

Lab 2: HTML and CSS

Learning Outcomes:

At the conclusion of this lab you should be able to:

- Be able to create a web page
- Use CSS
- Show your creativity

General Instructions:

Follow each activity and steps carefully. When the lab is due, submit it through Canvas. This will include a URL to where your web page is published.

Activity 1: Adding some security to your web space

In this activity we will set up an environment to “hide” our future labs from the general public. We will do this with a method jokingly called “security through obscurity”. Simply put, we will hide the contents of your web page so that no one can find your lab work unless you want them to. There are other, much better methods of securing a web page, but this is one that is relatively straightforward and provides all that we need.

When a browser opens a web site, one of the files that it will initially look for to open would be named “index.html”, this is default browser behavior. In this step we will create a very simple “index.html” file, which will hide the contents of your directory. Next, we will create another file folder using a random number as the name of the folder and place all of our future lab folders inside. The idea behind this is that if no one can see your file directory, and no one knows the random number, then your work will be relatively secure.

As a small note, it is convention to use this notation: <placeholder> when giving instructions where the text you type depends on something else. When you see this notation, it means you should replace that text with what it’s describing. Do not include the < and >.

For example, if my username is jensenq, and my secret folder is abcxyz, then the instructions:

/web/students/<username>/<secret folder> translates to /web/students/jensenq/abcxyz

- Find your folder
 - Open the Files application
 - Navigate to Other Locations (sidebar) > Computer > web > students > your username
- Create a dummy index.html file
 - Open a text editor and create a new file
 - On the new document just type “CSCI348”
 - Save the file as “index.html” to the location /web/students/<username>
 - Go to <https://studentweb.cs.wvu.edu/yourusername>
 - You should see just “CSCI 348”

- Go to <https://passwordsgenerator.net/>
- Uncheck, "Include Symbols"
- Click "Generate Password"

Password Length:

Include Symbols: ☐ (e.g. @\$%)

Include Numbers: ☒ (e.g. 123456)

Include Lowercase Characters: ☒ (e.g. abcdefgh)

Include Uppercase Characters: ☒ (e.g. ABCDEFGH)

Exclude Similar Characters: ☒ (e.g. i, l, 1, L, o, 0, O)

Exclude Ambiguous Characters: ☐ ({ } [] () \ ' " ` ~ , ; : . < >)

Generate On Your Device: ☒ (do NOT send across the Internet)

Auto-Select: ☐ (select the password automatically)

Save My Preference: ☐ (save all the settings above for later use)

Load My Settings Anywhere: ☐ URL to load my settings on other computers quickly

- Go to your folder, /web/students/<username>
- Right click > New Folder
- Use your newly generated password as the name of your new directory
 - Make note of the directory name (safer to email or text it to yourself)
 - DO NOT SHARE THIS WITH ANYONE BUT YOUR INSTRUCTOR
 - Your filepath to this directory should be
 - “/web/students/<username>/<PW DIRECTORY>”

Activity 2: Setting Up Your Site

- Create a new folder in your web space named “Lab2 “
 - Place it inside the folder with the random password as the name
 - The path should be: “/web/students/<USERNAME>/<PW DIRECTORY>/lab2”
 - Inside your lab2 folder create a folder called “images”
 - Inside your lab2 folder create a folder called “css”

Activity 3: Create your initial web page

- Refer to <https://www.w3schools.com/html/> for help on specific tags.
- Refer to <https://www.w3schools.com/w3css/> for help on CSS.
- Open Text Editor, gedit, atom, visual studio, or another editing tool.
- Create a new HTML5 document with all the required HTML sections and attributes
- Add the following content to the body section:

```
<div id="wrapper">
  <div id="header">
    Heading or logo
  </div>
  <div id="leftcolumn">
    Navigation
  </div>
  <div id="rightcolumn">
    Content
  </div>
</div>
```

