

HTML

# Web Publishing with HTML

- HyperText Markup Language (HTML) is the language for specifying the *static* content of Web pages
  - *hypertext* refers to the fact that Web pages are more than just text
    - can contain multimedia, provide links for jumping within & without
  - *markup* refers to the fact that it works by augmenting text with special symbols (tags) that identify structure and content type
  - Language format based on SGML (*Standard Generalized Markup Language*).
  - There are many versions of HTML and different
  - browsers have their own add-ons.

# Web Development Tools

- **many high-level tools exist for creating Web pages**

e.g., Microsoft FrontPage, Netscape Composer, Adobe PageMill,

Macromedia DreamWeaver, HotDog, ...

also, many applications have "save to HTML" options (e.g., Word)

*for most users who want to develop basic, static Web pages, these are fine (but they still may produce poorly structured HTML code)*

- **assembly language vs. high-level language analogy**

# Web Development Tools

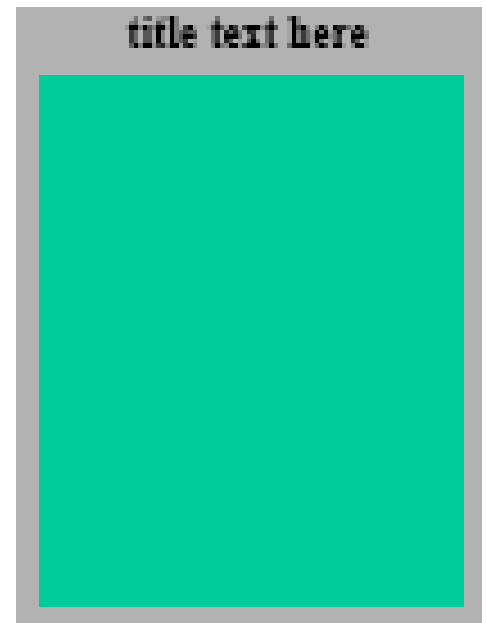
- **so, why are we learning low-level HTML using a basic text editor?**
  - may want low-level control
  - may care about size/readability of pages
  - may want to "steal" page components and integrate into existing pages
  - may want dynamic features such as scripts or applets
  - remote editing of web pages may only be possible using a basic text editor
  - In order to write web-based application one needs to know HTML since server-side scripts and programs that programmers write themselves generate HTML.

# Major Syntax Components

- **<TAG** parameters="values" *text* **</TAG>**
- **<TAG** parameters="values">
- You may have many parameters or no parameters at all.
- HTML is not case sensitive
- Values can be case sensitive
- Tags for changing appearance of text, tags for structuring sections, tags for embedding objects, etc.

# Page Structure

```
<!DOCTYPE HTML PUBLIC "-// HTML 4.0 ">  
<HTML>  
  <HEAD>  
    <TITLE>title text here</TITLE>  
  </HEAD>  
  <BODY BGCOLOR="#00FF00">  
    Text and tags come here  
  </BODY>  
</HTML>
```



# What Comes in the Head?

**<HEAD> ..... </HEAD>**

**Header section of the HTML page**

## **Optional Head elements:**

**<TITLE> ...</TITLE>**

**Title of page**

**<BASE HREF="...">**

**Starting location for relative**

**<SCRIPT ...>...</SCRIPT>**

**URLs Embedded script**

**<STYLE ...>...</STYLE>**

**programs Specify cascading  
style sheets**

**<LINK ...>**

**Creates associations between  
pages Useful for printing linked  
pages**

**<META...>**

**Records document information**

# What Comes in the Body?

- **<BODY ...> ..... </BODY>** Body section of the HTML page.
- **Optional parameters for BODY tag:**

<b>BACKGROUND</b>	<b>Specifies URL of an image to display in the background</b>
<b>BGCOLOR</b>	<b>Specifies the color of the background</b>
<b>TEXT</b>	<b>Specifies the color of the text</b>
<b>LINK</b>	<b>Specifies the color of the unvisited hyperlinks</b>
<b>VLINK</b>	<b>Specifies the color of the visited hyperlinks</b>
<b>ALINK</b>	<b>Specifies the color of the links currently selected</b>

```
<BODY BCKGROUND="http://www.somewhere.ca/image.gif"
```

```
BGCOLOR ="#FFFF00#" TEXT="#000000" LINK="#0000FF"
```

```
VLINK="#800000" ALINK="#008080">
```

```
</BODY>
```



