

# CSE 154

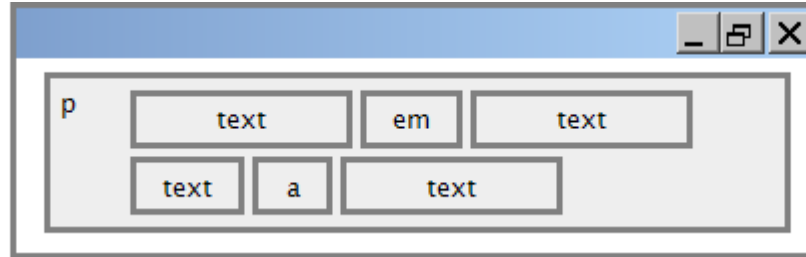
---

LECTURE 2: MORE HTML AND CSS



# Block and inline elements

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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

# Line break: `<br>`

---

*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:  $\geq 2$  in a row is bad)

# Links: `<a>`

---

*links, or "anchors", to other pages (inline)*

```
<p>  
  Search  
  <a href="http://www.google.com/">Google</a> or our  
  <a href="lectures.html">Lecture Notes</a>.  
</p>
```

Search Google or our Lecture Notes.

- uses the href attribute to specify the destination URL
  - can be absolute (to another web site) or relative (to another page on this site)
- anchors are inline elements; must be placed in a block element such as p or h1

# 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

# Images: `<img>`

---

*inserts a graphical image into the page (inline)*

```

```



- the src attribute specifies the image URL
- HTML5 also requires an alt attribute describing the image

# Comments: `<!-- ... -->`

---

*comments to document your HTML file or "comment out" text*

```
<!-- My web page, by Suzy Student  
      CSE 190 D, Spring 2048      -->  
<p>CSE courses are <!-- NOT --> a lot of fun!</p>
```

CSE courses are a lot of fun!

- many web pages are not thoroughly commented (or at all)
- still useful at top of page and for disabling code
- comments cannot be nested and cannot contain a --

# Quotations <blockquote>

---

*a lengthy quotation (block)*

```
<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)*

<code>&lt;p&gt;Quoth the Raven, &lt;q&gt;Nevermore.&lt;/q&gt;&lt;/p&gt;</code>	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>
```

