Assignment #1

HTML & CSS

CS193C Summer 2022, Young

Administrative Details

The full assignment will be due at 1:30pm Thursday July 7th. Please submit to Canvas all parts of the assignment as a single Zip file. Check the Canvas for some files associated with this assignment (see the end of the handout for a full listing).

Make sure your files validate at:

http://validator.w3.org/ (for HTML)

http://jigsaw.w3.org/css-validator (for CSS)

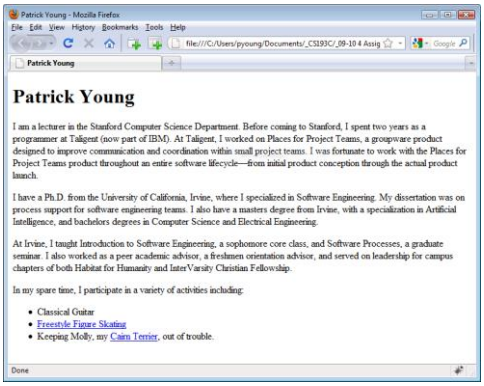
Your files should work on both the latest version of Mozilla Firefox and Google Chrome.

Personal Webpage (HTML Only Version) (0 pts, see next section)

Your first task is to create a personal webpage. If you already have one, please start the page for this assignment from scratch. Your personal webpage should contain the following items:

- Your name at the top of the page as an <h1> heading.
- A few paragraphs about yourself. Be sure to include the word Stanford at least twice in your paragraphs—we'll need that for the next problem in this assignment.
- A list of hobbies or interest displayed as an HTML unordered list.
- Link at least two of your hobbies or interests to websites related to those interests.

Here's roughly what the webpage should look like:



Stick to semantic HTML only. We'll spice it up with some CSS in the next part of this assignment. You can find a list of HTML elements commonly considered semantic HTML here:

`http://microformats.org/wiki/semantic-html`

Feel free to add in some additional items to your personal website if you'd like, but there is a more open-ended opportunity to be creative later in the assignment.

Make sure your webpage validates. Save your file under the name `personal.html`.

Personal Webpage (HTML & CSS Version) (12 pts)

Now add a CSS file called `personal.css` to the previous problem. It's okay to save the HTML file for this version of your personal webpage over the `personal.html` file from the previous problem, you only need to turn in this more advance version. Make the following changes and additions:

- Add a photograph of yourself and float it to the left side of the webpage using CSS. Add box information (margin, padding, and/or border) to make it look nice on the webpage.

- Change the font used throughout the document to sans-serif. To do this you can set the font for the `body` element, which will be inherited by all elements contained within the `body` (which is everything displayed on the webpage). Alternatively, you can create a style rule with the special *universal selector* which is represented by the asterisk. The universal selector matches any element, however it's not very efficient and will slow rendering of your page down a bit. For example the following rule will turn everything on the webpage to red:

```
* {
    color: red;
}
```

- Center the heading with your name in it.

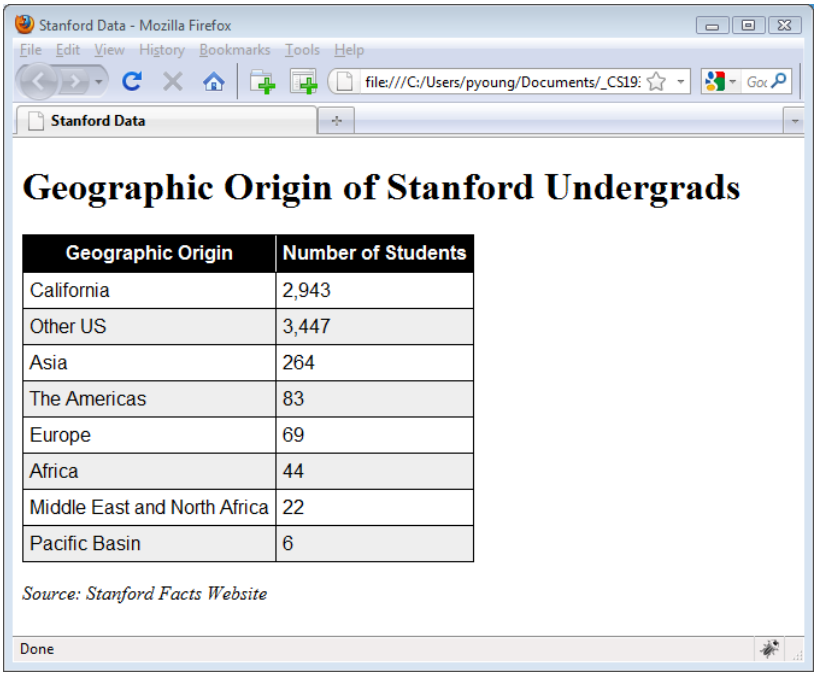
- Setup your links to use the "`:hover`" pseudo-class (use `a:hover` so that only the links are effected). How the link changes when the mouse moves on top of it is up to you, but if you're short on ideas, just have the link change colors.

