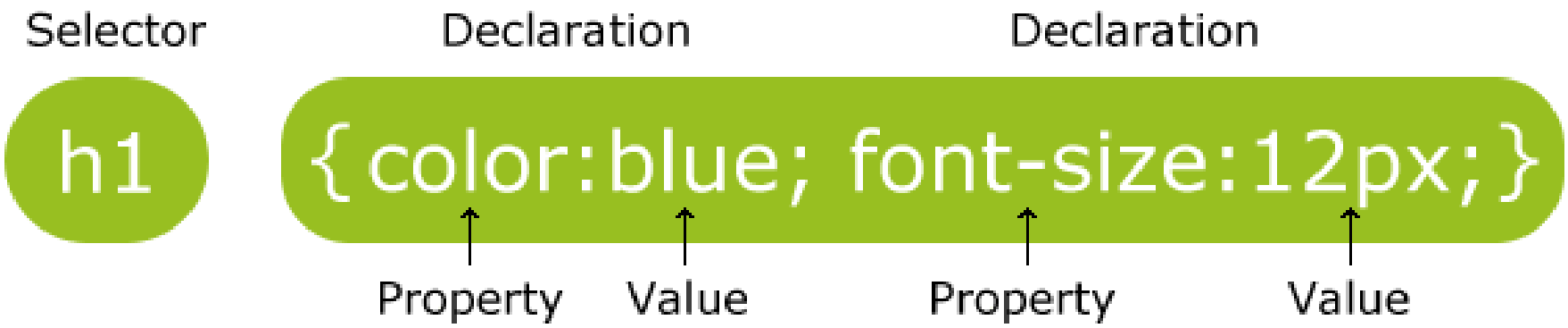
Styles and HTML

The style is defined in the head section of the document, similar to the following:

```
<head>
   <style type =“text/css”>
         p.heading { font-weight : bold; text-decoration : underline; }
   </style>
</head>
```

This definition defines a heading class that formats text as bold and underlined.

Selectors and Properties



Source:
w3schools.com

Background

- You can style the background of anything that takes up space on the page
  - <body> (the entire page)
  -
    - defines a division or a section in an HTML document.
    - used to group block-elements to format them with CSS.
  - <p>, <h1>, etc.

Tag Example

```
<html>
  <body>

    <p>This is some text.</p>

    <div style="color:blue">
      <h3>This is a heading in a &lt; div &gt; element</h3>
      <p>This is some text in a &lt; div &gt; element.</p>
    </div>

    <p>This is some text.</p>

  </body>
</html>
```

This is some text.

This is a heading in a < div > element

This is some text in a < div > element.

This is some text.

Background CSS Properties

- background-color
- background-image
- Background-repeat
  - repeat (default), repeat-x, repeat-y, no-repeat
- Background-attachment
  - fixed or scroll (default)
- Background-position

Color

- Defined color names
  - color: blue
  - http://www.w3schools.com/cssref/css_colornames.asp
- Hex-values
  - color: #0000ff
- RGB-values
  - color: rgb(255, 0, 0)

Text CSS Properties

- color
- text-align
  - center, right, justify
- text-decoration
  - Hyperlinks are decorated by default. Set to “none” to remove underline.
- text-transform, text-indent, letter-spacing, line-height, etc.

Font CSS Properties

- font-family
  - controls the font in an element
  - font-family:"Times New Roman", Times, serif;
  - SANS-SERIF, SERIF, Monospace
- font-size
  - commonly in px, em, pt
- font-style (italics), font-weight(thickness),

Hyperlinks

- Link states:
  - a:link - a normal, unvisited link
  - a:visited - a link the user has visited
  - a:hover - a link when the user mouse's over it
  - a:active - a link the moment it is clicked
- Example:
  - a:link {…}
  - a#my_id:hover {…}
- The link states must be defined in this order.

