IT 105 – Principles of Programming

Day 08

1. Just a reminder, when you save your pages make sure they are text, but that they have the `.html` extension and not `.txt`. As you modify your pages to add functionality, be sure to save separate copies.
2. `<img>`. It is an "empty" tag, no end tag required.
3. Can also have `<img>` embedded in `<a>`, to be clickable.
4. Two attributes:
    a. `src` specificies the name (and location) of the image file, by default it will check in the current directory.
    b. `alt` specifies the alternative text to display in-case the image is not rendered.
5. Some examples of images used in pages: (http://jcsites.juniata.edu/faculty/kruse/it105/inClass/htm02.html):

```
<!DOCTYPE html>
<html lang="en">
   <head>
      <title>Images</title>
   </head>
   <body>
     <h1>"Yea for the University of Illinois!"</h1>
     <p>After Juniata College, it is the best undergraduate institution in the country.</p>
     <img src="illini.jpg" alt="Block I on Univ. of Illinois football field">
     <p>Click on the image below for your banking needs:</p>
     <a href="http://jcsites.juniata.edu/faculty/kruse"><img src="BoA.JPG"></a>
   </body>
</html>
```

6. Security concern with `<a href="">` links, phishing.
    a. "Visit Juniata" text but link to Susquehanna!
    b. Bank of America link to "my" file (demo in class).
    c. Hover over link.

7. Ordered `<ol>` and unordered `<ul>` lists and attributes:

```
<!-- an example of an ordered list, using capital
letters instead of numbers, the TYPE attribute
will change the numbering -->
<!-- the start attribute can change the first number
in an ordered list -->
<ol type="A">
  <li> Illinois </li>
  <li> Delaware </li>
  <li> Tennessee </li>
  <li> Rhode Island </li>
</ol>
```

8. Design and implementation considerations:
    a. Design/layout your page first.
    b. Save a file with the basic three container tags and save to the W: drive, then render the full URL.
    c. Work iteratively. Add one or two elements of your page at a time, saving and refreshing your browser often.
    d. If you are going to make substantial changes to your code, save the working version to a different file before modifications.
9. For an in-class lab, create:

   One unordered list of all the courses you took last semester and are currently enrolled in this semester. This list needs some type of title (which is not an item in the list). The entries in the list should include the course number and title for each course (make something up if you can't remember). The entry in your list for IT 105 should have an ordered sublist of 3 items, where each numbered item is one of the HTML tags we have discussed in class.

   (http://jcsites.juniata.edu/faculty/kruse/it105/inClass/htm03.html):

```
<!DOCTYPE html>
<html lang=”en”>
   <head>
      <title>Lists</title>
   </head>
   <body>
     <h2>My courses:</h2>
     <ul>
       <li>MA 103 - Quantitative Methods</li>
       <li>MA 116 - Discrete Structures</li>
       <li>DS 510 - Computer Science
Fundamentals</li>
```

```
       <li>CS 480/CS 481/CS 485/IT 496/IT 497 -
IT/CS Seminar-Research</li>
       <li>CS 330 - Computer Graphics</li>
       <li>IT 105 – Principles of Programming</li>
         <ol>
           <li>br (plain)</li>
           <li>H1, with brackets, but not in
"code": &lt;H1&gt;</li>
           <li><font style="font-family:'Courier
New'">&lt;p&gt;</font></li>
         </ol>
     </ul>
   </body>
```

10. Note the two updates to get the HTML tags to render like “code”:
    a. `&lt;` tells HTML to render a “less than” < sign without treating it like part of a tag.
    b. `&gt;` tells HTML to render a “greater than” > sign without treating it like part of a tag.
    c. The `<font style="font-family:'Courier New'"> </font>` container tag with the style attribute displays as “typewriter/code-like” font (and is one of my favorites…).

11. Tables and attributes:
    a. The `<table>` container element sets up the table.
    b. The `<tr>` container element sets up a table row.
    c. The `<td>` container element is one of the column entries nested inside a table row.

12. First, a simple table with two rows and three columns:

```
<TABLE BORDER=2>
    <TR>
       <TD>row 1, col 1</TD>
       <TD>row 1, col 2</TD>
       <TD>row 1, col 3</TD>
    </TR>
    <TR>
       <TD>row 2, col 1</TD>
       <TD>row 2, col 2</TD>
       <TD>row 2, col 3</TD>
    </TR>
  </TABLE>
```

13. Next, for the elements in the first row, we can use th instead of td, to make them headers:

```
<TABLE BORDER=2>
    <TR>
       <TH>row 1, col 1</TH>
       <TH>row 1, col 2</TH>
       <TH>row 1, col 3</TH>
    </TR>
    <TR>
       <TD>row 2, col 1</TD>
       <TD>row 2, col 2</TD>
       <TD>row 2, col 3</TD>
    </TR>
  </TABLE>
```

14. And now a more complicated table merging columns and including other types of elements in the table cells: (http://jcsites.juniata.edu/faculty/kruse/it105/inClass/htm04.html):

```
<!-- a table with two rows and three columns -->
<TABLE BORDER=2>
  <TR>
     <TD>Hi</TD>
     <TD> go</TD>
     <TD> <ol TYPE="A">
      <li> Illinois </li>
      <li> Delaware </li>
      <li> Tennessee </li>
      <li> Rhode Island </li>
  </ol> </TD>
  </TR>
  <TR> <TD COLSPAN=2>There now</TD>
  <TD><a
href="http://jcsites.juniata.edu/faculty/kruse/it10
5/it105syl.htm">homepage?</a> </TD>
  </TR>
</TABLE>
```