- Add `<span>` tags and setup your style sheet so that every time the word "Stanford" appears, it is in red and is in bold.

Here's a sample screenshot. Make sure your webpage validates without errors through both the HTML and CSS validators.

Zebra Striping (8 pts)

In a zebra-striped table, every other row is a different color. In this problem you'll create a simple zebra-striped table using data on the Stanford undergraduate population. For this problem save your HTML file under the name `zebra.html`, and put your CSS directly into the HTML file using the `<style>` tag. Here is what your webpage should look like:



Your solution needs to display the following characteristics:

- The "Geographic Origin of Stanford Undergrads" heading and the Stanford Facts Website citation at the bottom are in the default serif font, whereas the table itself is in sans-serif.
- The table header row is white text on a black background.
- There is a thin white border separating the "Geographic Origin" cell from the "Number of Students" cell in the table header row.
- Odd-numbered rows (other than the black table header row) have a light gray background whereas even-numbered rows have a white background.
- All table cells (except those in the header) have a 1 pixel solid black border around them.
- The Stanford Facts citation at the bottom should be in italics (but don't use the `<i>` italics tag for this, that's not semantic HTML).

Here are a few implementation pointers.

- You'll need to use the `border-collapse` property on the table, otherwise all your table cells will end up with double borders.

- I used the color `#EEE` for my light gray background.

- For my implementation, I created classes for the odd rows and for the last row, but you're welcome to implement it differently, for example, you may want to play with the nth pseudo-classes to handle the zebra striping.

Blog Styling (20 pts)

In class, I showed an example of a blog in which various parts of the blog were marked using the class attribute. For this problem you'll use an enhanced version of that blog and provide styling for it. Make sure to use the `blog.html` file provided with this assignment's downloads, not the one used as a class example—the assignment version has extra `entryfooter` tags in it. This is your opportunity to get creative on this assignment. Here are the minimum requirements for full credit on this part of the assignment:

- Provide styling on the header and add in the Stanford Seal (provided with the assignment downloads) using an <img > tag with appropriate accompanying CSS.

- Make sure that each blog entry is appropriately distinguished, so that a viewer can easily tell where each blog entry starts and stops.

- Add styling to each entry heading and each entry footer.

- Make your blog look better than my class example!

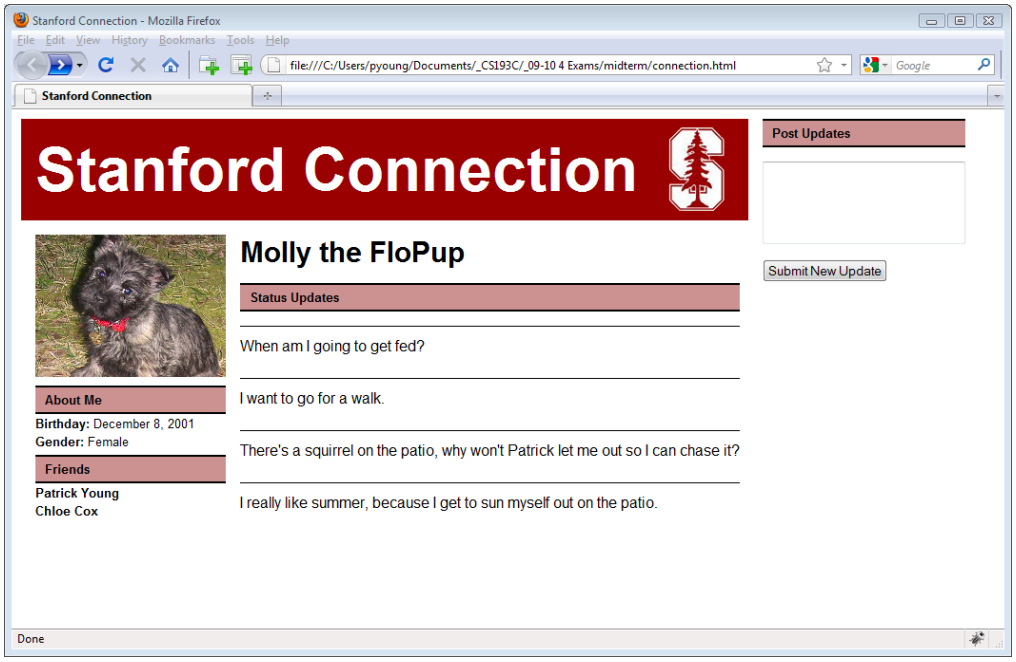
I've provided a jpeg of the Memorial Church before the earthquake (from Stanford University Archives) in case you want to add it in.