Lists and Tables

- Lists
  - list-style-type
  - list-style-image
- Tables
  - border-collapse: collapse

Selectors, structure and cascade

- The CSS syntax is made up of three parts: a selector, a property and a value:
  selector {property: value}

- The selector is normally the HTML element/tag you wish to define, the property is the attribute you wish to change, and each property can take a value. The property and value are separated by a colon, and surrounded by curly braces:
  body {color: black}

- If the value is multiple words, put quotes around the value:
  p {font-family: "sans serif"}

Selectors, structure and cascade

- If you wish to specify more than one property, you must separate each property with a semicolon. The example below shows how to define a center aligned paragraph, with a red text color:

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

- To make the style definitions more readable, you can describe one property on each line, like this:

Selectors, structure and cascade

```
p {
   text-align: center;
   color: black;
   font-family: arial
}
```

Selectors, structure and cascade

- **Grouping**
  - You can group selectors. Separate each selector with a comma. In the example below we have grouped all the header elements. All header elements will be displayed in green text color:

```
h1,h2,h3,h4,h5,h6
{
color: green
}
```

Selectors, structure and cascade

- **The class Selector**
  - With the class selector you can define different styles for the same type of HTML element.
  - Say that you would like to have two types of paragraphs in your document: one right-aligned paragraph, and one center-aligned paragraph. Here is how you can do it with styles:

    p.right {text-align: right}

    p.center {text-align: center}

Selectors, structure and cascade

- **The class Selector**
  - You have to use the class attribute in your HTML document:

    This paragraph will be right-aligned.

    This paragraph will be center-aligned.
  - To apply more than one class per given element, the syntax is:
     This is a paragraph.

    The paragraph above will be styled by the class "center" AND the class "bold".

Selectors, structure and cascade

- **The class Selector**
  - You can also omit the tag name in the selector to define a style that will be used by all HTML elements that have a certain class. In the example below, all HTML elements with class="center" will be center-aligned:
    .center {text-align: center}

(Both the h1 element and the p element have class="center". This means that both elements will follow the rules in the ".center" selector)

Selectors, structure and cascade

- Add Styles to Elements with Particular Attributes
  - The style rule below will match all input elements that has a type attribute with a value of "text":

    input[type="text"] {background-color: blue}

Selectors, structure and cascade

- The id Selector
  - You can also define styles for HTML elements with the id selector. The id selector is defined as a #.
  - The style rule below will match the element that has an id attribute with a value of "green":

```
#green {color: green}
```

  - The style rule below will match the p element that has an id with a value of "para1":

```
p#para1 {
        text-align: center;
        color: red }
```

Selectors, structure and cascade

- CSS Comments

  Comments are used to explain your code, and may help you when you edit the source code at a later date. A comment will be ignored by browsers. A CSS comment begins with "/*", and ends with "*/", like this:

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

Text properties

- Aligning Text
  Multiple properties in CSS can be used to align text, both horizontally and vertically.
- Horizontal Alignment
  The text-align property can be used to align text horizontally using four different values/styles
  - Left (default)
  - Right
  - Center
  - Full

Text properties

- Horizontal Alignment

```
<html>
  <head>
    <style type =“text/css”>
       p { border : thin solid black; padding :10px; }
       p.left { text-align : left; }
       p.right { text-align : right; }
       p.center { text-align : center; }
       p.full {text-align : justify;}
    </style>
  </head>
<body>
      <h2> Left Aligned </h2>
      <p class=“left”>Horizontal Alignment</p>
       <h2> Right Aligned </h2>
      <p class=“right”>Horizontal Alignment</p>
       <h2> Center Aligned </h2>
      <p class=“center”>Horizontal Alignment</p>
       <h2> Fully Aligned </h2>
      <p class=“full”>Horizontal Alignment</p>
</body>
</html>
```

Text properties

- Vertical Alignment

  The *vertical-align* property can be used to align text on the vertical axis. The *vertical-align* property supports the values shown in the following table.

Text properties

- Indenting Text
  The text-indent property can be used to indent the first line of an element.

  Ex: Indenting the first line of a paragraph by 5 percent of its overall width.

  <p style = “text-indent : 5%;”>

Text properties

- Capitalization
  - The text-transform property can be used to force particular capitalization on elements.
  - This property has 4 possible values:
    - None (default)
    - Capitalize
    - Uppercase
    - Lowercase

Text properties

- Text Decorations
  - You can add additional text effects with the *text-decoration* and *text-shadow* properties.
  - The *text-decoration* property has five possible values:
    - None (default)
    - Underline
    - Overline
    - Line-through
    - Blink

Text properties

- **Text Decorations**

  This property's use is straightforward, as shown below;

