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://archive.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html
- 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="0000FF">
<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: “fff7f00”  Purple:“9370db”
- Can experiment!
HTML

- 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

\[
\begin{array}{|c|c|}
\hline
\text{Cell 1} & \text{Cell 2} \\
\hline
\text{Cell 3} & \text{Cell 4} \\
\hline
\end{array}
\]

produces simple table

- Images

\[
\text{<img src="http://www.cs.duke.edu/~dr/construct.gif"}>
\]

displays image
HTML/Web/UNIX practice

- In UNIX web page is found in standard location
  - ~userID/public_html/index.html
  and is accessed at
  - //www.duke.edu/~userID

- Most 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