Lecture 6: CSS properties
CSS Properties

Recall a typical CSS rule:

\[ p \{ \text{color: blue;} \} \]
Color Properties

Font text color, and default border color is specified with property color

background color with property background-color

Example:

```css
p {
  background-color: blue;
  color: white;
}
```
**Predefined colors**

<table>
<thead>
<tr>
<th>Color</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>#000000</td>
</tr>
<tr>
<td>Silver</td>
<td>#C0C0C0</td>
</tr>
<tr>
<td>Gray</td>
<td>#808080</td>
</tr>
<tr>
<td>White</td>
<td>#FFFFFF</td>
</tr>
<tr>
<td>Maroon</td>
<td>#800000</td>
</tr>
<tr>
<td>Red</td>
<td>#FF0000</td>
</tr>
<tr>
<td>Purple</td>
<td>#800080</td>
</tr>
<tr>
<td>Fuchsia</td>
<td>#FF00FF</td>
</tr>
<tr>
<td>Green</td>
<td>#008000</td>
</tr>
<tr>
<td>Lime</td>
<td>#00FF00</td>
</tr>
<tr>
<td>Olive</td>
<td>#808000</td>
</tr>
<tr>
<td>Yellow</td>
<td>#FFFF00</td>
</tr>
<tr>
<td>Navy</td>
<td>#000080</td>
</tr>
<tr>
<td>Blue</td>
<td>#0000FF</td>
</tr>
<tr>
<td>Teal</td>
<td>#008080</td>
</tr>
<tr>
<td>Aqua</td>
<td>#00FFFF</td>
</tr>
</tbody>
</table>
Ways to specify a color value

```plaintext
color: #0000FF; 3 2-digit hexadecimals
color: #00F; 3 1-digit hexadecimals
/* #ABC = #AABBCC */

color: rgb(0,0,255); 3 8-bit values 0-255
  0 = empty, 255 = full

color: rgb(0,0,100%); red, green, blue %'s
  0% = empty, 100%=full

Examples:
p { color: #CCCCCC;}
h1 { color: rgb(100,100,100);}
div { color: rgb (20%, 50%,0);}
```
Font properties

**font-family**

used to specify font

Example:

```
p { font-family: verdana;}
```

Some popular font families are: arial, helvetica, verdana, times new roman, courier etc.

Example:

```
div p { font-family: verdana, arial, courier;}
```

The browser will use the first font that it understands
The five generic font families

- **serif**
  typeface has decorative **serifs** (slab-like letter strokes) on the ends of certain letters (better for print)
  eg  Times New Roman

- **sans-serif**
  has straight letters with no serifs (better for screen)
  eg  Arial

- **monospace**
  all chars have the same width (better for code)
  eg  Courier New

- **cursive**
  emulates a script or handwritten appearance
  eg  Comic Sans

- **fantasy**
  purely decorative, for headlines
  eg  Impact
How to use a generic font family

The best way to use the font-family is to specify your fonts in order of preference:

```css
p { font-family: Arial, Helvetica, Futura, sans-serif;}
```

Last one should be a generic font family.
Font properties

font-size

Example:

```html
p {font-size: 12pt; font-family: Arial};
```

The size can be given in absolute terms eg 20pts, or in relative terms eg small, large, x-large etc.
Other font properties and values

- **font-style** (controls posture of font)
  - normal, italic, oblique

- **font-weight** (controls intensity of font)
  - normal, bold, lighter, 100, 200, etc... 900
Most important text property is probably text-decoration.

Example:
CSS:
p span { text-decoration: underline;}

XHTML:
<p>Is that <span>really</span> what she said?</p>

Browser displays:

Is that really what she said?

Some values for text-decoration are: underline, overline, line-through, none.
Text properties

For your reference only. You do not need to memorize these ones.

- **text-transform**
  - `val`: capitalize, lowercase, uppercase, none

- **text-indent**
To indent the first line of a paragraph for example
  - `val`: How much you want to indent example: 30px

- **text-align**
  - `val`: left, right, center, justify

- **vertical-align**
  - `val`: top, middle, bottom or amount which is positive or negative length.
List CSS Properties

• **list-style-type**
  Controls what the bullet points look like.
  – **val**: disc, circle, square, decimal, lower-roman, upper-roman, lower-alpha, upper-alpha

  Example:
  ```
  ol {list-style-type: circle;}
  ol ol {list-style-type: square;}
  ```

• **list-style-image**
  Create your own bullet image.
  ```
  ul {list-style-image:url('sqpurple.gif');}
  ```
This is the anatomy of an element's appearance
Margin and padding

• padding-top (same for margin, border)
• padding-bottom
• padding-left
• padding-right

Example:

div { padding-top: 20px; }

It is possible to set all padding (or margin and ) with single command:

p {padding:25px 50px 75px 100px;}

• top padding is 25px
• right padding is 50px
• bottom padding is 75px
• left padding is 100px

It is most readable to use padding property (or margin property) by itself when you want all sides to have same padding (margin).

p {padding: 0px;}

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This is for your reference. I only expect you to remember width.

