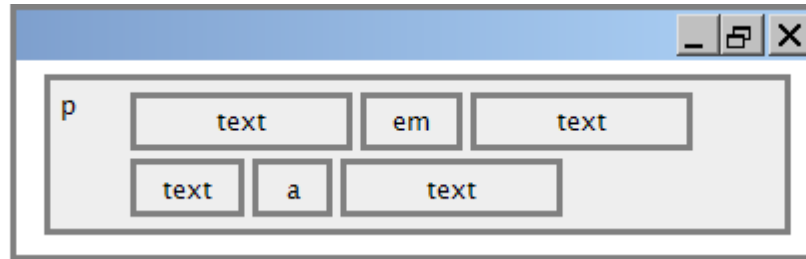# CSE 154

LECTURE 2: MORE HTML AND CSS

Block and inline elements

block elements contain an entire large region of content
- examples: paragraphs, lists, table cells
- the browser places a margin of whitespace between block elements for separation

inline elements affect a small amount of content
- examples: bold text, code fragments, images
- the browser allows many inline elements to appear on the same line
- must be nested inside a block element

Quotations <blockquote>

a lengthy quotation (block)

```html
<p>As Lincoln said in his famous Gettysburg Address:</p>
<blockquote>
    <p>Fourscore and seven years ago, our fathers brought forth
    on this continent a new nation, conceived in liberty, and
    dedicated to the proposition that all men are created equal.</p>
</blockquote>
```
HTML

As Lincoln said in his famous Gettysburg Address:

Fourscore and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

output

Inline quotations <q>

a short quotation (inline)

`<p>Quoth the Raven, <q>Nevermore.</q></p>`	HTML
Quoth the Raven, "Nevermore."	output

- Why not just write the following?
  <p>Quoth the Raven, "Nevermore."</p>

Computer code <code>

a short section of computer code (usually shown in a fixed-width font)

```
<p>
   The <code>ul</code> and <code>ol</code>
   tags make lists.
</p>                                              HTML
```
The `ul` and `ol` tags make lists.   output

Preformatted text <pre>

a large section of pre-formatted text (block)

```
<pre>
        Bill Gates speaks
            You will be assimilated
        Microsoft fans delirious
</pre>                                                    HTML
```

```
        Bill Gates speaks
            You will be assimilated
        Microsoft fans delirious
                                                          output
```

- Displayed with exactly the whitespace / line breaks given in the text

- Shown in a fixed-width font by default

Line break:

forces a line break in the middle of a block element (inline)

```
<p>
    The woods are lovely, dark and deep, <br /> But I have promises to
    keep, <br /> And miles to go before I sleep, <br /> And miles to go
    before I sleep.
</p>
```

The woods are lovely, dark and deep,

But I have promises to keep,

And miles to go before I sleep,

And miles to go before I sleep.

- Warning: Don't over-use br (guideline: >= 2 in a row is bad)

HTML Character Entities

a way of representing any Unicode character within a web page

character(s)	entity
< >	< >
é è ñ	é è ñ
™ ©	™ ©
π δ Δ	π δ Δ
И	И
" &	" &

• Complete list of HTML entities

Deletions and insertions: \<del>, \<ins>

content that should be considered deleted or added to the document (inline)

```
<p>
    <del>Final Exam</del> <ins>Midterm</ins> is on
    <del>Aug 29</del> <ins>Apr 17</ins>.
</p>
```
HTML

~~Final Exam~~ Midterm is on ~~Aug 29~~ Apr 17.   **output**

Abbreviations: <abbr>

an abbreviation, acronym, or slang term (inline)

```html
<p>
    Safe divers always remember to check their
    <abbr title="Self-Contained Underwater Breathing
    Apparatus">SCUBA</abbr> gear.
</p>
```
HTML

Safe divers always remember to check their SCUBA gear.   output

- The title will appear when the abbreviated word is hovered over

- In some browsers the abbreviated word will have a dashed underline

Phrase elements : <em>, <strong>

em: emphasized text (usually rendered in italic)
strong: strongly emphasized text (usually rendered in bold)

```
<p>
  HTML is <em>really</em>,
  <strong>REALLY</strong> fun!
</p>
```

HTML is *really*, **REALLY** fun!