# Tags vs. Elements

- HTML specifies a set of *tags* that identify structure and content type
  - tags are enclosed in `< >`
    - `` specifies an image
  - most tags come in pairs, marking a beginning and ending
    - `<title>` and `</title>` enclose the title of a page

# Tags vs. Elements

- an HTML *element* is an object enclosed by a pair of tags
  - `<title>My Home Page</title>` is a TITLE element
  - `<b>This text appears bold.</b>` is a BOLD element
  - `<p>Part of this text is <b>bold</b>.</p>`
    - » is a PARAGRAPH element that contains a BOLD element

*HTML document is a collection of elements (text/media with context)*

# Structural Elements

- an HTML document has two main structural elements
  - HEAD contains setup information for the browser & the Web page
    - e.g., the title for the browser window, style definitions, JavaScript code, ...
  - BODY contains the actual content to be displayed in the Web page

```
<html>
  <!-- computer application --
  -- Shoubra faculty of eng --
-->
<head>
  <title>My first HTML
document</title>
</head>
<body>
  Hello world!
</body>
</html>
```

HTML documents begin and end with  
<html> and </html> tags

Comments appear between <!-- and  
-->

HEAD section enclosed between  
<head> and </head>

BODY section enclosed between  
<body> and </body>

# Text Layout

```
<html>
<!-- Computer Application -->
<head>
  <title>Text Layout</title>
</head>

<body>
  <p>
    This is a paragraph of
text<br/>
    made up of two lines.
  </p>

  <p>
    This is another paragraph with
a
  &nbsp; GAP &nbsp; between
some of the words.
  </p>

  <p>
    &nbsp;&nbsp; This paragraph
is<br/>
    indented on the first line<br/>
    but not on subsequent lines.
  </p>
</body>

</html>
```

## •for the most part, layout of the text must be left to the browser

- every sequence of whitespace is interpreted as a single space
- browser automatically wraps the text to fit the window size

## •can override some text layout

- can cause a line break using the `<br/>` tag (no closing tag)
- can specify a new paragraph (starts on a new line, preceded by a blank line) using `<p>...</p>`
- can force a space character using the symbol for a non-breaking space: `&nbsp;`

# Separating Blocks of Text

```
<html>
<!-- Computer Application-->
<head>
  <title>Blocks of Text</title>
</head>

<body>
  <h1>Major heading 1</h1>
  <p>
  Here is some text.
  </p>

  <h2>Subheading</h2>
  <p>
  Here is some subtext.
  </p>

  <hr/>

  <h1>Major heading 2</h1>
  <p>
  Here is some more text.
  </p>
</body>

</html>
```

- **can specify headings for paragraphs or blocks of text**

- <h1>...</h1> tags produce a large, bold heading
- <h2>...</h2> tags produce a slightly smaller heading
  - ...
- <h6>...</h6> tags produce a tiny heading

- **can insert a horizontal rule to divide sections**

- <hr/> draws line across window

# The Basic Web page – A Worked Example

```
• <html>
• <!-- Computer Application-->
•   <head>
•     <title> Bill Smiggins Inc. </title>
•   </head>
•   <body>
•     <h1>Bill Smiggins Inc.</h1>
•     <h2>About our Company...</h2>
•     <p>This Web site provides clients, customers,
•       interested parties and our staff with all of
•       the information that they could want on
•       our products, services, success and failures.
•     </p>
•     <hr/>
•     <h3> Products </h3>
•     <p> We are probably the largest
•       supplier of custom widgets, thingummybobs, and bits
•       and pieces in North America. </p>
•     <hr/>
•   </body>
• </html>
```

# Text Appearance

```
<html>
  <!-- Computer Application -->
  <head>
    <title>Text Variations and Escape
Sequences</title>
  </head>
  <body>
    <h1>Text Variations</h1>
    <p>We can use <b>simple</b> tags to
      <i>change</i> the appearance of
      <strong>text</strong> within
      <tt>Web pages</tt>.
      Even super<sup>script</sup>
      and sub<sub>scripts</sub> are
      <em>supported</em>.</p>

    <h1>Text Escape Sequences</h1>
    <p>
      &amp; &lt; &gt; &quot; &copy;
    </p>
    <h1>Preformatted text</h1>
    <pre>
      University of Benha
      Faculty of Eng
      Department of Electrical Eng
      Shoubra Street
    </pre>
  </body>
</html>
```

