Overview

This lab will familiarize students with the basic principles of HTML authoring. One good source to learn more about html is www.htmlhelp.org. Another is w3schools.com

The lab consists of five exercises:

(1) Set up environment to access website
(2) Create a simple HTML page
(3) Extend that page with:
      a. Hyperlinks
      b. Images
      c. Sound
      d. Third-party applications
(4) Create a table
(5) Set up cascading style sheets

Exercise 1: Create a simple HTML page

A website is nothing more than a set of files written in a language that a webserver can understand. When you connect to a website, you really connect to a webserver, and give the webserver a file to load. The webserver loads and interprets the file. Thus, to mount an application on a website, all you need to do is put the appropriate file in the appropriate directory. The person in charge of hosting the website will do all the rest.

In your case, this is the directory space on https://files.000webhost.com. Anything you put there will automatically be mounted on the website.

Exercise Procedure

Subgoal A: the HTML, head, and body tags

Unlike MS Word, which marks up text visually, text in HTML is marked up using special, typed commands. Commands in HTML are enclosed by angle brackets "<>". If a command has both a "beginning" and an "end," the "end" is marked with angle brackets and a slash "</>". Commands in HTML are called *tags*.

Almost all HTML files start with a particular structure. Go to 000webhost, and create a new file called homework2-html.html. Type this into the new file:

```
<!DOCTYPE HTML>
<HTML>
 <HEAD><TITLE>Old One Shipping Line</TITLE></HEAD>
 <BODY>
```
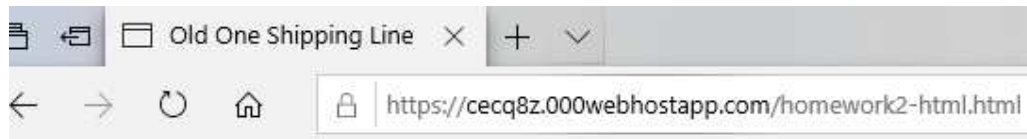
```
        </BODY>
        </HTML>
```

/public_html/homework2-html.html

```
1   <!DOCTYPE HTML>
2 ▾ <HTML>
3      <HEAD><TITLE>Old One Shipping Line</TITLE></HEAD>
4 ▾    <BODY>
5      </BODY>
6   </HTML>
```

Save your file, and view it in the browser.

Old One Shipping Line   ✕   +   ⌄

← → ○ ⌂   🔒 https://cecq8z.000webhostapp.com/homework2-html.html

The main part of the page doesn't show anything yet, but you should see the title of the tab change.

The <!DOCTYPE HTML> tag is a tag that actually does nothing for your webpage. It tells the browser to render your code in a particular way.

The "<HTML>…</HTML>" tag signals to the computer that you have created an HTML page (as opposed to a plain text file).

Anything in the "<HEAD>…</HEAD>" tag is information for the web page header.

Anything in the "<BODY>…</BODY>" tag is information that will appear in the main body. We will begin entering "body" information in the next subgoal.

Subgoal B: Paragraphing

Most body text in HTML is divided into paragraphs. One denotes a paragraph by inserting text within "<p>…</p>".
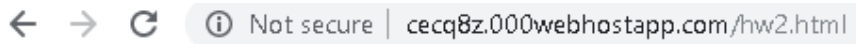
Let's try writing some paragraphs. Within the "<BODY></BODY>" text, type the following:

        `<p>Welcome to Old One Shipping Lines. </p>`

        `<p>For your more unusual items!</p>`

Save your file, and click "refresh" on your browser.

This is what you should see:

Welcome to Old One Shipping Lines.

For your more unusual items!

Subgoal C: Hierarchical Levels

Most documents have hierarchical levels. For example, books have titles, chapters, and sections. HTML provides for hierarchical levels with the tags <H1>, <H2>.. <Hn>.

Immediately after the opening body tag "<BODY>", type:

```
<H1 style="text-align: center">Old One Shipping Lines</H1>
<H2>1.  About Us</H2>
```
Immediately after the first paragraph, type:

```
<H2>2. Our Services</H2>
```

Overall, your typed document should look like this:

```
<!DOCTYPE HTML>
<HTML>
 <HEAD><TITLE>Old One Shipping Line</TITLE></HEAD>
 <BODY>
  <H1 style="text-align: center">Old One Shipping Lines</H1>
  <H2>1.  About Us</H2>
    <p>Welcome to Old One Shipping Lines. </p>
  <H2>2. Our Services</H2>
    <p>For your more unusual items!</p>
 </BODY>
</HTML>
```

Once you save it, your screen will look like this:

Old One Shipping Lines

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Note the special style="text-align: center" *argument* for <H1>. This argument tells HTML that the text enclosed in that heading should be centered.

