

# Java<sup>TM</sup> Methods

Maria Litvin

---

Gary Litvin

*An Introduction  
to Object-Oriented Programming*

## <h1>Chapter 2</h1>

# Designing Web Pages With HTML

# Objectives:

- Understand how web pages are put together
- Learn basic HTML tags and develop your own web pages
- Learn how images and Java applets are added to web pages
- Learn some of the Internet terminology

# HTML —

- HyperText

Text contains “hot links.”  
When touched or clicked, a link takes you to the specified place

- Markup

Formatting commands are embedded in the text as “tags” (e.g., `<b> ... </b>` makes it bold)

- Language

A very limited “language,” just a few dozen tags

# HTML from Source to Display

Source (e.g., [Ch02.html](#)):

```
<html>
...
<body>
<h1 align="center">HTML</h1>
<p> <i>WYSIWYG</i> stands for
What You See Is What You Get...
</body>
</html>
```

Display (“what you get”):



# HTML Source is Device- and Platform-Independent.

- But:
  - may be displayed differently according to the capabilities of a particular device (computer screen, printer), its size, resolution, colors, etc.
  - may be interpreted differently by different software (*Netscape Navigator*, *Internet Explorer*, etc.)

# HTML Features

- Tags for formatting and positioning text
- Tags for lists, tables, embedded pictures, and Java applets
- Tags for hyperlinks and “anchors”

# HTML Syntax

- Each tag is enclosed in angular brackets:  
`<sometag>`
- HTML is case-blind: doesn't distinguish between upper case and lower case.
- Many tags require a matching closing tag:  
`<sometag>my text</sometag>`

# HTML Syntax (cont'd)

- Some tags may take attributes:

`<p align="center">`

```
<sometag  
  attr="somevalue">
```

- Certain characters (<, >, &, ©, etc.) are represented by an “escape sequence.”

<	→	&lt;
>	→	&gt;
&	→	&amp;
©	→	&copy;



# HTML Syntax (cont'd)

- Tags can be nested:

```
<font color="blue"><i>Red Sea</i></font>
```

Or:

```
<strong>Click
```

```
<a href="details.html">here</a> for  
details.</strong>
```

# HTML Document Structure

<html>

<head>

<title>...</title>

<meta name="author" content="...">

<meta name="keywords" content="...">

...

</head>

Info about the  
document

<body>

...

<address>

...

</address>

</body>

</html>

Contact info for  
webmaster, etc.

