3.1 Introduction
- HTML is primarily concerned with content, rather than style
- However, tags have presentation properties, for which browsers have default values
- The CSS1 cascading style sheet specification was developed in 1996, followed by CSS2 in 1998
- Provide the means to control and change presentation of HTML documents
- Not technically HTML, but can be embedded in HTML documents
- One of the most important capabilities of style sheets is that they allow you to impose a standard style on a whole document, or even a whole collection of documents
- Style is specified for a tag by the values of its properties
- Current browsers do not implement all of CSS2

3.2 Levels of Style Sheets
- There are three levels of style sheets
- Inline - specified for a specific occurrence of a tag and apply only to that tag
- This is fine-grain style, which defeats the purpose of style sheets - uniform style
- Document-level style sheets - apply to the whole document in which they appear
- External style sheets - can be applied to any number of documents
- When more than one style sheet applies to a specific tag in a document, the lowest level style sheet has precedence
- In a sense, the browser searches for a style property spec, starting with inline, until it finds one (or there isn't one)
- Browsers can ignore style sheets or use their own default values for properties

3.3 Style Specification Formats
- Format depends on the level of the style sheet
- Inline:
  - Style sheet appears as the value of the style attribute
  - General form:
    style = "property_1: value_1;
    property_2: value_2;
    ...
    property_n: value_n"
  - Scope of an inline style sheet is the content of the tag
- Document-level:
  - Style sheet appears as a list of rules that are the content of a style tag
  - The style tag must include the type attribute, set to "text/css"
  - The list of rules must be placed in an HTML comment, because it is not HTML
  - Scope of a document-level style sheet is the content of the document
- External style sheets
  - Form is a list of style rules, as in the content of a style tag for document-level style sheets

3.4 Style Classes
- Used to allow different occurrences of the same tag to use different style specifications
- A style class has a name, which is attached to a tag name
- For example,
  p.narrow { property/value list; } p.wide { property/value list; }
- The class you want on a particular occurrence of a tag is specified with the class attribute of the tag
- For example,
  <p class="narrow"> ... </p>
  <p class="wide"> ... </p>
3.4 Style Classes (continued)

- A generic class can be defined if you want a style to apply to more than one kind of tag
- A generic class must be named, and the name must begin with a period
- Example,

  .really-big { ... }
- Use it as if it were a normal style class

  <h1 class = "really-big"> ... </h1>
  <p class = "really-big"> ... </p>

3.5 Properties & Property Values

- There are 56 different properties in 6 categories:
  - Fonts
  - Colors and backgrounds
  - Text
  - Boxes and layouts
  - Lists
  - Tags

- Property Value Forms
  - Keywords:
    - left
    - small...
  - Not case sensitive

  - Length: numbers, maybe with decimal points
    - Units:
      - pixels
      - inches
      - centimeters
      - millimeters
    - Points
    - picas (12 points)
    - Height of the letter ‘m’
    - Height of the letter ‘x’
    - No space is allowed between the number and the unit specification
      - e.g., 1.5 in is illegal!

- Percentage: just a number followed immediately by a percent sign
- URL values
  - url(protocol://server/pathname)
- Colors:
  - Color name
  - rgb(n1, n2, n3)
  - Numbers can be decimal or percentages
  - Hex form: #xxxxxx
  - Property values are inherited by all nested tags, unless overridden

- Font Properties
  - font-family
    - Value is a list of font names - browser uses the first in the list it has
  - font-family: Arial, Helvetica, Courier
  - Generic fonts:
    - serif
    - sans-serif
    - cursive
    - fantasy
    - monospace (defined in CSS)
    - Browser has a specific font for each

- Font-Size
  - Possible values: a length number or a name, such as small, sm, large, x-large, etc.
  - font-size
  - Possible values: a length number or a name, such as smaller, medium, x-large, etc.
  - font-weight
  - Values: normal, bold, bolder, lighter
  - Could specify as a multiple of 100 (100 – 900)
  - Two numbers don’t make a right, but they certainly can get you in a lot of trouble.
- Text-decoration
  - line-through, overline, underline, none
- List properties
  - list-style-type
    - Unordered lists
      - Bullet can be a disc (default), a square, or a circle
      - Set it on either the <ul> or <li> tag
  - Ordered lists
    - Bullet can be a disc (default), a square, or a circle

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1.1 The Basics of Computer Networks

- The text-decoration property
- line-through, overline, underline, none
- List properties
- list-style-type
- Unordered lists
- Bullet can be a disc (default), a square, or a circle
- Set it on either the <ul> or <li> tag
- Ordered lists
- Bullet can be a disc (default), a square, or a circle
- Set it on either the <ul> or <li> tag
3.5 Properties & Property Values (continued)

- On <li>, list-style-type applies to just that item.

