

Introduction to HTML

A bit of history...

- The world wide web began as a way to share documents on the internet (which was starting to gain a foothold with other functionality like email & newsgroups).
- It was introduced in 1990 by English physicist Tim Berners-Lee and Belgian computer scientist Robert Cailliau while both were working at CERN.

HyperText Markup Language

- Initially, the documents that were shared on the WWW were text documents that were “marked-up” with extra tags to define the structural or visual aspects of the document.
- Another effect of this language was to add extra functionality into the document, such as links to other online pages, creating a network of interconnected documents (this is the “hypertext” portion of the html name).

Fast-forward to now...

- As computer technology and the WWW have evolved, html has continued to allow the content of web pages to evolve.
- Aside from just links, we now enjoy multimedia content and applications that are seamlessly integrated into web pages, allowing the WWW to do much more than facilitate the sharing of documents.

Overview of HTML

- Files have the .html or .htm extension.
- Files can be composed in ordinary text editors.
- Subsets of the text can be enclosed in “tags” to give that portion of text some structure or functionality:

`<tag>blahblahblah</tag>`

- Tags have the general form:

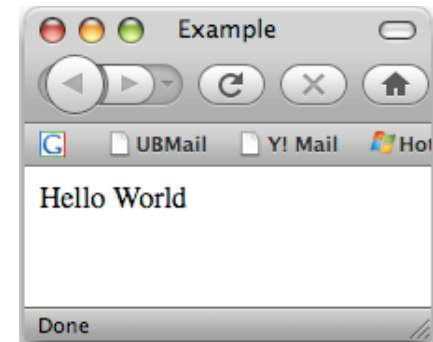
`<tagname attribute1=“value1” attribute2=“value2”>`

An Example

The following code:

```
<html>  
<title>Example</title>  
<body>  
Hello World  
</body>  
</html>
```

Would look like:



Some Formatting Tags

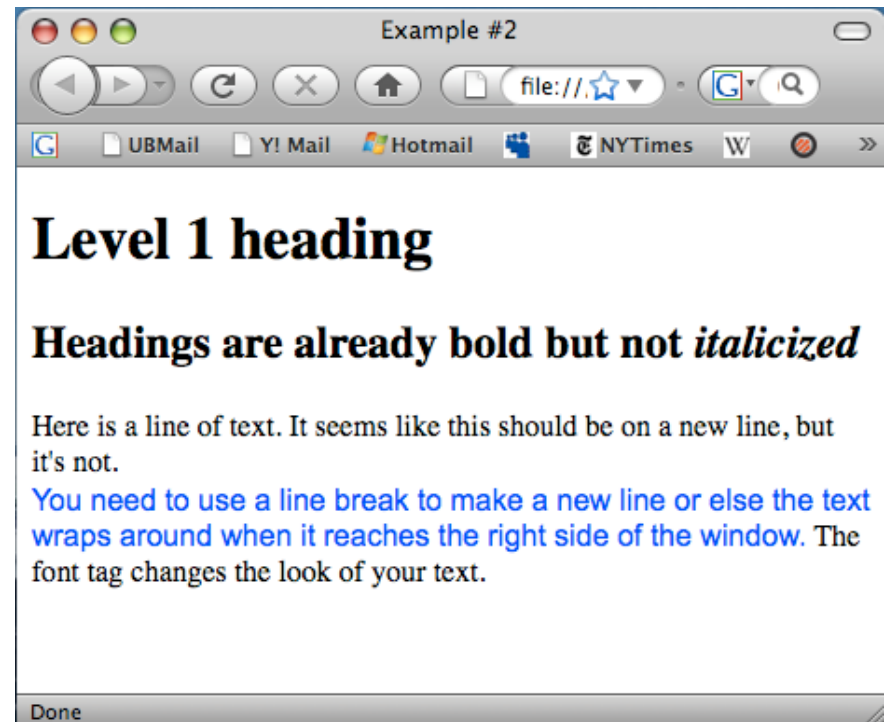
- `<p>`, `</p>` - start and end of a paragraph
- ``, `` - start and end of **bold** text
- `<i>`, `</i>` - start and end of *italicized* text
- `<u>`, `</u>` - start and end of underlined text
- `
` - insert a line break to override the default behavior of just wrapping the text around to the next line.

Some More Formatting Tags

- `<h1>` , `</h1>` - set enclosed text to be a “Level 1 heading” (also `<h2>`, `<h3>`, etc.)
- `` , `` - set font for enclosed text with style options set in tag. i.e. -
`blahblahblah`
- Note: web browsers ignore all but the first space between pieces of text, and any line breaks in your .html file. It is the tags you include which determine how the page will look, not the way it looks in your text editor.