Info to be  
displayed

# Text Layout

`<h1>Heading</h1>`

`<h2>Subheading</h2>`

`<h6>Sub ... subheading</h6>`

`<p>New paragraph`

`<p align="center">Centered`

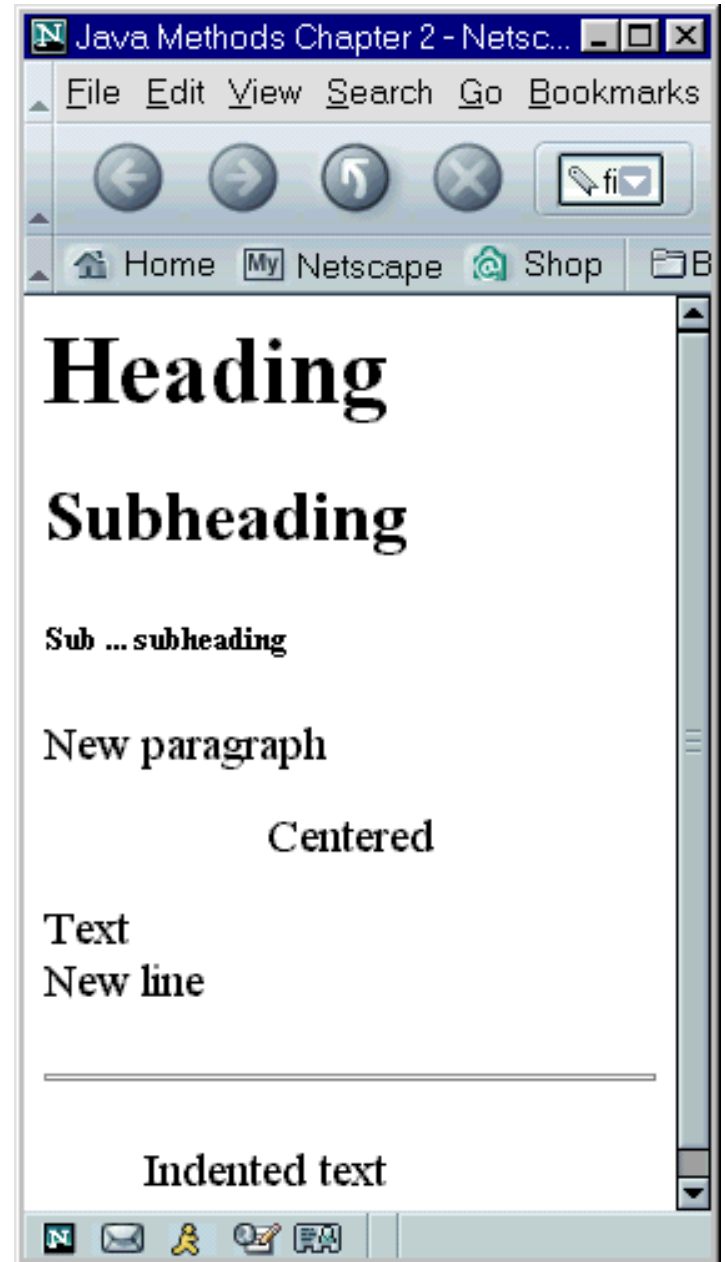
`<p>Text<br>New line`

`<hr width="95%">`

`<blockquote>`

Indented text

`</blockquote>`



# Text Formatting

<p>Regular <b>Bold</b> <i>Italic</i>  
<u>Underlined</u>

<p><strong>Emphasis</strong>  
<cite>Citation</cite>

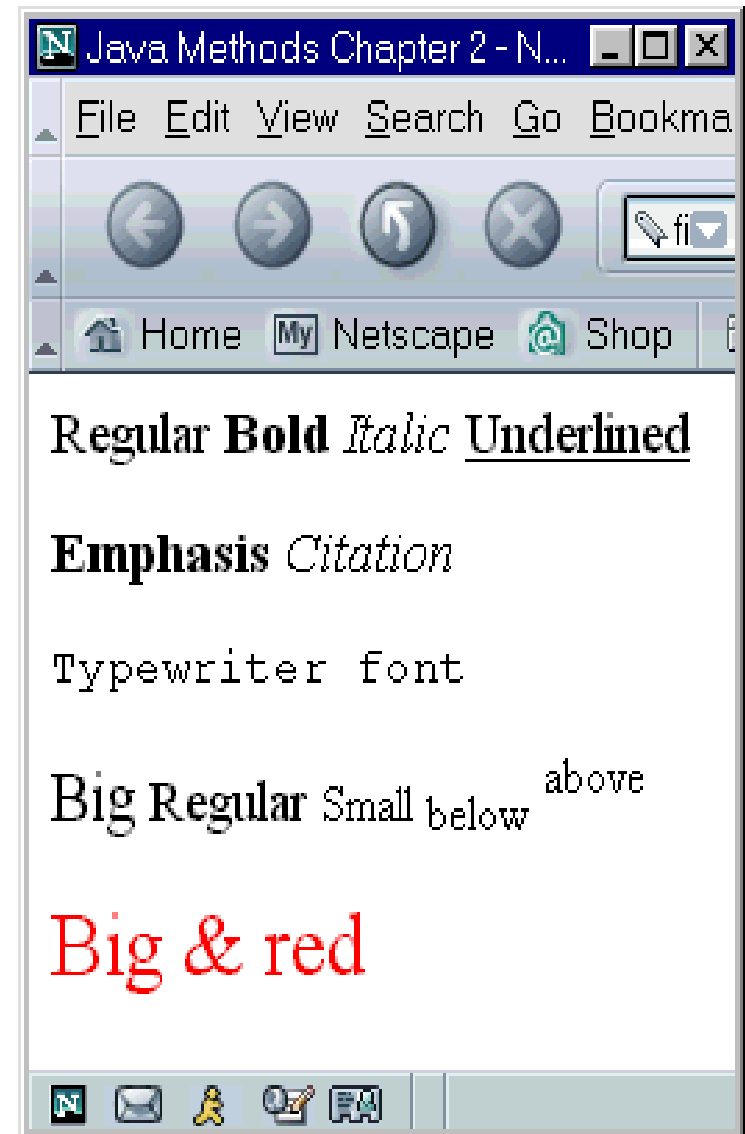
<p><code>Typewriter font</code>

<p><big>Big</big> Regular

<small>Small</small>

<sub>below</sub> <sup>above</sup>

<p><font color="red" size="+2">Big  
& red</font>



# Anchors and Hyperlinks

- An “anchor” defines a location in the current HTML document.
- An anchor uses an `<a>` tag with a `name` attribute:

```
<a name="panda">  
<h3>Giant Pandas</h3>
```

An anchor  
named “panda”

- An anchor can be placed anywhere in a document.

# anchors and Hyperlinks (cont'd)

- A hyperlink defines “hot text” and the destination (a URL) to go to when the link is clicked.
- A hyperlink uses the `<a>` tag with an `href` attribute and a closing `</a>` tag:

Only 1630 `<a href="#panda">`Giant pandas`</a>`  
are left in the world.

When clicked, takes you to  
the anchor named “panda”

# URLs

- URL stands for “**U**niform (or Universal) **R**esource **L**ocator.”
- A hyperlink can link to any URL.
- A URL can point to an HTML file, a pdf file, an image, audio, or video file, and even to an e-mail address.
- A URL can be absolute or relative.