## •can specify styles for fonts

- `<b>... </b>` specify bold
- `<i>... </i>` specify italics
- `<tt>... </tt>` specify typewriter-like (fixed-width) font
- `<big>... </big>` increase the size of the font
- `<small>... </small>` decrease the size of the font
- `<em>...</em>` put emphasis
- `<strong>...</strong>` put even more emphasis
- `<sub>... </sub>` specify a subscript
- `<sup>... </sup>` a superscript
- `<pre>...</pre>` include ready-formatted text
- `&amp; &al; &gt; &quot; &copy;` escape characters used in HTML control

# Text Appearance

Escape Character	HTML code	Meaning
&	&amp	Ampersand
<	&lt	Less than
>	&gt	Greater than
@	&copy	Copyright symbol
á	&aacute	Lowercase a with acute accent
à	&agrave	Lowercase a with grave accent
â	&acirc	Lowercase a with circumflex
ä	&auml	Lowercase a with amlaut
å	&aring	Lowercase a with ring
ç	&ccedil	Lowercase c with cedilla
ø	&oslash	Lowercase o with slash



# Text Appearance

```
<html>
  <head>
    <title>My Page</title>
  </head>

  <body>
    <basefont color="green" face="arial" size="4">
    Hello! This is my page.<br><br>
    <font color="red" face="arial" size="2">
    This local text looks different.
    </font>
    <br><br>
    This text looks like the first line.
  </body>
</html>
```

```
<p><font size="7" face="Georgia, Arial" color="maroon">C
</font>ustomize your font to achieve a desired look.</p>
```

# Text links

- Click `<a href="http://www.yahoo.com">here</a>` to go to yahoo.
- Specify the target in the `<a href=" " >`.
- Then add the text that should work as a link.
- Finally add an `</a>` tag to indicate where the link end

# Text format

<code>&lt;b&gt;text&lt;/b&gt;</code>	writes text as bold
<code>&lt;i&gt;text&lt;/i&gt;</code>	writes text in italics
<code>&lt;u&gt;text&lt;/u&gt;</code>	writes underlined text
<code>&lt;sub&gt;text&lt;/sub&gt;</code>	lowers text and makes it smaller
<code>&lt;sup&gt;text&lt;/sup&gt;</code>	lifts text and makes it smaller
<code>&lt;strike&gt;text&lt;/strike&gt;</code>	strikes a line through the text
<code>&lt;tt&gt;text&lt;/tt&gt;</code>	writes text as on a classic typewriter
<code>&lt;pre&gt;text&lt;/pre&gt;</code>	writes text exactly as it is, including spaces.
<code>&lt;em&gt;text&lt;/em&gt;</code>	usually makes text emphasized
<code>&lt;strong&gt;text&lt;/strong&gt;</code>	usually makes text bold

# Text size

<code>&lt;big&gt;text&lt;/big&gt;</code>	increase the size by one
<code>&lt;small&gt;text&lt;/small&gt;</code>	decrease the size by one
<code>&lt;h1&gt;text&lt;/h1&gt;</code>	writes text in biggest heading
<code>&lt;h6&gt;text&lt;/h6&gt;</code>	writes text in smallest heading
<code>&lt;font size="1"&gt;text&lt;/font&gt;</code>	writes text in smallest fontsize. (8 pt)
<code>&lt;font size="7"&gt; text&lt;/font&gt;</code>	writes text in biggest fontsize (36 pt)

# Lists

- **there are 3 different types of list elements**
- `<ol>...</ol>` specifies an ordered list (using numbers or letters to label each list item)
  - `<li>` identifies each list item
  - *can set type of ordering, start index*
- `<ul>...</ul>` specifies unordered list (using a bullet for each)
  - `<li>` identifies each list item

```
<ul>
  <li>text</li>
  <li>text</li>
  <li>text</li>
</ul>
<ul type="disc">
<ul type="circle">
<ul type="square">
```

# Lists

## Numbered Lists

```
<ol>  
  <li>text</li>  
  <li>text</li>  
  <li>text</li>  
</ol>  
  
<ol start="5">  
<ol type="A">  
<ol type="a">  
<ol type="I">  
<ol type="i">  
<ol type="1">  
<ol type="I" start="7">
```

# Lists

## A. Introduction

### 1. Title

a. Author

b. Institution

c. Working title (20 words or fewer)

### 2. Justification for research

a. What? Why?