Layout

For the remainder of this homework you may choose to use Float Layout, Flexbox Layout, Grid Layout, or some combination of them. Your solutions don't need to be pixel perfect, but should look similar to the screenshots provided. If measurements are provided, your solution should follow them.

Stanford Connection (25 pts)

Create the following "Facebook-like" webpage. Here's what the webpage should look like:



As you can see, the webpage consists of a photo, some information about the person, and a set of status updates. On the right, using form elements, the user is able to enter in new updates, which will be added to the status updates shown in the center.

You don't have to make a page for my dog Molly, you can substitute your own information, but don't use any time thinking about this, we are only interested in the webpage layout. Also if you enter your own material, make sure it stays at the PG-level or below – we will not grade any R- or X-rated websites.

While you do not need a pixel-perfect implementation you should include the following:

- The Stanford Connection banner which runs across the top of the left two columns (but not across the "Post Updates" column.
- As seen in the screenshot the banner should have the Stanford Logo, which is included with the midterm's downloads. Note that the actual "Stanford Connection" is text (not part of a graphic image) and it should remain text. You should not create any new graphics files. The color in the logo is #9A0000.
- A column on the left consisting of a picture, followed by information about the user.
- Two sections below the picture, one for "About Me" and one for "Friends".
- Titles in the "About Me" section like "Birthday" should be bolded, while actual values such as December 8, 2001 are not bolded. Friends' names are bolded.
- Each of the sections "About Me", "Friends", "Status Updates", and "Post Updates" should have a colored background – I used the color #CC9191. They should also have a 2-pixel black border on the top and bottom but no border on the sides.
- Status updates should be separated by thin lines as shown.

- The right column should include a “Post Updates” heading, a text area, and a submission button.
- Leave a reasonable amount of space between columns.

As we don’t yet know how to execute programs with our webpages, the button “Submit New Update” won’t actually do anything.

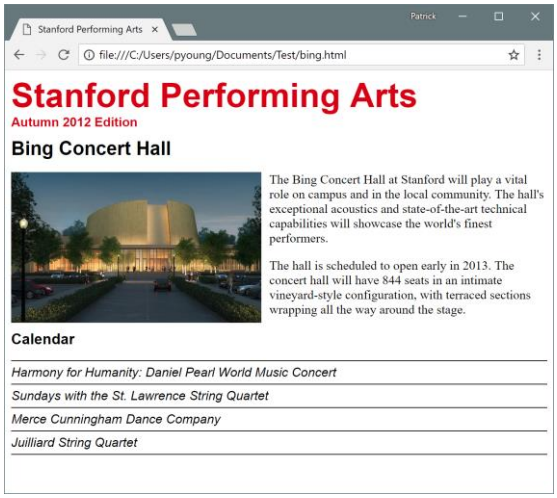
Feel free to fill in your own specifications for anything not mentioned here, such as the alt tags for the images.

The name of the main HTML file should be connection.html. You can name any support files such as CSS files whatever you like, just as long as connection.html properly references them.

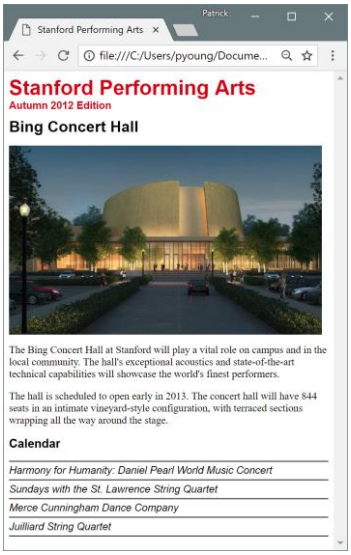
Stanford Performing Arts Webpage (35 pts)

Create a webpage for Stanford Performing Arts news. Here’s a screenshot of the webpage when displayed on a large sized monitor:

If the screen gets too small to comfortably display both the main article and the calendar side by side, it changes to this:



Finally when the screen gets too narrow for the photo and the text to comfortably be displayed side-by-side, the image expands (or shrinks) to fit the entire width of the browser and this is displayed:



The Bing Concert Hall text is an excerpt from the actual Bing Concert Hall website (binghall.stanford.edu) and, along with the Bing Concert Hall image file, is provided as part of the homework downloads, so you don't need to type it in.

You don't need a pixel-perfect representation. If your measurements are different or your margins are a bit off or your fonts are a different size, you'll still receive full credit. But the overall placement of items should be the same.