The `ul` and `ol` 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

# 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)*

```
<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

# The Internet

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- Wikipedia: <http://en.wikipedia.org/wiki/Internet>
- a connection of computer networks using the Internet Protocol (IP)
- layers of communication protocols: IP → TCP/UDP → HTTP/FTP/POP/SMTP/SSH...

# Web servers and browsers

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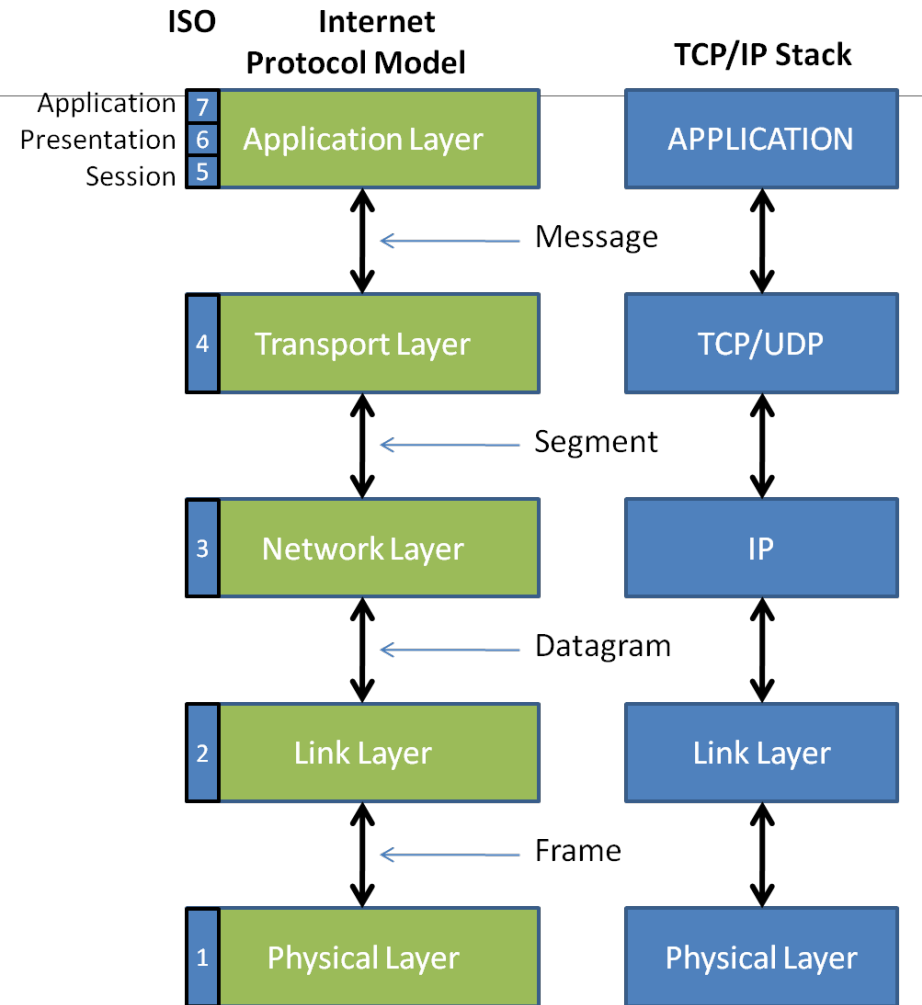
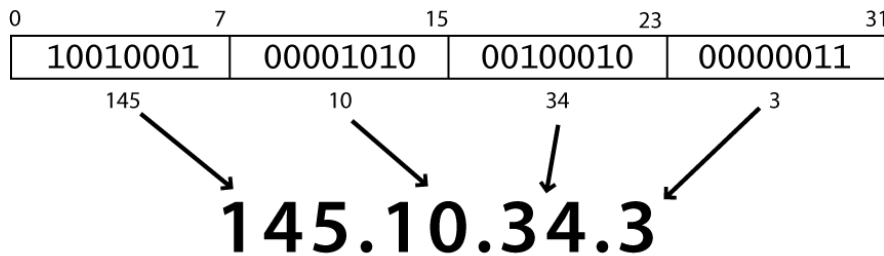
- **web server:** software that listens for web page requests
  - [Apache](#)
  - Microsoft Internet Information Server (IIS) ([part of Windows](#))
- **web browser:** fetches/displays documents from web servers
  - [Mozilla Firefox](#)
  - Microsoft [Internet Explorer](#) (IE)
  - Apple [Safari](#)
  - [Google Chrome](#)
  - [Opera](#)



# Layers of protocol

**Protocol:**  
a set of rules governing the format of data sent

**IP address:**





# How do web addresses work?

---

## DNS:

- a set of servers that map written names to IP addresses
  - Example: `www.cs.washington.edu` → `128.208.3.88`
- many systems maintain a local cache called a hosts file

## URL:

- a basic URL: `http://www.aw-bc.com/info/regesstepp/index.html`  
~~~~ ~~~~~~ ~~~~~~  
protocol host path

# Who "runs" the internet?

---

- Internet Engineering Task Force ([IETF](#)): internet protocol standards
- Internet Corporation for Assigned Names and Numbers ([ICANN](#)):  
decides top-level [domain names](#)
- World Wide Web Consortium ([W3C](#)): web standards



# Brief History

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- began as a US Department of Defense network called [ARPANET](#) (1960s-70s)
- initial services: electronic mail, file transfer
- opened to commercial interests in late 80s
- WWW created in 1989-91 by [Tim Berners-Lee](#)
- popular web browsers released: Netscape 1994, IE 1995
- Amazon.com opens in 1995; Google January 1996
- [Hamster Dance](#) web page created in 1999



