Cascading Style Sheets (CSS)

Separates style from content
styles are 'cascaded' or passed down

Defining a Style

```css
selector {
    style-attribute1 : value1;
    style-attribute2 : value2;
    style-attribute3 : value3;
}
```

colons : must separate attribute from value
semicolon ; must be at end of value
except last, though a good idea to include it

Example

```css
h1 {
    text-align: center
}
```
selector: id and classes

id
identifies a unique tag in a document
defined in CSS with # (hash)
  #c100 {styles}

class
identifies several tags belonging to the same group or class
defined in CSS with . (dot)
  .city {styles} OR
  p.city {styles}
if element name is not included, style is applied to all elements
that use that class

selector {
  property: value;
}

universal selector: all elements
  *{color: black}

Tag Selector: HTML elements e.g. <h1>
  h1 {color: black}

Class Selector: elements with the specified class
e.g. <h1 class="aClass">...
  aClass {color: black}

Id Selector: Single/Unique element identified by an id
e.g. <div id="pageTitle">
  #pageTitle {color: black}

pseudo class

Syntax
  selector:pseudo-class {property: value}

Anchor pseudo class
  a:link {color: #ff0000} /* unvisited link */
  a:visited {color: #00ff00} /* visited link */
  a:hover {color: #ff00ff} /* mouse over link */
  a:active {color: #0000ff} /* selected link */

Class and Pseudo-class
  a.red:visited {color: #ff0000}
  <a class="red" href="css_syntax.asp">CSS Syntax</a>
coloring your page

Expressing Color

- standard CSS colors
  - red, blue, black, purple...
- rgb decimal
  - rgb(255, 0, 0) is ‘red’
  - rgb(0, 128, 128) is ‘teal’
- rgb hexadecimal
  - #ff0000 is ‘red’
  - #008080 is ‘teal’
  - #fffff0 is ‘ivory’

Color Names:
- http://html-color-codes.info/

Color properties

- color
- background-color

background images

- background-image: url(URL)
  - default horizontal and vertical repeat
    - background-image:bg.jpg
- background-repeat
  - background-repeat: no-repeat
- background-position
  - background-position: top left
  - ... or commonly
    - background: bg.jpg no-repeat bottom center

formatting text - 1

font-family:

- GENERIC - serif, sans-serif, monospace, cursive, fantasy
  - Generic fonts allows the OS to chose the best match,
    but you cannot be sure exactly how it will be rendered
- SPECIFIC - Arial, Helvetica, Times, Garamond, ...
  - Specific fonts provide a more accurate idea of the display,
    but the OS may not have the font

- It is common to specify more than one font, from specific to
generic

Web-safe Fonts:
- http://www.ampsoft.net/webdesign-l/WindowsMacFonts.html
- http://dustinbrewer.com/fonts-on-the-web-and-a-list-of-web-safe-fonts/
- http://www.typetester.org/
formatting text - 2

font-size:
  unit of length (mm, cm, in, pt, pc, px)
  keyword (small, x-large, larger, smaller ...)
  relative (% em, ex)
font-style:
  normal, italic, oblique
font-weight:
  normal, bold
text-align
  left, center, right, justify
font-variant
  small-caps

three ways of adding styles to xhtml

(1) inline style
```xml
<h1 style="text-align: center">Page Title</h1>
```

(2) embedded style
```xml
<head>
  <style>
    h1 {text-align: center}
  </style>
</head>
<body>
  <h1>Page Title</h1>
</body>
```

(3) External Style Sheet (with <link>)
```xml
<html>
  <head>
    <link type="text/css" href="my_styles.css" rel="stylesheet">
  </head>
  <body>
    <h1>Page Title</h1>
  </body>
</html>
```

```xml
h1 {text-align: center}
```

my_styles.css
three ways of adding styles to xhtml

(3) External Style Sheet (with @import)

```html
<html>
<head>
  <style>
    @import url(mystyles.css)
  </style>
</head>
<body>
  <h1>Page Title</h1>
</body>
</html>
```

borders, margins and padding

All have variants with 'top', 'bottom', 'right', 'left'
e.g. {padding-left:10pt} {margin-bottom:5px}

borders

```css
{border-width:5pt}
{border-color:blue}
{border-style:dotted}
{border: 5pt dotted blue}
```
positioning

position

absolute (placed at an absolute location within containing block)
relative (offset from default location)

float

floating, placed at the left or right side of the containing block
float (allow text to wrap around element)

clear

do not allow text to wrap around element

{clear:right} means no floating elements are allowed on the right hand side

size (width & height)

Absolute

px (default)

in, cm, mm, pc, pt

1 inch = 2.54 cm = 25.4 mm = 6 picas = 72 points

Relative

%
as a percentage of parent

em
the width M in the browser’s default font

ex
the height of x in the browser’s default font

advanced selectors

descendant selector (space in between selectors):
div#bigContainer .aClass (property: value)

child selector (>):
div.mainText > .aClass (property: value)

adjacent sibling (+):
p + div#bigContainer (property: value)

first child pseudo class:
p:first-child (property: value)
media
specify different style sheet for different media

/* specify CSS for audio */
@import url("voice.css") aural;
/* larger font for print */
@media print {
  body { font-size: 12pt; }
}
/* smaller font for screen */
@media screen {
  body { font-size: 10pt; }
}

/* in HTML file */
<link rel="stylesheet" type="text/css"
media="print, handheld" href="foo.css">

http://www.w3.org/TR/CSS2/media.html

cascading order

media type
browser's style sheet > user style sheet
from general to specific, id selector wins over class selector
the order css styles appear, if they are at the same level

css inheritance

An xhtml element that lies within another xhtml element
inherits some of the styles of its parent

Example:

<body>
  <p>This is <strong>very</strong> important</p>
</body>

Some styles allocated to <body> are inherited by <p> and <strong>

Applicable to styles like color and font.
validation

paste CSS in http://jigsaw.w3.org/css-validator/

note CSS and XHTML validation at bottom of
http://www.csszengarden.com/

resources

Standards
W3C (http://www.w3.org/Style/CSS/)
add style to XML (http://www.w3.org/Style/styling-XML/)
tips & tricks (http://www.w3.org/Style/examples/007/)

Tutorial
W3 Schools (http://www.w3schools.com)
online tutorial (http://www.w3schools.com/css/default.asp)
demo (http://www.w3schools.com/cssref/default.htm)
quiz (http://www.w3school.com/css/css_quiz.asp)

Examples
CSS Zen Garden (http://www.csszengarden.com/)
Eric Meyer (http://www.meyerweb.com/eric/css/edge/)

CSS Reference
SitePoint CSS Reference (http://reference.sitepoint.com/css/)