Our sizing breakpoints are: over 815 pixels, over 650 pixels, and less than 650 pixels.[1]

For the large sized screens, your webpage should have the following charteristics:

- A masthead across the top with "Stanford Performing Arts" on the left and "Autumn 2012 Edition" on the right, right-justified with "Edition" below "Autumn 2012." The two should be nicely lined up, similar to the screenshot – the "Autumn 2012 Edition" should appear more-or-less vertically centered with the "Stanford Performing Arts" title.
- The main article section on the left with the text floating around the image as shown.
- Calendar section on the right, with performing arts events listed below, with lines between the events plus an additional line between the Calendar heading and the first event and a line below the last event as shown. Use style sheets to create these lines, not the <hr /> tag.

For the next sized screen note the following:

- "Autumn 2012 Edition" is now below the main heading and is now all on one line.
- Calendar appears below the main article.

For the smallest sized screen note the following:

- Photo fills the entire width of the screen. Note this is not the same as setting it to a fixed width of 650 pixels, since if the screen is even narrower than 650 pixels, we want the photo to appear smaller than 650 pixels.

Here are some of the specific measurements I used:

[1] These breakdown sizes were picked arbitrarily based on what looked aesthetically reasonable given the text I had available from the actual Bing Concert Hall website and the size of the photo I had available.

- "Stanford Performing Arts" color #cc0000, bold, sans-serif. You can't tell from the screenshots here, but I changed the font size depending on the screen size. For the largest screens, I set it to 36 pt, reducing it to 32 pt for mid-sized screens and then further to 28 pt for small-sized screens.
- "Autumn 2012 Edition" color # cc0000, 12pt bold
- "Bing Concert Hall" 18pt, bold, sans-serif
- "Calendar" 14pt, bold, sans-serif
- Calendar items 12pt, italic, sans-serif
- Article text is default font.
- For large-sized screen, article column width 500px and calendar column width 300 pixels.

If you use the <h1>, <h2>, and <h3> tags to create your headings (which is recommended), you'll need to override the standard margins otherwise you headings will take up too much space. This is commonly done on professional webpages. In fact, many professionals use a "CSS Reset" with their webpages, which resets all the margin and padding on all HTML elements to 0px.

Feel free to fill in your own specifications for anything not mentioned here, such as the alt tags for the image.

The name of the main HTML file should be bing.html. You can name any support files such as CSS files whatever you like, just as long as bing.html properly references them.

Hints:

- I had to think creatively about how to get the "Autumn 2012 Edition" to appear on two lines for the large screen version and on one line for the other versions. I ended up instead setting the width of the element to 14ex (the width of 14 lower-case 'x' characters) when in the large-screen version and setting it to "auto" for the other versions. Because the text won't fit in 14ex, this caused a break for this setting, but not the other settings. Another approach that will work is to have two different versions of the text, one with a
 line break in the middle and one without. Then set display: none to one of the two versions, depending on your screen media queries.
- I also had trouble getting the webpage to appear centered for the large-sized version of the webpage. If you use float-based layout, you can just set the left and right-margin to auto. However, this doesn't appear to work with grid layout. Instead I set the left-margin to:

  ```
  margin-left: calc((100% - 815px) / 2);
  ```

  where 815 pixels was the sum of the widths of the left-column, right-column, plus a 15 pixel margin between the columns. I didn't bother setting the margin-right, since it came out naturally from the margin-left and the grid layout.
- For the smallest size version, where the image should take up the entire width of the screen, setting the photo width to 100%, worked, but did give me a visible vertical scrollbar. I ended up getting rid of the scrollbar by shrinking the image just slightly by setting its width to:

  ```
  width: calc(100% - 10px);
  ```

Provided Files

The following files are provided with the assignment download:

- blog.html is an enhanced version of the HTML file from class. You'll need to add your own <style> tag (or a <link> tag and an external file) for the assignment. As previously noted, I've also provided you with a Stanford Logo and a photo of Memorial Church from the Stanford University Archives in case you want to add a picture to your blog.

- bing.jpg and bing-text.txt (unformatted text) for the Stanford Performing Arts webpage.

- tree-logo.gif and molly.jpg for the Stanford Connection webpage.

Submission

Submit all files associated with all the problems in this assignment as a single ZIP file on Canvas. Make sure to include images or other files needed by the main HTML files. Your ZIP file should be setup so that if the TAs unzip it into any directory on any computer, and open your HTML files, the webpages should be displayed correctly. Key things that will prevent this are (1) not including image files or other files referred by the HTML files in your ZIP or (2) using references to specific directories on your own computer such as:

Instead of using relative references like:

The first <img> will look for a specific directory which is only available on my personal computer and will break if moved to one of the TAs' computers. The second <img> will look for a file on the current computer and will work regardless of which computer the files are transferred to just as long as the example.jpg file is transferred along with the HTML file referring to it.