- Name it "lab2.html". Save it to your lab2 folder.
- Create a CSS file called "styles.css" and add the following CSS formatting:

```

#wrapper
{
    width: 80%;
    margin: auto;
    min-width: 960px;
    border: 1px solid black;
}

#leftcolumn
{
    float: left;
    width: 150px;
    min-height: 708px;
    border: 1px solid black;
}

#rightcolumn
{
    margin-left: 155px;
    border: 1px solid black;
    min-height: 708px;
}

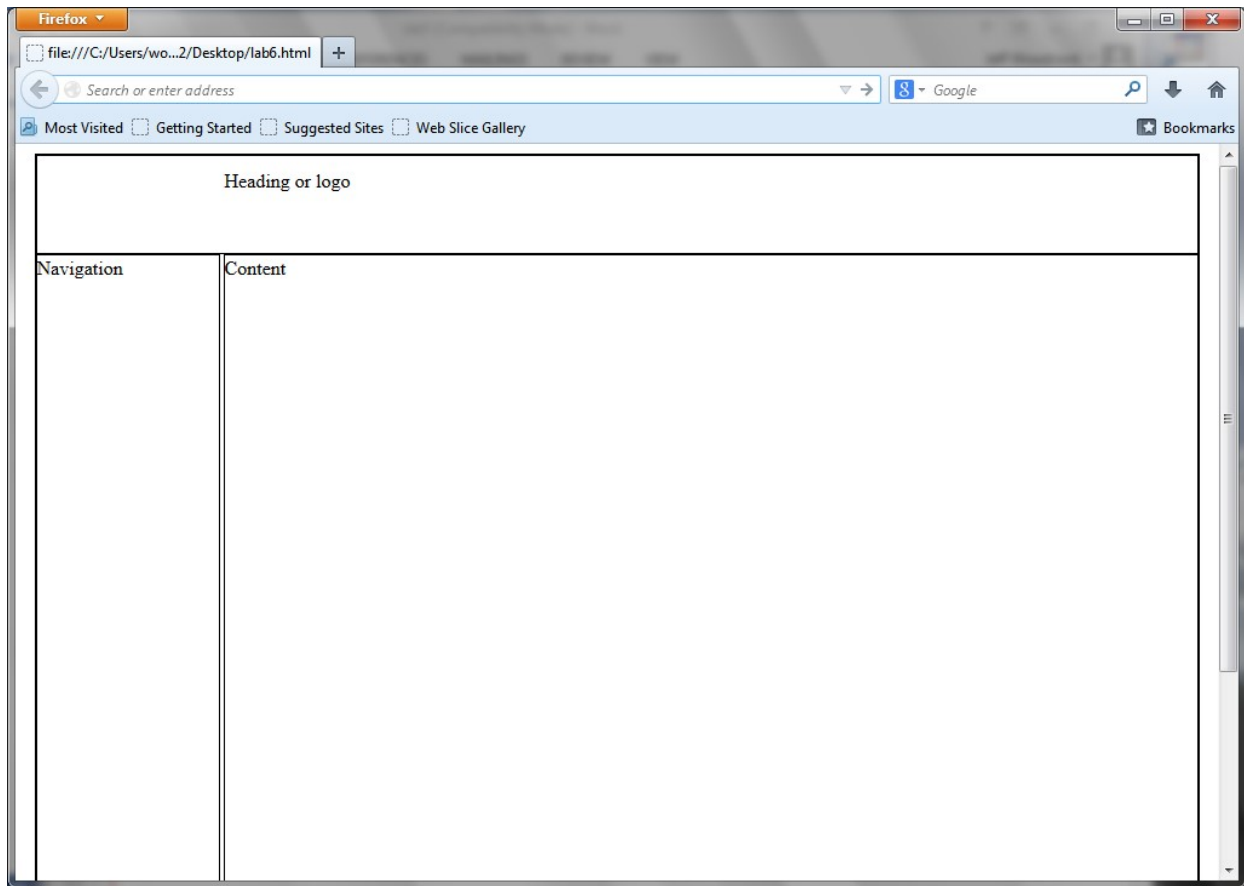
#header
{
    font-size: 150%;
    padding: 10px 10px 10px 155px;
    border: 1px solid black;
    height: 60px;
}

```

- Save your CSS file to your lab2 css directory
- Link to your CSS file from your lab2 HTML file by adding the following line to your head section:

```
<link rel="stylesheet" href="css/styles.css">
```

- Open your lab2 HTML file in a browser and it should look like the following:



This will give you a two-column initial layout for the rest of the lab

The remainder of this lab is free-form using your own creativity. You will not necessarily be graded on the creativity of the web page, but rather the html and CSS that you generate.

Activity 4: Design your website

- Determine a website theme that you want to create (Children's website, hobby website, sport website....etc").
- Using <https://colorpicker.me> or your own ideas, determine a color scheme for your website.
- Determine the font size and font type.

Activity 5: Build your website

You will be building a website with functional links and image files but with very little content

- Build your website to look however you want **with the following criteria:**
 - You must use the two-column format given
 - You can remove the section borders and text from the initial site given
 - You must use the external CSS file outlined above (you can add to it)
 - You must have at least one inline CSS rule
 - You must have navigation links that use an **unordered list**
 - You must have at least **4 links** to other logical sections of your website.
 - **One of these links must be functional to another page of your site**
 - For example, if you are creating a site that talks about pastries, then you can have a second page that specifically talks about cupcakes
 - The rest of the links href attribute can link back to your “lab2.html” file.
 - You must also have at least one external link to something on the web
 - You must use the **CSS pseudo-class “:hover”** (you can use more but this one must be there)
 - You must have a logo or a title at the top of the page
 - You must use an image file
 - **One must be a background image of an element linked from your “styles.css” file**
 - Remember to keep your image sizes low
 - Adjust the size or the file format if need be
 - Do not confuse this with the img tag using the src attribute
 - Contact me if you need help with this
 - You can use other images that use the img tag if you like but at least one image must be accessed through CSS
 - If you use the img tag somewhere else, **do not forget alt text.**
 - All image files go in the images directory
 - The content area of your home page does not need to be overly complete. You can simply include text that describes purpose of the website. **It should also include text somewhere that explains what each of the internal links would link to.**

Activity 6: Test your webpage

- Open a web browser and type in your URL

`https://studentweb.cs.wvu.edu/<USERNAME>/<PW DIRECTORY/lab2/lab2.html`

- Make sure all the elements look and work as desired (links, hover...etc)
- Open a web browser and go to W3C's HTML validator at <https://validator.w3.org/>
- Type in your URL for validation.
 - Correct any errors
- Open a web browser and go to W3C's CSS validator at <https://jigsaw.w3.org/css-validator/>
- Type in your URL for validation.
 - Correct any errors

How to submit your lab

You will be turning it in using Canvas. Simply copy and paste your URL to your page in the Canvas submission form. No file uploads are necessary.

*****Note that there may be points deducted if the URL is incorrect or if the submission deadline passes and a full submission has not been received.**