- as usual, the tags must be properly nested for a valid page

Nesting tags

```
<p>
    HTML is <em>really,
    <strong>REALLY</em> lots of</strong> fun!
</p>
```

- tags must be correctly nested

    - (a closing tag must match the most recently opened tag)

- the browser may render it correctly anyway, but it is invalid HTML

    - (how would we get the above effect in a valid way?)

Images: <img>

inserts a graphical image into the page (inline)

```
<img src="images/koalafications.jpg" alt="Koalified koala" />
```


- the src attribute specifies the image URL

- HTML5 also requires an alt attribute describing the image

Web Standards

It is important to write proper HTML code and follow proper syntax.

Why use valid HTML and web standards?
- more rigid and structured language
- more interoperable across different web browsers
- more likely that our pages will display correctly in the future
- can be interchanged with other XML data: SVG (graphics), MathML, MusicML, etc.

W3C HTML Validator

```
<p>
    <a href="http://validator.w3.org/check/referer">
        <img src="http://webster.cs.washington.edu/w3c-html.png" alt="Validate" />
    </a>
</p>
```

- validator.w3.org

- checks your HTML code to make sure it follows the official HTML syntax

- more picky than the browser, which may render bad HTML correctly

The bad way to produce styles

```
<p>
        <font face="Arial">Welcome to Greasy Joe's.</font>
        You will <b>never</b>, <i>ever</i>, <u>EVER</u> beat
        <font size="+4" color="red">OUR</font> prices!
</p>
```

Welcome to Greasy Joe's. You will **never**, *ever*, <u>EVER</u> beat **OUR** prices!

Cascading Style Sheets (CSS): <link>

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

- CSS describes the appearance and layout of information on a web page (as opposed to HTML, which describes the content of the page)

- can be embedded in HTML or placed into separate .css file (preferred)

Basic CSS rule syntax

```
selector {
    property: value;
    property: value;
    ...
    property: value;
}
```

```
p {
    font-family: sans-serif;
    color: red;
}
```

- a CSS file consists of one or more rules

- a rule's selector specifies HTML element(s) and applies
  style properties

- a selector of * selects all elements

CSS properties for colors

```
p {
        color: red;
        background-color: yellow;
}
```

This paragraph uses the style above.

Property	Description
color	color of an element's text
background-color	color that will appear behind the element

Specifying colors

```
p { color: red; }
h2 { color: rgb(128, 0, 196); }
h4 { color: #FF8800; }
```

This paragraph uses the first style above.

This h2 uses the second style above.

This h4 uses the third style above.

- color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, (white), yellow
- RGB codes: red, green, and blue values from 0 (none) to 255 (full)
- hex codes: RGB values in base-16 from 00 (0, none) to FF (255, full)

CSS properties for fonts

property	description
font-family	which font will be used
font-size	how large the letters will be drawn
font-style	used to enable/disable italic style
font-weight	used to enable/disable bold style
Complete list of font properties	

font-size

```
p {
    font-size: 14pt;
}
```

This paragraph uses the style above.

- units: pixels (px) vs. point (pt) vs. m-size (em)

  16px, 16pt, 1.16em

- vague font sizes: xx-small, x-small, small, medium, large, x-large, xx-large, smaller, larger

- percentage font sizes, e.g.: 90%, 120%

font-family

```
p {
    font-family: Georgia;
}
h2 {
    font-family: "Courier New";
}
```

This paragraph uses the first style above.

`This h2 uses the second style above.`

- enclose multi-word font names in quotes

More about font-family

```
p {
  font-family: Garamond, "Times New Roman", serif;
}
```

This paragraph uses the above style.

- can specify multiple fonts from highest to lowest priority
- generic font names:

serif, sans-serif, cursive, FANTASY, monospace

font-weight, font-style

```
p {
    font-weight: bold;
    font-style: italic;
}
```

This paragraph uses the style above.

- either of the above can be set to normal to turn them off (e.g. headings)