### 3. Findings

### 4. Conclusions

## B. Body of Paper

### 1. Previous research

### 2. Research methods used

### 3. Results and findings

# Lists

```
<ol type="A">
<li>Introduction
  <ol>
    <li>Title
      <ol type="a">
        <li>Author</li>
        <li>Institution </li>
        <li>Working title (20 words or fewer) </li>
      </ol>
    </li>
    <li>Justification for research
      <ol type="a">
        <li>What? Why? </li>
      </ol>
    </li>
    <li>Findings </li>
    <li>Conclusion </li>
  </ol>
</li>
<li>Body of Paper
  <ol>
    <li>Previous research </li>
    <li>Research methods used </li>
    <li>Results and findings </li>
  </ol>
</li>
</ol>
```



# Hyperlinks

```
<html>
<!-- Computer application course-
-->

<head>
  <title>Hyperlinks</title>
</head>

<body>
  <p>
    <a href="http://www.benha-
univ.edu.eg ">
      The University of Benha</a>
    <br/>
    <a href="fontbut.html"
target="_blank">
      Open fontbut page in a new
window</a>
  </p>
</body>

</html>
```

•perhaps the most important HTML element is the **hyperlink, or ANCHOR**

- `<a href="URL">...</a>`

•where URL is the Web address of the page to be displayed when the user clicks on the link

•*if the page is accessed over the Web, must start with http://*

•*if not there, the browser will assume it is the name of a local file*

- `<a href="URL" target="_blank">...</a>`

•causes the page to be loaded in a new Window

# Tables

- tables are common tools for arranging complex layout on a Web page
  - a table divides contents into rows and columns
  - by default, column entries are left-justified, so provide for alignment

```
<html>
<!-- Computer Application-->
<head>
  <title>Tables</title>
</head>
<body>
<h2>A Simple Table</h2>
  <table>
    <tr>
      <td> Left Column </td>
      <td> Right Column </td>
    </tr>
    <tr>
      <td> Some data </td>
      <td> Some data </td>
    </tr>
  </table>
</body>
</html>
```

`<table>...</table>` specify a table element

`<tr>...</tr>` specify a row in the table

`<td>...</td>` specify table data (i.e., each column entry in the table)

# Tables formatting

Tag	Meaning
border="n"	Width of enclosed area surrounding table; if border="0", this also eliminates the grid lines within the table itself
cellspacing="n"	Spacing between individual cells
cellpadding="n"	Space between border and contents of cell
width="n"	Desired width; overrides automatic width calculations (value or percentage)

## Example

```
<h3>Common Cable TV  
Channels</h3>  
<table border="1" width="75%">  
<tr><td>MTV</td></tr>  
<tr><td>EPSN</td></tr>  
<tr><td>CNN Headline  
News</td></tr>  
<tr><td>WTBS Atlanta</td></tr>  
</table>
```

# Tables formatting

```
<table border="1" bgcolor= "yellow"  
  bordercolor="red">  
<tr>  
<th>Heading</th>  
<th>Another Heading</th>  
</tr>  
<tr>  
<td>row 1, cell 1</td>  
<td>row 1, cell 2</td>  
</tr>  
<tr>  
<td>row 2, cell 1</td>  
<td></td>  
</tr>  
</table>
```

# Layout in a Table

```
<html>
<!-- Computer Application -->

<head>
  <title>Table Layout</title>
</head>

<body>
  <table style="border: 1px
solid;">
    <tr style="text-align:
center;">
      <td style="border: 1px
solid;">
        Left<br/>Column</td>
      <td style="border: 1px
solid;
vertical-align: top;">
        Right Column</td>
    </tr>
    <tr>
      <td style="border: 1px
solid;">
        Some data</td>
      <td style="border: 1px
solid;">
        Some data</td>
    </tr>
  </table>
</body>
</html>
```

•can have a border on tables using the “border” attribute

- `<table style="border: 1px solid;">`

*increasing the number makes the border thicker*

•can control the horizontal & vertical layout within cells

```
<td style="text-align:center">
```

```
<td style="vertical-align: bottom">
```

•can apply layout to an entire row

```
<tr style="text-align:center">
```

```
<tr style="vertical-align: top">
```

# Images

- can include images using `IMG`
  - by default, browsers can display GIF and JPEG files
  - other image formats may require plug-in applications for display

```
• 
```

• again, if file is to be accessed over the Web, must start with `http://` (if not, will assume local file)

```
<html>
<!-- Computer Application -->
<head>
  <title>Images</title>
</head>
<body>
  
  <p>Ready To Run</p>
</body>
</html>
```

# Images

```
 <br>
```

```
 <br>
```

```
 <br>
```

```
 <br>
```

```
<br>
```

```
<br>
```

```
<br>
```

```
<br>
```