The World Wide Web (WWW)

- The World Wide Web is a large scale, on-line repository of information that users can search using an interactive application program called a browser.

- Technically, the web is a distributed hypermedia system that supports interactive access.

- Information is stored in a set of documents.

- Besides the basic information, a document can contain pointers to other documents in the set.

- A hypermedia document available on the Web is called a page. The root page for an organization or individual is called the homepage.

- Each Web page that contains a hypermedia document uses a standard representation known as Hypertext markup language (HTML).

- HTML allows an author to give general guidelines for display and to specify the contents of the page. (Consequently, two browsers may display a page differently.)
Browser Architecture

- A browser interacts with a Web server using HTTP.
- A browser consists of a set of clients, a set of interpreters, and a controller that manages them.

Major components of a Web browser. Dark arrows show the flow of data; other arrows show control paths. The data paths from clients to interpreters are not shown.
HTML Format and Representation

- Each HTML document consists of two parts (or sections): a **head** followed by a **body**.

- Each HTML document is represented as a text file that contains **tags** along with other information.

- HTML tags provide structure for the document as well as formatting hints.

- General Form of an HTML Document:
  
  ```html
  <html>
    <head>
      <title>
        text that forms the document title
      </title>
    </head>
    <body>
      body of the document appears here
    </body>
  </html>
  ```

  **Example:**
  
  See demo

- Equivalent Document:
  
  ```html
  <html><head><title>text that forms the document title</title></head><body>body of the document appears here</body></html>
  ```
Example HTML Formatting Tags

• Headings:
  <center><h1>Heading of Page</h1></center>

  Heading of Page

• Line Breaks:
  Hello.<br />This is an example<br />of HTML

  Hello.
  this is an example
  of HTML

• Unordered Lists:
  Here is a list of 4 names:
  <ul>
    <li> Scott </li>
    <li> Sharon </li>
    <li> Jan </li>
    <li> Rebecca </li>
  </ul>
  This text occurs after the list

  Here is a list of 4 names:
  • Scott
  • Sharon
  • Jan
  • Rebecca
  This text occurs after the list.
**Ordered Lists:**
Here is a list of 4 names:

```html
<ol>
  <li> Scott </li>
  <li> Sharon </li>
  <li> Jan </li>
  <li> Rebecca </li>
</ol>
```

This text occurs after the list.

Here is a list of 4 names:

1. Scott  
2. Sharon 
3. Jan 
4. Rebecca

This text occurs after the list.

**Bold, Italic, and Underlined Text:**

```html
<b> Bold text </b> 
<i> Italic text </i> 
<u> Underlined text </u>
```

**Bold text**

*iItalic text*

_Underlined text_

**Paragraphs**

Use `<p>` and `</p>` tags to delimit paragraphs.

**Example:**

See demos
Embedding Graphical Images Into a Web Page

● Example:
Here is a picture. <img src="http://www.site.com/myphoto.gif" align=middle />

Illustration of image alignment. As requested in the tag, text on the line is positioned in the middle of the image.

Graphics files should be in either .gif or .jpg (or .jpeg) format only. Other formats will not work with all browsers.

● Background picture (wallpaper):
You can use a “background = ...” parameter within the <body> tag to change the background of a document.

● Sample <body> tag:
<body background = “http://www.site.com/myphoto.jpg”>

● Note: You must use a complete web based URL in order to display a web based image.

● Example:
See demos
Hypertext Links to Other Documents

- The HTML mechanism for specifying a hypertext reference is called an anchor.

- To include an anchor on a Web page use the tags `<a>` and `</a>`.

- To must also include a hypertext reference parameter, “href = “, within the anchor.

- Example:
  This book is published by
  `<a href="http://www.pearsonhighered.com">`
  Pearson Higher Education, `<a>` one of the larger publishers of Computer Science textbooks.

- Example Output:
  This book is published by Pearson Higher Education, one of the larger publishers of Computer Science textbooks.

- Example:
  See demo
Adding Color to Web Pages

- There are 5 color elements to a Web page:
  - the background color
  - the text color
  - the unvisited link color
  - the visited link color
  - the active link color (sometimes visible when you hold down the mouse button before you release.)

- You can use parameters within the <body> tag to change the various color elements

- Sample <body> tag:
  
```html
<body bgcolor="yellow" text="red" link="green" vlink="pink" alink="white">
```

- Note:
  Do not use both “background” and “bgcolor”. One is like wallpaper and the other is like painting with flat paint. You either wallpaper or paint!

- Example:
  See demo
Tables

- To include a table on a Web page use the tags `<table>` and `</table>`.

- Individual rows of a table are delimited by the `<tr>` and `</tr>` tags.

- Elements within a row, or columns, are delimited by the `<td>` and `</td>` tags.

- Example:

  ```html
  <table>
    <tr><td>CORC 1312 </td> <td>Room 129F </td></tr>
    <tr><td>CISC 1050   </td> <td>Room 105F </td></tr>
    <tr><td>CISC 1110   </td> <td>Room 106F </td></tr>
    <tr><td>CISC 3110   </td> <td>Room 130F </td></tr>
  </table>
  ```

  Output of Example:
  
  CORC 1312  Room 129F  
  CISC 1050  Room 105F  
  CISC 1110  Room 106F  
  CISC 3110  Room 130F  

- Borders can be added using the “border = ...” parameter.

  ```html
  <table border = 1>
    <tr><td>CORC 1312 </td> <td>Room 129F </td></tr>
    <tr><td>CISC 1050   </td> <td>Room 105F </td></tr>
    <tr><td>CISC 1110   </td> <td>Room 106F </td></tr>
    <tr><td>CISC 3110   </td> <td>Room 130F </td></tr>
  </table>
  ```

  (See demo for sample output)