Another Example

```
<html>
<title>Example #2</title>
<body>
<p><h1>Level 1 heading</h1></p>
<p><h2>Headings are already
    <b>bold</b> but not
    <i>italicized</i></h2>
    Here is a line of text.
    It seems like this should
    be on a new line, but it's
    not. <br>
<font face = "arial" size = "3"
  color = "blue"> You need to
  use a line break to make a
  new line or else the text
  wraps around when it reaches
  the right side of the
  window. </font> The font tag
  changes the look of your
  text.
</body>
</html>
```



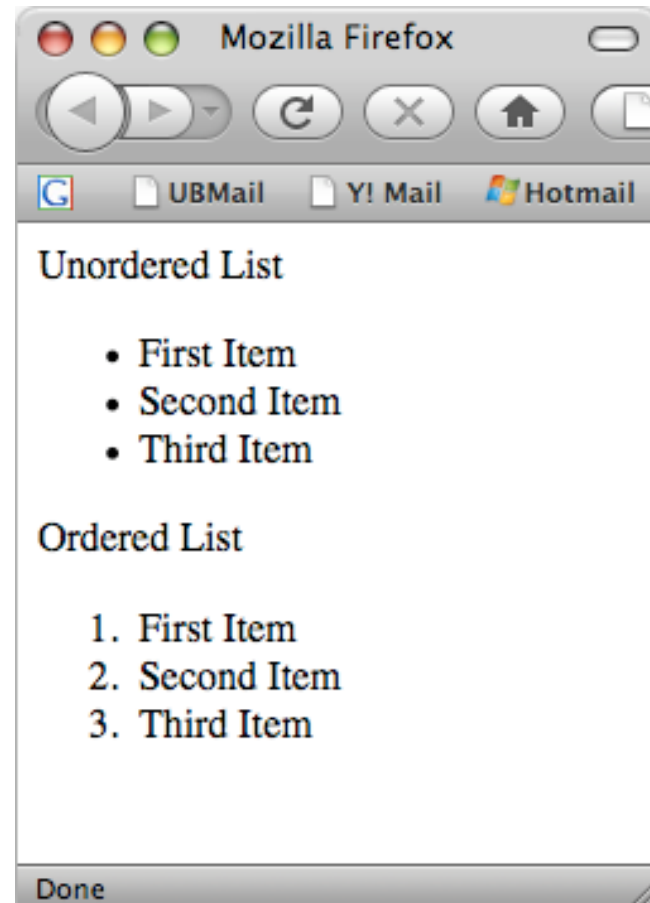
Lists

Unordered List

```
<ul>  
<li>First Item  
<li>Second Item  
<li>Third Item  
</ul>  
<p>
```

Ordered List

```
<ol>  
<li>First Item  
<li>Second Item  
<li>Third Item  
</ol>
```



Images

- Obviously, additional content besides text is crucial to an effective webpage.
- Images can be added to your page with the `` tag : ``
- The file's location can be a URL for its location on the internet or its location on a local disk.
- Ex: `` would look like:

Links

- Links enable the web to be a network of interconnected documents, rather than a static collection of pages.
- Links use the `<a>` , `` tag (short for anchor) and can link to other pages, other locations in the current page, or even an email address.

Linking to Another Web Page

- You can enclose some text with the `<a>` tags to make it a link, and you must provide a destination for that link to point to using the **href** attribute:

```
<a href="some url">link text</a>
```

- Example:

```
<a href="http://www.ccr.buffalo.edu">CCR</a>
```

Would translate to: [CCR](http://www.ccr.buffalo.edu)

Linking Elsewhere In The Page

- The anchor tag can be used to name a location in your document:

```
<a name="topofpage"></a>
```

- A link later on in the document can refer to this anchor by name and take the reader there:

```
<a href="#topofpage">Back to top</a>
```

Linking To An Email Address

- Instead of pointing to the URL of another webpage, or a location in the current document, the href attribute can point to an email address:

```
<a href="mailto:emailaddress" >
```

- Ex:

```
<a href="mailto:jad12@buffalo.edu">Send me an email</a>
```

Would look like:

[Send me an email](mailto:jad12@buffalo.edu)

Using Images as Links

- Like other tags, the `<a>` and `` tags can be nested so an image can function as the link activator instead of text:

```
<a href="http://www.ccr.buffalo.edu">
```

```

```

```
</a>
```

Would yield:

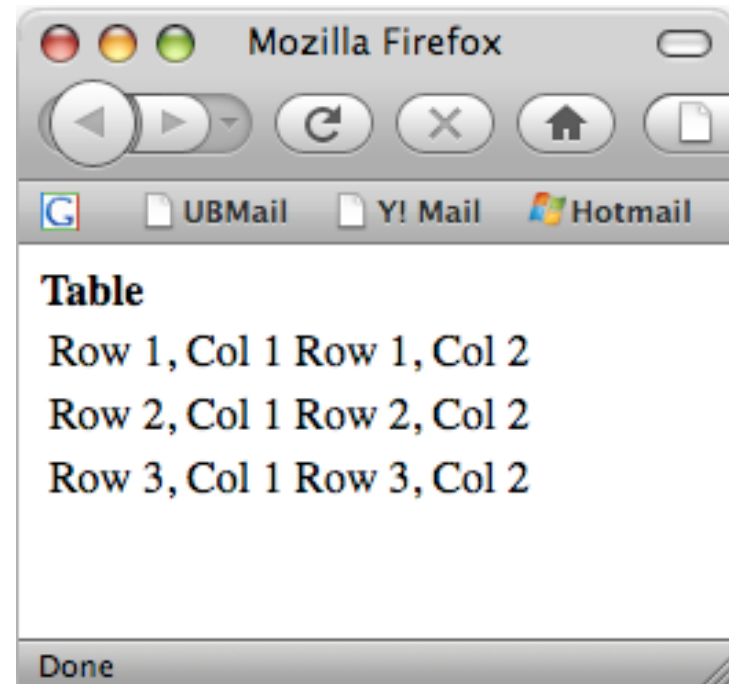


Tables

- More than just adding a table for data, html tables can be used to structure the text, images, links, etc. that make up your webpage.
- You can use tables to define the layout for your page, and then fill the appropriate table cells with the content you want.
- A table is defined with `<table>` & `</table>`. Within the table, rows are defined with `<tr>` & `</tr>`. Within each row, cells are defined with the `<td>` & `</td>` tags.

A Table Example

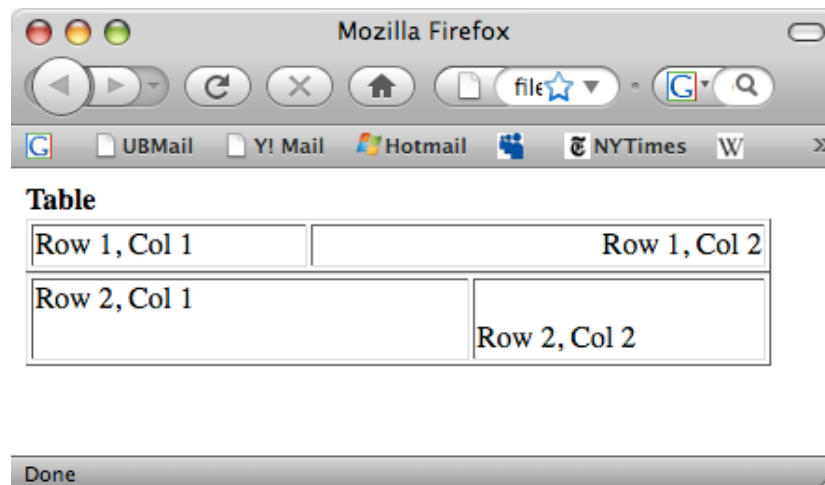
```
<b>Table</b><br>
<table>
  <tr>
    <td>Row 1, Col 1</td>
    <td>Row 1, Col 2</td>
  </tr>
  <tr>
    <td>Row 2, Col 1</td>
    <td>Row 2, Col 2</td>
  </tr>
  <tr>
    <td>Row 3, Col 1</td>
    <td>Row 3, Col 2</td>
  </tr>
</table>
```



Some Refinements

- Well, that table seemed to help with the layout, but it could definitely look better.
- There are lots of attributes that can be modified to adjust the look and layout of your table. Some of these are illustrated in this next example.

```
<b>Table</b><br>
<table border width=400>
  <tr>
    <td width=150 align=left>Row 1, Col 1</td>
    <td width=250 align=right>Row 1, Col 2</td>
  </tr>
</table>
<table border width=400 height=50>
  <tr>
    <td width="60%" valign=top>Row 2, Col 1</td>
    <td width="40%" valign=bottom>Row 2, Col 2</td>
  </tr>
</table>
```



Putting It All Together

- Each cell of a table can contain any other html object: links, images, lists, etc.
- The code for this table is on the next slide.



```
<table width=800>
<tr>
  <td width=640 height=84>
    
  </td>
  <td rowspan=2>
    <ul>
      <li>Bioinformatics
      <li>Consulting Services
      <li>Grid Computing
      <li>Visualization
    </ul>
  </td>
</tr>
<tr>
  <td align=center valign=top>
    <a href="http://www.ccr.buffalo.edu">CCR Website</a>
  </td>
</tr>
</table>
```

Further Reading

- There are lots of resources on the web about HTML, so you can always look up how to do something for your page.
- In some of the other talks this week, you'll hear how you can integrate some applications for your projects into your webpages.
- Some links:

<http://html-codes.1keydata.com/>

<http://www.cse.buffalo.edu/faculty/miller/Courses/WWW-Sem/Sp97/Presentations/HTML-Kempton/tutor/dir.html>

<http://www.utoronto.ca/webdocs/HTMLdocs/NewHTML/htmlindex.html>

<http://www.htmlcodetutorial.com/>

<http://www.htmlgoodies.com/primers/html/>

<http://www.jmarshall.com/easy/html/>