# Absolute URLs

- An absolute URL defines the absolute location of a resource on the Internet.
- Examples:

<http://www.myzoo.com/reptiles.html>

http	www.myzoo.com	reptiles.html
Protocol	Host computer (web server)	File name

<mailto:fanmail@britneyspears.com>

mailto	fanmail@britneyspears.com
Protocol	e-mail address

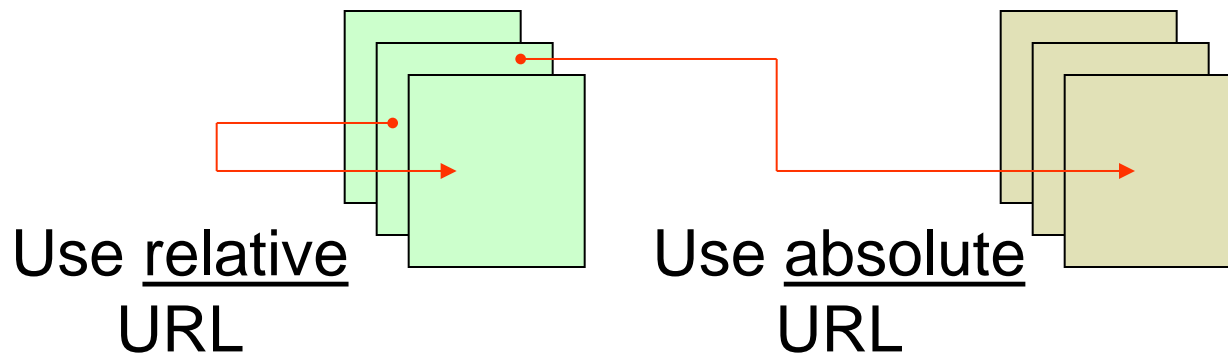


# Relative URLs

- A relative URL in a link describes a location relative to the location of the document that holds that link.
- Examples:
  - #panda
  - volleyball.html
  - athletics.html#swimteam
  - images/lucie.jpg
  - ../courses/webdesign

# URLs in Hyperlinks

- Use relative URLs to link to resources on your own web site.
- Use absolute URLs to link to resources on other web sites.



# Lists

```
<ul>
<li>Bike</li>
<li>Car</li>
<li>Unicycle</li>
</ul>
```

- Car
- Bike
- Unicycle

```
<ol>
<li>Bike</li>
<li>Car</li>
<li>Unicycle</li>
</ol>
```

1. Car
2. Bike
3. Unicycle

```
<dl>
<dt>Car</dt>
<dd>4 wheels</dd>
<dt>Bike</dt>
<dd>2 wheels</dd>
<dt>Unicycle</dt>
<dd>1 wheel</dd>
</dl>
```

Car  
4 wheels  
Bike  
2 wheels  
Unicycle  
1 wheel

# Images

- .gif files  
GIF, **G**raphics **I**nterchange **F**ormat
- .jpg files  
JPEG, **J**oint **P**hotographic **E**xperts **G**roup

``

- Other attributes (optional):

`alt="some text"`

`align="top/center/bottom"`

`border="thickness" (0 — no border)`

`usemap="#mapname"`

# Images and Hyperlinks

- To turn an image into a hot link, surround it with `<a href=...>` and `</a>` tags.
- To turn different sections of an image into different hot links, define a “map”:

```
<map name="mapname">
```

```
<area shape="circle/rect/square" coords="..."  
      href="URL">
```

```
<area ...>
```

```
...
```

```
</map>
```

# Tables

- Tables can be used to:
  - Display data
  - Place text and an image side by side
  - Make narrow columns of text
  - Box text messages by adding border
  - Add color background to text boxes
- Tables can be nested.

# <table ...> Tag

- Optional attributes:

`border="thickness"` (0 — no border)

`width="n% (or number of pixels)"`

`cellpadding="number of pixels"`

(additional space between  
data and cell border)

`cellspacing="number of pixels"`

(additional space between  
cells)



# <table ...> Tag (cont'd)

## <table>

<th>

<td> ... </td> <td> ... </td> ... <td> ... </td>

</th>

Header row  
(optional)

<tr>

<td> ... </td> <td> ... </td> ... <td> ... </td>

</tr>

Regular  
row

...

<tr>

Individual cell

...

</tr>

<caption> ... </caption>

Optional caption

</table>

# The `<applet>` Tag

- The tag adds a Java applet to the web page.
- An applet's code consists of `.class` files and may also include images, audioclips, etc.
- Only one class, the “main” class, is listed in the `<applet>` tag.

# The <applet> Tag (cont'd)

```
<applet code="ClassName" width=... height=...  
        alt="some text" codebase="URL">
```

Optional attributes

Your browser is ignoring the `<applet>` tag

```
<param name="... " value="... ">  
<param ...>
```

Optional parameters  
for the applet

```
</applet>
```

# Review:

- What is a web page? Web site? Java applet?
- What do HTML, WYSIWYG, HTTP stand for?
- Define *hypertext* and *HTML source*.
- Identify the file types by their extensions:  
    [.htm](#), [.txt](#), [.pdf](#), [.jpg](#), [.gif](#), [.wav](#), [.class](#)

# Review (cont'd):

- Name some document structure tags.
- Name some document layout tags.
- Name some text formatting tags.
- Name the tags for working with hyperlinks.
- What types of lists are supported in HTML?  
What are their respective tags?
- Name some tags for working with images, tables, and applets.