  <p style =“text-decoration: none;”> No Decoration </p>

  <p style =“text-decoration: underline;”> Underlined</p>

  <p style =“text-decoration: overline;”> Overlined</p>

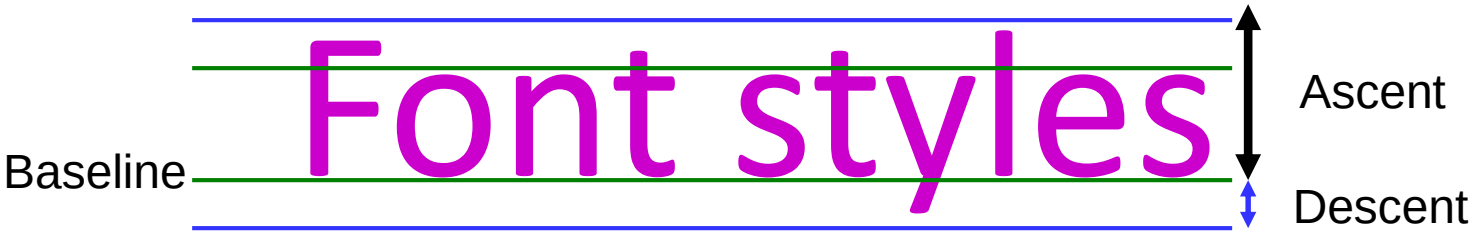
  <p style =“text-decoration: line-through;”> Line Through</p>

  <p style =“text-decoration: blink;”> Blink</p>

Fonts

- Fonts are stylized collections of letters and symbols.
- Different fonts can be used to convey different information; specialized fonts can be used to provide special characters or symbols.
- Although fonts can be quite different from each other, they share the same basic characteristics, as shown in the next slide.

Fonts



• Fonts are mapped according to a system similar to ruled paper.

•The line that the characters or symbols sit on is called **baseline**.

•The distance between the baseline and the top of the highest characters (usually capital letters and lowercase letters such as *l,f* or *t*) is known as the **ascension**.

•The distance between the baseline and the lowest point of characters that dip below it (such as p.g or q) is known as the **descension**.

Font Selection

- CSS supports 5 different font family types. They are
  - Serif
  - Sans serif
  - Cursive
  - Fantasy
  - Monospace

  Ex : font–family : Verdana, Arial, Helvetica, Sans-serif;

Colors and backgrounds

- CSS has several options for defining colors of both text and background areas on your pages.

- These options can entirely replace the color attributes in plain HTML. In addition, you get new options that you just didn't have in plain HTML.

  For example, in plain HTML, when you wanted to create an area with a specific color you were forced to include a table. With CSS, you can define an area to have a specific color without that area being part of a table.

  Or even more useful, in plain HTML when working with tables, you had to specify font attributes and colors etc. for each and every table cell. With CSS you can simply refer to a certain class in your <TD> tags.

Setting colors

- Basically you have three color options with CSS:

  1: Setting the foreground color for contents
  2: Setting the background color for an area
  3: Setting a background image to fill out an area

- You can define colors with the use of common names, by simply enter the name of the desired color.

  .myclass {color:red; background-color:blue;}

Setting colors

- You can define colors with the use of hexadecimal values, similar to how it's done in plain HTML.

  .myclass {color:#000000; background-color:#FFCC00;}

- You can define colors with the use of RGB values, by simply entering the values for amounts of Red, Green and Blue.

  .myclass {color:rgb(255,255,204); background-color:rgb(51,51,102);}

Setting colors

- You can also define RGB colors using percentage values for the amounts of Red, Green and Blue:

```
.myclass {color:rgb(100%,100%,81%); background-color:rgb(81%,18%,100%);}
```

Colors and backgrounds

- **Setting background colors**

Background colors are defined similar to the colors mentioned above. For example you can set the background color of the entire page using the BODY selector:

```
BODY {background-color:#FF6666;}
```

Colors and backgrounds

- Setting a background image
  - CSS lets you set a background image for both the page and single elements on the page.
  - In addition, CSS offers several positioning methods for background images.
  - You can define the background image for the page like this:

    BODY {background-image:url(myimage.gif);}

Colors and backgrounds

- Positioning a background

Background positioning is done by entering a value for the left position and top position separated by a space.

In this example the image is positioned 75 pixels from the upper left corner of the page:

```
BODY {background-image:url(myimage.gif);
background-position: 75px 75px;}
```

Colors and backgrounds

- **Fixing a background**

You can fixate an image at a certain position so that it doesn't move when scrolling occurs.

```
BODY {background-image:url(myimage.gif);
background-attachment: fixed;}
```

Colors and backgrounds

- **Setting multiple background values**

Rather than defining each background property with its own property you can assign them all with the use of the background property.

BODY {background:green url(myimage.gif) repeat-y fixed 75px 75px;}