Subgoal D: typefaces

The style argument is used on the web to change the way the web page looks. It uses a language called cascading style sheets (CSS) to format your document. Yes, CSS is different from HTML.

Commands in the CSS language basically have two parts: the property, and the value of the property you want to set. The property comes first, denoted by a colon, and the value comes second. For example, to set something to bold, you would set the font-weight property to the value bold like: "font-weight: bold;"

You can change anything in HTML using by putting a style argument in the tag. But what if you want to change something that isn't wrapped with an existing HTML tag? We can wrap whatever it is with a <span> tag, and then style the <span> tag.

Let's demonstrate the <span> tag and the distinct typefaces available with CSS with an example.

Just before the closing body tag "</BODY>", type:

```
<p>
   <span style="color: red; font-size: large; font-family: arial">
     Special acid and slime resistant cargo holds.
   </span>
   <span style="font-weight: bold;">
     We take extra care!
   </span>
   <span style="font-style: italic;">
     Because the end of the world should not come early.  Iä! Iä! Cthulhu Fhtagn!
   </span>
</p>
```

This is what your page should look like:

<div align="center">

Old One Shipping Lines

</div>

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Special acid and slime resistant cargo holds. **We take extra care!** *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

Subgoal E: Lists

The last paragraph of our web page would be better off if we segmented it into lists. Two list mechanisms will be introduced here, the unordered, and ordered list.

For both kinds of lists, list elements are prefaced with the tag "
". Unordered lists are identified with the tag "
…
", and ordered lists are identified with "
…
".

To see how unordered lists work, change the last line of text as follows. Bolded items are the ones to include:

```
<ul>
  <span style="color: red; font-size: large; font-family: arial">
    Special acid and slime resistant cargo holds.
  </span>
  <li>
    <span style="font-weight: bold;">
      We take extra care!
    </span>
  </li>
  <li>
    <span style="font-style: italic;">
    Because the end of the world should not come early.  Iä! Iä! Cthulhu Fhtagn!
  </span>
  </li>
</ul>
```

Note that the tags replace the <p></p> tags.

Your web page should now look like this:

Old One Shipping Lines

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Special acid and slime resistant cargo holds.
- **We take extra care!**
- *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

Now change the unordered lists to ordered lists by changing the … tag to … . Your document should now look like this:

Special acid and slime resistant cargo holds.
1. **We take extra care!**
2. *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

You can change the numbering style of the ordered list. To change to small case letters, change the <ol> tag to <ol **style="list-style-type: lower-alpha;">**

Your web page should now look like this:

Special acid and slime resistant cargo holds.
a. **We take extra care!**
b. *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

Exercise 2: Extended Features

Subgoal A: Images [To Add Local Image]

To include an image in your text, you must have the image available somewhere. You then link to the image with the command "<IMG Src= "…" Alt= "…">

Let us try with an example. Download the cthulhu.png picture and upload it to webhost. In the H1 tag, type the bolded text:

```
   <H1 style="text-align: center">
     <img src="cthulhu.png" alt="The Great One">
     Old One Shipping Lines
     <img src="cthulhu.png" alt="The Great One">
   </H1>
```
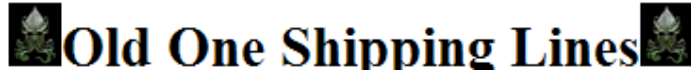Wow, that looks awful! The picture needs to be shrunk. Change the style so the width is only 30 pixels. This will simultaneously scale the length.

```
   <H1 style="text-align: center">
     <img src="cthulhu.png" alt="The Great One" style="width: 30px;">
     Old One Shipping Lines
```
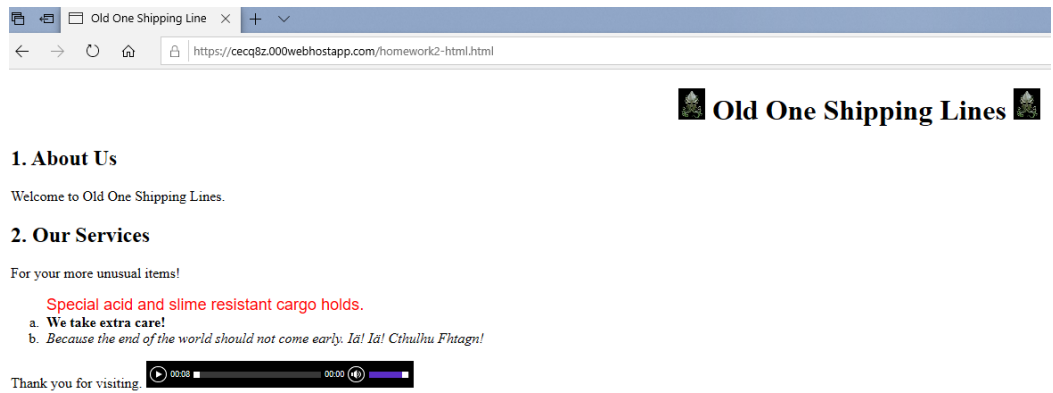
```
     <img src="cthulhu.png" alt="The Great One" style="width: 30px;">
  </H1>
```

