• using strings to write HTML
HTML

- From text to HTML to XML and beyond ...
HTML is not a programming language

- Using HTML is called “coding” and it is about getting your codes right.
- But it’s not about coding programs.
- HTML has no
  - Loops
  - If’s
  - Variables
  - Data types
  - Ability to read and write files
- Bottom line: HTML does not communicate process!
Other things in there

- We’re simplifying these tags a bit.
- More can go in the `<head>`
  - Javascript
  - References to documents like cascading style sheets
- The `<body>` tag can also set colors.
  - `<body bgcolor="#FFFFFF" text="#000000" link="#3300CC" alink="#CC0033" vlink="#550088">`
  - These are actually setting RGB values!
A tiny tutorial on hexadecimal

- You know decimal numbers (base 10)
  - 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
- You’ve heard a little about binary (base 2)
  - 0000,0001,0010,0011,0100,0101...
- Hexadecimal is base 16
  - 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,10 (16 base 10)
Why hexadecimal?

- It's kinda compact for representing 0-255:
  - $16 \times 16 = 256$
  - Therefore two characters can show entire range
  - (OK - two is only one less than three characters, but that is still a difference of 50%!)

- So for RGB you need three color or:
  - RRRGGGGBBB (base 10)
    - 002255234
  - RRGGBB (base 16)
    - 02FFEF
Hexadecimal colors in HTML

- #000000 is black
  - 0 for red, 0 for green, 0 for blue
  - or all bits set to 0
- #FFFFFF is white
  - 255 for red, 255 for green, 255 for blue
  - or all bits set to 1
- #FF0000 is Red
  - 255 for red (FF), 0 for green, 0 for blue
  - or 111111110000000000000000
- #0000FF is Blue
  - 0 for red, 0 for green, 255 for blue
  - or 000000000111111110000000
Emphasizing your text

- There are six levels of headings defined in HTML.
  - `<h1>...<h6>`
  - Lower numbers are larger, more prominent.

- Styles
  - `<em>Emphasis</em>`, `<i>Italics</i>`, and `<b>Boldface</b>`
  - `<big>Bigger font</big>` and `<small>Smaller font</small>`
  - `<tt>Typewriter font</tt>`
  - `<pre>Pre-formatted</pre>`
  - `<blockquote>Blockquote</blockquote>`
  - `<sup>Superscripts</sup>` and `<sub>Subscripts</sub>`
Examples of styles

```html
<body>
<h1>A Simple Heading</h1>
<p>This is a paragraph in the simplest possible Web page.</p>
<p><em>Emphasis</em>, <i>Italics</i>, and <b>Boldface</b><br>
<b>Bigger font</b> and <small>Smaller font</small><br>
<tt>Typewriter font</tt><br>
<pre>Pre-formatted.<br>Does care about.<br>returns.</pre>
<br>
<blockquote>Blockquote will indent itself on both sides.</blockquote>
<sup>Superscripts</sup> and <sub>Subscripts</sub>
</body>
```

```
A Simple Heading

This is a paragraph in the simplest possible Web page.

<em>Emphasis</em>, <i>Italics</i>, and <b>Boldface</b> Bigger font and Smaller font <tt>Typewriter font</tt>

Pre-Formatted.<br>
Does care about.<br>
returns.<br>

Blockquote will indent itself on both sides.

Superscripts and Subscripts
```
Finer control: `<font>`

- Can control type face, color, or size

```html
<body>
  <h1>A Simple Heading</h1>
  <p><font face="Helvetica">
    This is in helvetica
  </font></p>

  <p><font color="green">
    Happy Saint Patrick's Day!
  </font></p>

  <p><font size="+2">
    This is a bit bigger
  </font></p>
</body>
```

Can also use hexadecimal RGB specification here.
Breaking a line

- Line breaks are part of formatting, not content, so they were added grudgingly to HTML.
- Line breaks don’t have a closing tag, so include the ending “/” inside.
  - `<br />`  
  - `<br>` also works ...
Adding a break

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transition//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
  <head>
    <title>The Simplest Possible Web Page</title>
  </head>
  <body>
    <h1>A Simple Heading</h1>
    <p>This is a paragraph in the simplest possible Web page.</p>
  </body>
</html>
Adding an image

