If you are considering a major or minor in Computer Science, please see Dr. Kapfhammer or Dr. Jumadinova as soon as possible (right after spring break?)

**In-class exercise:** Cascading Style Sheets (CSS)
What is CSS?

CSS (it stands for “Cascading Style Sheets”) is a way of “fine-tuning” the appearance of your web page.

In the early days of the World Wide Web, it was the job of the web browser to figure out how to display various HTML elements. (HTML tags describe the purpose of the tagged text, but not how it should be displayed.)

CSS allows programmers the chance to override these browser design decisions by adding “style” attributes to HTML tags.
For example, here is some italic text (shown in the “Compose” window):

Here is some italicized text: This is in italics.

And here is the same thing shown in the HTML window:

Here is some italicized text: <i>This is in italics</i>.
Let’s add some styling information to the “<i>” tag. In particular, let’s specify some extra spacing between the letters. This is done with the “style attribute” and it looks like this:

```
style="letter-spacing: 2px;"
```

Here is some italicized text: <i style="letter-spacing: 2px;">This is in italics</i>.
When we preview the page, we see that a space of two pixels has been inserted between consecutive letters of the italicized text:

Friday, March 18, 2016

Here is some italicized text: *This is in italics.*

Posted by Bob at 8:46 AM
General form:
style="property: value;"

Examples:

style="color: red;"
style="font-family: Papyrus, fantasy;"
style="background-color:yellow;"
style="text-shadow: 2px 2px 4px #000;"

…and many more! Some of these are achievable from the buttons in the “Compose” window of blogger.com (for instance, you can change the color of the text or background without directly editing the HTML), but others are not.
Applying several styles at once

The general form is almost the same; separate the different style properties with a semicolon. Example:

Here is some italic text with shadow, fancy Papyrus font, yellow background, and altered spacing:

<i style="background-color: yellow; font-family: papyrus, fantasy; letter-spacing: -1px; text-shadow: 2px 2px 4px #000;">This is a test of the CSS styling commands.</i>

And here is the result:

Here is some italic text with shadow, fancy Papyrus font, yellow background, and altered spacing:

This is a test of the CSS styling commands.
CSS is Vast!

We have barely scratched the surface of the subject of CSS. To begin with, we have only looked at a form called “*inline CSS*”—CSS style commands embedded within individual tags. The next few slides discuss a few more little details, but if you want to learn more you should consider an online tutorial such as the ones at:

- [http://www.w3schools.com/css/](http://www.w3schools.com/css/)
- [http://www.csstutorial.net/](http://www.csstutorial.net/)

Now let’s clear up a few details from our earlier examples!
What if There’s No Tag? How Do I Style Plain Text?

If you need a tag for no reason other than to add some styling information, you can use the `<span>` or `<div>` tags. For short pieces of code (say, in the middle of a line), use `<span>`. For larger blocks of code (e.g., several paragraphs), use `<div>`. Here are some examples of `<span>`:

Let's draw a `<span style="border:2px dotted darkkhaki;">` 2-pixel thick dark khaki dotted box`</span>` around some text.
Here is some `<span style="color: hotpink;">`hot pink`</span>` text; here is some `<span style="color: darkseagreen;">`dark sea green`</span>` text.
Here are the results of the HTML on the previous slide:

Sunday, March 20, 2016

Let’s draw a 2-pixel thick dark khaki dotted box around some text. Here is some hot pink text; here is some dark sea green text.

You can read about the “border” property here. The first value is the width of the border, the second is the style of border (solid, dotted, dashed, etc.), the third is the color.

There are 140 “named” colors in CSS; “darkkhaki”, “hotpink”, and “darkseagreen” are examples.
What does the “#000” mean in the earlier “text-shadow” example?

This denotes the color of the shadow. The code “#000” means the color “black.” We can specify colors in several ways: by name (e.g., “red”, “magenta”, “hotpink”), or by number. Numbers are usually given in what computer scientists call “hexadecimal”, or base-16, format. The more usual practice is to use a 6-digit, rather than a 3-digit, code. In particular, “#000” means the same as “#000000” (“black”). The “digits” range from 0–9 and from A–F. The first digit (in a 3-digit color code) or the first two digits (in a 6-digit code) stand for “red.” The next one or two stand for “green,” and the last one or two stand for “blue.” See table on next slide.
## A Few Codes and Their Corresponding Colors

<table>
<thead>
<tr>
<th>3-Digit</th>
<th>6-Digit</th>
<th>Name</th>
<th>3-Digit</th>
<th>6-Digit</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>#000</td>
<td>#000000</td>
<td>Black</td>
<td>#FFF</td>
<td>#FFFFFF</td>
<td>White</td>
</tr>
<tr>
<td>#F00</td>
<td>#FF0000</td>
<td>Red</td>
<td>#0F0</td>
<td>#00FF00</td>
<td>(greenish)</td>
</tr>
<tr>
<td>#00F</td>
<td>#0000FF</td>
<td>Blue</td>
<td>#FF0</td>
<td>#FFFF00</td>
<td>Yellow</td>
</tr>
<tr>
<td>#0FF</td>
<td>#00FFFF</td>
<td>Cyan</td>
<td>#FF0</td>
<td>#FFFF00</td>
<td>Magenta</td>
</tr>
<tr>
<td>#777</td>
<td>#777777</td>
<td>(grayish)</td>
<td>(none)</td>
<td>#87CEEB</td>
<td>SkyBlue</td>
</tr>
<tr>
<td>(none)</td>
<td>#FA8072</td>
<td>Salmon</td>
<td>(none)</td>
<td>#40E0D0</td>
<td>Turquoise</td>
</tr>
<tr>
<td>(none)</td>
<td>#FFD700</td>
<td>Gold</td>
<td>(none)</td>
<td>#DDA0DD</td>
<td>Plum</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>
Last Example

We did one more example in class, but it is rather advanced—it involves editing the template for the blog page. If you didn’t understand it and would like to try it, please make an appointment to see me and we can go through an example of it.