Pixels are dots on the screen. Your screen should appear like this:

Subgoal B: Sound

We're going to add the unsolved bloop sound (http://en.wikipedia.org/wiki/Bloop) to our website. Download and upload bloop.mp3 and add the following to your webpage.

```
     <p>Thank you for visiting.
       <audio controls>
          <source src="bloop.mp3" type="audio/mpeg" />
       </audio>
     </p>
```


Subgoal C: Hyperlinked References

One of the advantages of HTML over regular text is hyperlinks, or the ability to link to other kinds of documents. Hyperlinked references are created using "anchor text", denoted as "<a>…" in HTML. Let's create some anchor text now. After the last paragraph, type the following text:

<p>Learn all about Cthulhu
here </p>

Your screen should now appear like this:

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Special acid and slime resistant cargo holds.
- **We take extra care!**
- *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

▶ 0:00 / 0:08 ━━━━━ 🔊 ⋮

Thank you for visiting.

Learn all about Cthulhu here

Exercise 3: Tables

Create a new section. In that section, we're going to create a table.

Type the following:

```
<H2>3. Relevant Stats About Us</H2>
 <table>
  <tr>
   <th>Type of unspeakable horror</th>
   <th>Human victims</th>
   <th>Inhuman victims</th>
  </tr>
  <tr>
   <td <span style="font-style: italic;">Blood sacrifices</td>
   <td>275</td>
   <td>892</td>
  </tr>
  <tr>
   <td <span style="font-style: italic;">Made insane</td>
   <td>917</td>
  </tr>
  <tr>
   <td <span style="font-style: italic;">Enticed into evil</td>
   <td>624</td>
   <td>126</td>
```

```
      </tr>
      <tr>
       <td <span style="font-style: italic;">Enticed into chaos</td>
       <td>316</td>
       <td>412</td>
      </tr>

     </table>
```

Tables are complex HTML structures. Every table is defined with a table tag. Tables are then defined as a set of rows with the tr (table row) tag. Within each row, we define cells with the td (table data) tag. We can optionally define header cells with the th tag (table header). These are td tags, but are formatted differently. If you typed everything right, this is what you should see:

Learn all about Cthulhu here

3. Relevant Stats About Us

Type of unspeakable horror	Human victims	Inhuman victims
Blood sacrifices	275	892
Made insane	917	
Enticed into evil	624	126
Enticed into chaos	316	412

Let's put a border around our table.

```
     <table border="1">
```

Type of unspeakable horror	Human victims	Inhuman victims
Blood sacrifices	275	892
Made insane	917	
Enticed into evil	624	126
Enticed into chaos	316	412

Sometimes, we want information to span multiple columns or rows. We cross columns and rows with the colspan and rowspan arguments. Revise your table as follows:

```
     <table border="1">
      <tr>
       <th>Type of unspeakable horror</th>
       <th>Human victims</th>
       <th>Inhuman victims</th>
       <th>Remarks</th>
      </tr>
```

```
        <tr>
         <td <span style="font-style: italic;">Blood sacrifices</td>
         <td>275</td>
         <td>892</td>
         <td>Strictly, inhumans excrete ichor.</td>
        </tr>
        <tr>
         <td <span style="font-style: italic;">Made insane</td>
         <td colspan="2" style="text-align: center">917</td>
         <td>We didn't differentiate.</td>
        </tr>
        <tr>
         <td <span style="font-style: italic;">Enticed into evil</td>
         <td>624</td>
         <td>126</td>
         <td rowspan="2">We didn't check which ones were both enticed into
chaos and evil.</td>
        </tr>
        <tr>
         <td <span style="font-style: italic;">Enticed into chaos</td>
         <td>316</td>
         <td>412</td>
        </tr>

       </table>
```

Type of unspeakable horror	Human victims	Inhuman victims	Remarks
Blood sacrifices	275	892	Strictly, inhumans excrete ichor.
Made insane	917		We didn't differentiate.
Enticed into evil	624	126	We didn't check which ones were both enticed into chaos and evil.
Enticed into chaos	316	412	

Observe how the 2nd column in the 3rd row spans two columns and the final cell spans two rows.