- Could use an image for the bullets in an unordered list.

- Example:

  ```html
  <ul>
    <li style="list-style-image: url(bird.jpg)">
      Example
    </li>
  </ul>
  ```

- On ordered lists - list-style-type can be used to change the sequence values:

<table>
<thead>
<tr>
<th>Property value</th>
<th>Sequence type</th>
<th>First four</th>
</tr>
</thead>
<tbody>
<tr>
<td>decimal</td>
<td>Arabic numerals</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>upper-alpha</td>
<td>Uc letters</td>
<td>A, B, C, D</td>
</tr>
<tr>
<td>lower-alpha</td>
<td>Lc letters</td>
<td>a, b, c, d</td>
</tr>
<tr>
<td>upper-roman</td>
<td>Uc Roman</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>lower-roman</td>
<td>Lc Roman</td>
<td>I, II, III, IV</td>
</tr>
</tbody>
</table>

3.5 Properties & Property Values (continued)

- Alignment of text

  - The text-indent property allows indentation.
  - Takes either a length or a % value.
  - The text-align property has the possible values, left (the default), center, right, or justify.
  - Sometimes we want text to flow around another element - the float property.
  - The float property has the possible values, left, right, and none (the default).
  - If we have an element we want on the right, with text flowing on its left, we use the default text-align value (left) for the text and the right value for float on the element we want on the right.

- Some text with the default alignment - left.
3.5 Properties & Property Values (continued)

- Margins
  - The margins around an HTML object can be set with margin-left, etc. - just assign them a length value

```html
<tab src = "c210.jpg " style = "float: right; margin-left: 0.5in; margin-bottom: 0.5in" />
```

3.6 Colors

- Color is a problem for the Web for two reasons:
  1. Monitors vary widely
  2. Browsers vary widely

- There are three color collections
  1. There is a set of 16 colors that are guaranteed to be displayable by all graphical browsers on all color monitors
    - black      000000        green     008000
    - silver     C0C0C0        lime      00FF00
    - gray       808080        olive     808000
    - white      FFFFFF        yellow    FFFF00
    - maroon     800000        navy      000080
    - red        FF0000        blue      0000FF
    - purple     800080        teal      008080
    - fuchia     FF00FF        aqua      00FFFF
  2. There is a much larger set, the Web Palette
    - 216 colors
    - Use hex color values of 00, 33, 66, 99, CC, FF
    - Inside back cover of this book has them!

- Any one of 16 million different colors
  - The color property specifies the foreground color of elements
  ```html
table border = "5px">
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>Orange</td>
</tr>
</tbody>
</table>
```
  - The background-color property specifies the background color of elements
  ```html
<p style = "font-size: 24; color: blue; background-color: red">To really make it stand out, use a red background!</p>
```

3.7 The <span> and <div> tags

- One problem with the font properties is that they apply to whole elements, which are often too large
  - Solution: a new tag to define an element in the content of a larger element - <span>
    - The default meaning of <span> is to leave the content as it is
      - e.g.,
      ```html
      <p>Now is the <span> best time </span> ever!</p>
      
      - Use <span> to apply an inline style sheet to its content
        ```html
        <p>Now is the <span style = "font-size: 40; font-family: Arial; color: red"> best time </span> ever!</p>
        ```
      ```
      ```
```

3.7 The <span> and <div> tags (continued)

- The <span> tag is similar to other HTML tags, they can be nested and they have id and class attributes
  - Another tag that is useful for style specifications: <div>
    - Used to create document sections (or divisions) for which style can be specified
      - e.g., A section of five paragraphs for which you want some particular style

```
```

Box Model in CSS

http://www.w3.org/TR/REC-CSS2/box.html
Media Types

- A CSS media type names a set of CSS properties. A user agent that claims to support a media type by name must implement all of the properties that apply to that media type.

- The different media types are:
  - all
  - aural
  - braille
  - embossed
  - handheld
  - print
  - projection
  - screen
  - tty
  - tv