Today’s topics

Basic HTML
- The basis for web pages
- “Almost” programming

Upcoming
- Programming
- Java

Reading
*Great Ideas* Chapters 1, 2
The Web

- Lots of computers connected together in a collection of networks
- **HyperText Markup Language (HTML)** is a common formatting language for the web
  - Hypertext is text with a link or *reference*
  - Tags are *non-printing* formatting markers
    - Identified by angle brackets (i.e. `<TAG>`)
    - Example: `<TITLE>The Human Tornado</TITLE>`
    - Come in delimiting pair

- **General Goals**
  - Platform independent Text Specification
    (also called a Markup Language)
  - Links to other network resources
Delimiting with tags

- First tag says, “Begin mode”
- Second tag (containing “/”) says, “End mode”
- So `<TITLE>The Human Tornado</TITLE>` means
  1. Begin title mode
  2. The text “The Human Tornado” is in title mode
  3. End title
- Using this construct, we can nest several different modes and have interesting behavior
- Good tutorials on HTML
  [http://www.w3.org/MarkUp/Guide/](http://www.w3.org/MarkUp/Guide/)
- In lab, you will create a webpage
HTML

- **Some General HTML rules**
  - For tags, case doesn’t matter, e.g., `<html> = <HTML>`
  - In the text, spaces don’t matter: *it will decide!*
    (we call that “free format”)
  - `<br>` starts a new line

- **Headings**
  - Use `<hn>` to specify heading where smaller *n* designates more important heading
  - For example `<h1> - - - </h1> is largest, boldest heading
  - `<h4> - - - </h4> designates a fairly minor heading
HTML

- Basic Web Page Structure

```html
<html>
<head>
<title> Ted's Home Page </title>
</head>
<body bgcolor="White">
<center> <h1> Ted's Page </h1> </center>
Welcome to Duke University! <br>
<i> more to come … </i>
</body>
</html>
```
HTML

- Want to link things together!
- Hypertext (from the Webopedia)
  - A special type of database system, invented by Ted Nelson in the 1960s, in which objects (text, pictures, music, programs, and so on) can be creatively linked to each other.
- An anchored link:
  <a HREF="http://www.duke.edu">The Duke Web Page</a>
  - Produces link to URL specified in HREF and display info between <a> tags: The Duke Web Page
HTML

❖ Other useful info

- For italics or emphasis use
  `<i>` or `<em>`
- For darker or bold use
  `<strong>` or `<b>`
- For text space exactly as typed (not free format) use
  `<pre>`
Specifying Colors

- Can be specified in different ways
  - e.g., for standard colors can specify “white” or “red”
- Can specify arbitrary colors by specifying the amount of red, blue, and green involved. (RGB)
- Uses base 16 arithmetic: 0, 1, ..., 9, a, b, c, d, e, f

Red: “ff0000”  Blue: “00ff00”  Green: “0000ff”
Black: “000000”  White: “ffffff”
Yellow: “ffff00”  Orange: “ff7f00”  Purple: “9370db”

- Can experiment!
More useful HTML

- Bulleted list `<ul>` ... `</ul>` using `<li>` for items
  - - -
  - - -
  - - -

- Ordered lists `<ol>` ... `</ol>` using `<li>` for items
  1. - - -
  2. - - -
  3. - - -

- Can *nest* arbitrarily deep -- lists within lists
HTML

- **Tables**

  ```html
  <table border=1>
  <tr> <td> Cell 1 </td> <td> Cell 2 </td> </tr>
  <tr> <td> Cell 3 </td> <td> Cell 4 </td> </tr>
  </table>
  ```

  produces simple table

- **Images**

  ```html
  <img src="http://www.cs.duke.edu/~dr/construct.gif">
  ```

  displays image
HTML/Web/UNIX practice

- In UNIX, your web page folder is found in a standard location:
  - `~userID/public_html/`
  and for OIT Duke files is accessed with a web browser at
  - `//www.duke.edu/~userID`

- Many people don’t code in raw HTML
  - Save as Web Page in Microsoft Word
  - Netscape Composer, Macromedia Dreamweaver, Bluefish

- These all generate HTML for you
- View other people’s web page source (HTML) from most browsers -- learn from others