Exercise 4: Using CSS

Modify your html as follows:

```
 <body>
   <div class="header">
     <h1 id="theheader">This is my header</h1>
   </div>
   <div class="sidebar">
    <ul>
     <li><a href="http://www.htmlhelp.org">HTML and CSS Help</a></li>
     <li><a href="http://w3schools.com/js/">JavaScript Help</a></li>
     <li><a href="http://www.php.net/">PHP Help</a></li>
    </ul>

   </div>
```

```
  <div class="mainbody">
  <H1 style="text-align: center">.
.
.
  </table>
  </div>
 </body>
```

What we've done is defined three sections in our HTML, which we call header, sidebar, and mainbody. Right now, these sections don't do anything yet.

This is my header

- HTML and CSS Help
- JavaScript Help
- PHP Help
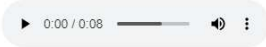
🗿 **Old One Shipping Lines** 🗿

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Special acid and slime resistant cargo holds.
- **We take extra care!**
- *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

▶ 0:00 / 0:08 ━━━━ 🔊 ⋮

Thank you for visiting.

Learn all about Cthulhu here

3. Relevant Stats About Us

Type of unspeakable horror	Human victims	Inhuman victims	Remarks
Blood sacrifices	275	892	Strictly, inhumans excrete ichor.
Made insane	917		We didn't differentiate.
Enticed into evil	624	126	We didn't check which ones were both enticed into chaos and evil.
Enticed into chaos	316	412	

```
 <head>
  <style>
  body {background: black;
      color: White;
  }
  a {color: Gray;}
  .sidebar a:hover {font-style:italic;}
  .sidebar a:visited {color: Green;}
  .sidebar a:active {font-size:larger;}
  .header {border: 2px solid yellow;
     height: 75px;
     width: 1250px;
     position: absolute;
     top: 0px;
     left: 0px;
  }
  .header h1 {text-align: center;}
  .sidebar {border: 2px solid yellow;
      width: 200px;
```

```
        height: 600px;
        position: absolute;
        left: 0px;
        top: 75px;
    }
    .mainbody {border: 2px solid yellow;
        position: absolute;
        top: 75px;
        left: 200px;
        height: 600px;
        width: 1050px;
    }
    </style>
```

We are doing exactly the same thing as putting things in a style= tag. However, because these commands are in the style tag at the top of the webpage, they affect the entire webpage. The CSS commands in the style tag have the following syntax:

tag {css-thing: value; css-thing: value; css-thing: value…}

For example, we want everything in the body tag to have a background color of black and a text color of white, so we say

```
    body {background: black;
        color: White;
    }
```
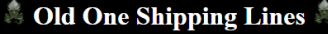
We can denote that things only affect a particular class (see the class= in the divs) by identifying them with a dot in front. So, .header h1 {text-align: center;} means only style the h1 in the class .header so the text is centered.

Hyperlinks have special properties, hover, visited and active. Hover is triggered when the cursor is above that hyperlink. Visited is any webpage stored in the browser history. Active is any web page that is clicked.

If you set things up right, your web page should now look like this:

This is my header

- HTML and CSS Help
- JavaScript Help
- PHP Help

🌿 **Old One Shipping Lines** 🌿

1. About Us

Welcome to Old One Shipping Lines.

2. Our Services

For your more unusual items!

Special acid and slime resistant cargo holds.
- **We take extra care!**
- *Because the end of the world should not come early. Iä! Iä! Cthulhu Fhtagn!*

▶ 0:00 / 0:08 🔊 ⋮

Thank you for visiting.

Learn all about Cthulhu here

3. Relevant Stats About Us

Type of unspeakable horror	Human victims	Inhuman victims	Remarks
Blood sacrifices	275	892	Strictly, inhumans excrete ichor.
Made insane		917	We didn't differentiate.
Enticed into evil	624	126	We didn't check which ones were both enticed into chaos and evil.
Enticed into chaos	316	412	

Finally, in many cases, you want the formatting of all your webpages to have a consistent look and feel. If that's what you want, take all the stuff in the style tags and put it into a separate file. We'll call that file cssex.css. Then, change the <style> tags into a link tag as follows (make sure you delete the style tag and everything in it):

```
<head>
  <link href="cssex.css" rel="stylesheet" type="text/css" />
```

CSS is called cascading style sheets, because instructions to CSS are rendered in a hierarchy. CSS commands in the style= tag take priority over CSS commands in the style tag. These take priority over CSS commands in the link.

Once done, submit the URL to this page on Canvas.