# Content vs. presentation

---

- HTML is for **content**; *what* is on the page (heading; list; code; etc.)
- CSS is for **presentation**; how to display the page (bold; centered; 20px margin; etc.)
- keeping content separate from presentation is a very important web design principle
- If the HTML contains no styles, its entire appearance can be changed by swapping .css files
- see also: [CSS Zen Garden](#)

# 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                               |
|-------------------------|-------------------------------------------|
| <u>color</u>            | color of an element's text                |
| <u>background-color</u> | 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

---

| <b>property</b>                                         | <b>description</b>                  |
|---------------------------------------------------------|-------------------------------------|
| <a href="#"><u>font-family</u></a>                      | which font will be used             |
| <a href="#"><u>font-size</u></a>                        | how large the letters will be drawn |
| <a href="#"><u>font-style</u></a>                       | used to enable/disable italic style |
| <a href="#"><u>font-weight</u></a>                      | used to enable/disable bold style   |
| <a href="#"><u>Complete list of font properties</u></a> |                                     |

# 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)

# CSS properties for text

---

| <b>property</b>                                                                          | <b>description</b>                            |
|------------------------------------------------------------------------------------------|-----------------------------------------------|
| <code>text-align</code>                                                                  | alignment of text within its element          |
| <code>text-decoration</code>                                                             | decorations such as underlining               |
| <code>line-height</code> ,<br><code>word-spacing</code> ,<br><code>letter-spacing</code> | gaps between the various portions of the text |
| <code>text-indent</code>                                                                 | indents the first letter of each paragraph    |

[Complete list of text properties](http://www.w3schools.com/css/css_reference.asp#text) ([http://www.w3schools.com/css/css\\_reference.asp#text](http://www.w3schools.com/css/css_reference.asp#text))

# text-align

```
blockquote { text-align: justify; }  
h2 { text-align: center; }
```

CSS

## The Emperor's Quote

[TO LUKE SKYWALKER] The alliance... will die. As will your friends. Good, I can feel your anger. I am unarmed. Take your weapon. Strike me down with all of your hatred and your journey towards the dark side will be complete.

output

- can be left, right, center, or justify (which widens all full lines of the element so that they occupy its entire width)

# Text-decoration

---

```
p {  
  text-decoration: underline;  
}
```

CSS

This paragraph uses the style above.

output

- can also be overline, ~~line-through~~, blink, or none
- effects can be combined:

```
text-decoration: overline underline;
```



# text-shadow

---

```
p {  
    font-weight: bold;  
    text-shadow: 2px 2px gray;  
}
```

CSS

**This paragraph uses the style above.**

output

- shadow is specified as an X-offset, a Y-offset, and an optional color

# CSS properties for backgrounds

---

| <b>property</b>       | <b>description</b>                         |
|-----------------------|--------------------------------------------|
| background-color      | color to fill background                   |
| background-image      | image to place in background               |
| background-position   | placement of bg image within element       |
| background-repeat     | whether/how bg image should be repeated    |
| background-attachment | whether bg image scrolls with page         |
| background            | shorthand to set all background properties |

# background-image

---

```
body {  
    background-image: url("images/draft.jpg");  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- background image/color fills the element's content area

# background-repeat

---

```
body {  
  background-image: url("images/draft.jpg");  
  background-repeat: repeat-x;  
}
```

CSS

This is the first paragraph

This is the second paragraph...

It occupies 2 lines

- can be repeat (default), repeat-x, repeat-y, or no-repeat

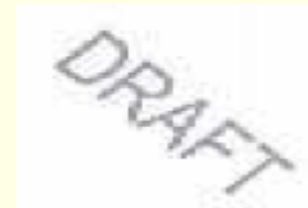
# background-position

```
body {  
  background-image: url("images/draft.jpg");  
  background-repeat: no-repeat;  
  background-position: 370px 20px;  
}
```

CSS

This is the first paragraph

This is the second paragraph...  
It occupies 2 lines



- value consists of two tokens, each of which can be top, left, right, bottom, center, a percentage, or a length value in px, pt, etc.
- value can be negative to shift left/up by a given amount