- width, min-width, max-width
- height, min-height, max-height
- overflow
  - scroll, hidden, visible, auto
More CSS Box Model Properties

• **border-width**
  - Thickness of the border

• **border-style**
  - none, hidden, dotted, dashed, solid, double, groove, ridge, inset, outset

• **border-color**

• **border** (to specify all 3 properties at once)

```css
div {border:1px solid blue;}
```
Display property

• `display`
  
  – allows the programmer to decide how an element should be rendered.

  – Commonly used with pseudo-class selector `hover` to make elements appear or disappear when a mouse hovers over
Important values of `display` property

- **none** - The element is not displayed at all.
- **block** - Element is displayed as a block element.
- **inline** - Element is displayed as an inline element.

Example: Drop down menu. See examples page.
Document flow

• Normally, elements are positioned in the order in which they appear in an XHTML document

• XHTML document flow:
  – inline elements appear in a flow from left to right within enclosing block
  – block level elements appear in a flow as a stack of blocks from top to bottom
Position property

values:
• **absolute**
  – relative to the enclosing block element
  – takes element out of normal flow

• **relative**
  – relative to element's normal position in flow

• **fixed**
  – relative to the browser window
  – Element remains at the specified position regardless of scrolling
Note on position property

The `position` property can be followed by the following offset properties:

- top
- bottom
- left
- right

Example

```css
position: absolute;
top: 30px;
left: 10px;
```

This rule positions an element 30 px down from the top and 10px from the left of the containing block element.
Overlapping elements

If elements overlap, you can control their stacking order using the property

z-index

Example:

#under{z-index:1;}
#over{z-index:3;}

Element with the highest z-index value is on top.
Floating elements

• **Floating** means moving an element to one side of the screen while *following* content flows around it.

• A floated element will move as far to the left or right as it can in the containing element.

• If an image is floated to the right, following text flows around it, to the left.

• Use the **float** property
  
  – **val**: *left*, *right*
Reference slides

Following slides are for your reference. I will not ask you to memorize their content. If I have a question in the exam that refers to the material from the following slides, I will give you the properties/values needed to do the problem.
Resources for properties and values

See our class website for many examples

Properties and values with explanations and examples:

http://www.pageresource.com/dhtml/cssprops.htm

Official reference, but harder to understand:

http://www.w3.org/TR/CSS2/propidx.html
# Units of measurements for web pages

<table>
<thead>
<tr>
<th>Measurement Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>percentage</td>
</tr>
<tr>
<td>in</td>
<td>inch</td>
</tr>
<tr>
<td>cm</td>
<td>centimeter</td>
</tr>
<tr>
<td>mm</td>
<td>millimeter</td>
</tr>
<tr>
<td>em</td>
<td>1em is equal to the current font size. 2em means 2 times the size of the current font. E.g., if an element is displayed with a font of 12 pt, then '2em' is 24 pt. The 'em' is a very useful unit in CSS, since it can adapt automatically to the font that the reader uses</td>
</tr>
<tr>
<td>ex</td>
<td>one ex is the x-height of a font (x-height is usually about half the font-size)</td>
</tr>
<tr>
<td>pt</td>
<td>point (1 pt is the same as 1/72 inch)</td>
</tr>
<tr>
<td>pc</td>
<td>pica (1 pc is the same as 12 points)</td>
</tr>
<tr>
<td>px</td>
<td>pixels (a dot on the computer screen)</td>
</tr>
</tbody>
</table>
Notes on the `font` property

`font` (Shorthand property for all font properties)

```html
p { font:italic bold 12px Georgia, serif; }
```

- Must include `font-size` and `font-family` as the last 2 properties in the list (in that order)

- Optional properties `font-style`, `font-variant`, and `font-weight` may appear in any order but must be before `font-size` and `font-family`

- Omitted properties in the list are reset to some initial value by the browser (*Beware of this!*).
Font Examples

h1{ font-size: 1.75em;
    font-family: sans-serif;
}

h2{ font: italic
    font-weight: bold
    font-size: 120%
    font-family: cursive;
}

p {  
    font-style: italic;
    font-variant: normal;
    font-weight: normal;
    font-size: large;
    font-family: serif;
}
More Text Properties

• **letter-spacing**
  - How far apart letters are from each other

• **word-spacing**
  - How far apart words are from each other

• **line-height**
  - How far apart lines are from each other

All values in units of length.
Text Examples

p.mistake{  text-decoration: line-though;
            text-indent: 3em;
}

p.over{  text-decoration: overline;
           white-space: nowrap;
}

p.important{  text-decoration: underline;
                text-transform: uppercase;
                text-align: justify;
}

p.loud{  text-decoration: none;
           letter-spacing: 1.5ex;
}
Table CSS Properties

• caption-side (for caption elements)
  – val: top, bottom

• table-layout
  – val: auto, fixed (See next slide for explanation.)

• empty-cells
  – val: show, hide
CSS table-layout values

**auto (default)**
- Column width set by the widest unbreakable content in the cells
- Slow since it needs to read through all table content before determining the final layout

**fixed**
- Horizontal layout only depends on the width of the table and columns, not the contents of the cells
- Faster than automatic layout since the browser can start displaying the table after first row has been received