- Like break, it’s a standalone tag.
  - `<img src="flower1.jpg" />
- What goes inside the quotes is the path to the image.
  - If it’s in the same directory, don’t need to specify the path.
  - If it’s in a subdirectory, you need to specify the subdirectory and the base name.
  - You can walk a directory by going up to a parent directory with “..”
  - You can also provide a complete URL to an image anywhere on the Web.
An example image tag use

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transition//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>

<head>
  <title>The Simplest Possible Web Page</title>
</head>

<body>

  <h1>A Simple Heading</h1>

  <p>This is a paragraph in the simplest possible Web page.</p>

  <img src="mediasources/flower1.jpg" />

</body>

</html>
**Parameters to image tags**

- You can specify width and height in image tags.

```html
<h1>A Simple Heading</h1>
<img src="mediasources/flower1.jpg" />
<br />
<img src="mediasources/flower1.jpg" width="100" />
<br />
<img src="mediasources/flower1.jpg" height="100" />
<br />
<img src="mediasources/flower1.jpg" width="200" height="200" />
<br />
</body>
</html>
```
Alt in images

- Some browsers (like audio or Braille) can’t show images.
- You can include alternative text to be displayed instead of the image in those cases.

```html
<img src="mediasources/flower1.jpg" alt="A Flower" />
```
Creating links

- Links have two main parts to them:
  - A destination URL.
  - Something to be clicked on to go to the destination.

- The link tag is “a” for “anchor”

```html
<a href="http://www.cc.gatech.edu/~mark.guzdial/">Mark Guzdial</a>
```
What it looks like

<body>
<h1>A Simple Heading</h1>
<p>This is a paragraph in the simplest possible Web page.</p>
<img src="mediasources/flower1.jpg" alt="A Flower" />
<p>Here is a link to <a href="http://www.cc.gatech.edu/~mark.guzdial/">Mark Guzdial</a></p>
</body>
Images can be links!

<h1>A Simple Heading</h1>

<p>
  <a href="http://www.cc.gatech.edu/"
  <img src="http://www.cc.gatech.edu/images/main_files/goldmain_01.gif" />
</a>
</p>
Getting the path to an image

- Depends on platform and browser
- For Windows and IE, right-click on image and choose properties.
  - There's the URL
Lists

- Ordered lists (numbered)
  
  `<ol>`
  
  `<li>`First item`<\li>`
  
  `<li>`Next item`<\li>`
  
  `</ol>`

- Unordered lists (bulleted)
  
  `<ul>`
  
  `<li>`First item`<\li>`
  
  `<li>`Second item`<\li>`
  
  `</ul>`
Tables

```html
<table border="5">
  <tr>
    <td>Column 1</td>
    <td>Column 2</td>
  </tr>
  <tr>
    <td>Element in column 1</td>
    <td>Element in column 2</td>
  </tr>
</table>
```
There is lots more to HTML

- Frames
  - Can have subwindows within a window with different HTML content.
  - Anchors can have target frames.
- Divisions `<div>`
- Horizontal rules `<hr />`
  - With different sizes, colors, shading, etc.
- Applets, Javascript, CSS, etc.
Best way to learn HTML: Look at pages!

- View source *all* the time, especially when there’s something new and cool that you’ve never seen before.
- Use a good page design program that shows both page and HTML -- like Dreamweaver.
- There are lots of good on-line tutorials.
- There’s even a few good books.
Road Map

- Jumping around to get to JavaScript and Java ASAP
  - week 10 10/27-10/31  Mid Term II (chapters 1-11.2)
  - week 11 11/03-11/07  Objects, OO, & Javascript
  - week 12 11/10-11/14  Intro to Java
  - week 13 11/17-11/21  Java classes
  - week 14 11/24-11/28  Thanksgiving Break
  - week 15 12/01-12/05  Java
  - week 16 11/08-12/10  Last group project; review for final
Project 8 - Mind Reading

- Most creative
  - “Without telling me or anyone else in the room, enter a number”
  - wait a little
  - “Your number is ...”
- use HTML and Javascript (coming soon)
- Due Friday November 7, 2:00 PM
COMING ATTRACTIONS

- Monday
  - Read Chapters 10 & 11.1-11.2
  - Quiz 9 due 10:00 AM
  - Practice Quiz for MidTerm II (not graded)
- Wednesday
  - Project 7 - debugging due 10:00 AM
- Friday Lab
  - MidTerm II
    - open book & open computer
- Following Monday
  - read Chapters 13, 14, & 16 (skip 12 and 15)