

Coding Basics for Websites

Madison Public Library -- Central
Tuesday, February 21, 2017

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SOME DEFINITIONS:

HTML -- HyperText Markup Language. The method of adding tags such as `<p>Hello world!</p>` to a document to allow the content to be properly displayed and formatted by a Web browser.

CSS -- Cascading Style Sheets -- Content that is "marked-up" using HTML (various tags) can be given styles (certain fonts, colors, line spacing, justification, etc.) using styles (CSS). It's called Cascading Style Sheets because you can create one stylesheet for your entire Web site, which will generally apply, but then override those styles by a stylesheet at the top of a specific Web page, which in turn can be overrode by styles within the HTML page itself.

SOME DEFINITIONS:

The DOM -- Document Object Model -- A convention for naming all parts of a Web page/Web browser ???

FTP -- File Transfer Protocol -- A method of uploading or downloading files from another computer. Files such as HTML, CSS and other Web site files are usually uploaded to a Web server using FTP or SFTP (secure FTP).

NotePad -- A very simple text editor that comes with most Microsoft operating systems. Doesn't color code text, have a spell checker or validate HTML.

NotePad++ -- A no-cost, open source text editor for Microsoft Windows, available at <https://notepad-plus-plus.org/>. Allows you to automatically color code your markup (to make it easier for you to spot things when creating your HTML pages), have multiple pages open in tabs and other features.

SOME DEFINITIONS:

CMS -- Content Management System -- A more automated setup for creating Web sites. End users can create content without knowing HTML. A few CMS examples include Drupal, Joomla!, WordPress, and DotNetNuke. There are many others.

View source or View page source -- Lets you view the underlying HTML of a Web page (exactly how it looks will depend on the Web browser you are using). By looking for stylesheet links in the HTML markup, you could also download and study the external CSS file.

Hexadecimal -- a base-16 number system which can be used to describe colors using HTML or CSS. The first two digits are the red value, the second two digits are the green value and the last two digits are the blue value. Examples: #000000 is black, #FFFFFF is white, #00FF00 is green and #FF6600 is an orange.

JUMPING RIGHT IN

Web design and development technologies have gotten quite complicated and varied (HTML, CSS, JavaScript, Java, Flash, PHP, MySQL, etc., etc.), but just about anybody can make a Web page.

EXERCISE 1:

1. **Right-click** on your desktop and select **New > Text Document** and name it **index.txt**.
2. **Double click** on the file and it should open in NotePad. In the open document, type:

Hello world!

This is my Web page.

I'll be glad if you can read this. Really glad!

Copyright 2017 John Doe.

3. **Save** the file and close NotePad.

(EXERCISE 1 -- continued:)

4. **Right-click** on that file on your desktop and rename it to **index.html** -- For the warning that says "If you change a file name extension, the file might become unusable. Are you sure you want to change it?", click "Yes".

(NOTE FOR DOING THIS AT HOME: Windows is often set up to hide file extensions. You may want to have Windows **not hide** the file extensions when creating HTML pages, so you can see what is a .html file, what's .css, what's a .jpg and .gif, etc.)

(EXERCISE 1 -- continued:)

5. **Double-click** on that `index.html` file on your desktop and it should open in a Web browser and look like this:

Hello world! This is my Web page. I'll be glad if you can read this. Really glad! Copyright 2017 John Doe.

(The URL for the page, in the Web browser's address bar, should be something like `file:///C:/Users/USERNAME/Desktop/index.html` if you loaded this page from your hard drive.)

Your Web browser should display all of the text you typed. Cool! **But it is all on one line and there are no carriage (line) returns or extra spaces. No boldface text, italics, colored text or anything like that either. Not cool!**

EXERCISE 2: Enter HTML

HTML is a **markup language** for putting tags around content to tell a browser what kind of content it is, and ultimately, how it should be displayed. Normally, every opening tag (such as `<p>` for paragraph) must be closed with an accompanying closing tag (in this case, use `</p>`).

Example: `<p>Hello world!</p>`

EXERCISE 2: Enter HTML

At its most basic, an HTML page might look like this:

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
    <p>Hello world!</p>
```

`<!-- This line is a comment in HTML. You can use it to put in notes/reminders for yourself/others. The browser will ignore this. -->`

```
  </body>
</html>
```

HTML tags provide SUGGESTIONS for the Web browser on how to handle content, and what kind of content it is. Not every browser handles everything the exact same way.

EXERCISE 4: Going further ... the OLD way:

```
<!DOCTYPE html>
<html>
  <head>
    <title>John Doe's Web page</title>
  </head>
  <body>
    <h1>Hello world!</h1>

    <p><font color="#FF6600">This is my Web page.</font></p>

    <!-- font color= ... is the OLD way of changing text color in HTML -->

    <p>&nbsp;</p>

    <p>I'll be glad if you can read this. &nbsp;&nbsp;&nbsp;&nbsp;<strong>Really
glad!</strong></p>

    <p>Copyright 2017 <strong>John Doe</strong>.</p>
  </body>
</html>
```

EXERCISE 5: CSS, a better way to provide layout requests to the Web browser.

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>John Doe's Web page</title>
```

```
    <link rel="stylesheet" type="text/css" href="./style01.css">
```

```
    <!-- coding above refers to external stylesheet titled style01.css, applied to entire page -->
```

```
  </head>
```

```
  <body>
```

```
    <h1>Hello world!</h1>
```

```
    <p style="color:#FF6600; font-family: serif">This is my Web page.</p>
```

```
    <!-- style= ... above is CSS to be applied just to above paragraph -->
```

```
    <p>&nbsp;</p>
```

```
    <p>I'll be glad if you can read this. &nbsp;&nbsp;&nbsp;&nbsp;<strong>Really  
glad!</strong></p>
```

```
    <p>Copyright 2017 <strong>John Doe</strong>.</p>
```

```
  </body>
```

```
</html>
```

ADDITIONAL TIPS:

- You should use a doctype declaration at the start of your HTML document.
See https://www.w3schools.com/tags/tag_DOCTYPE.asp for more info. on this.

According to the above Web site:

The <!DOCTYPE> declaration must be the very first thing in your HTML document, before the <html> tag.

The <!DOCTYPE> declaration is not an HTML tag; it is an instruction to the web browser about what version of HTML the page is written in. Hence, you use:

`<!DOCTYPE html>` for HTML 5 documents

`<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">`
for HTML 4.01 Strict documents

`<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">`
for HTML 4.01 Transitional documents

`<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">`
for HTML 4.01 Frameset documents

ADDITIONAL TIPS:

- Learn by doing -- try HTML on your own local computer and hard drive and then load in a Web browser (**CTRL-O** to open file).

Even if you don't end up using HTML to create Web pages, it can be worth knowing because it can:

- Let you to make some tweaks using many popular CMSs. (Change something to boldface or orange, for example).
- Let you create more styled (HTML-based) e-mails.
- Let you take a peek and see a bit of what is going on behind the scenes of other Web sites.
- Be fun to practice and a good mind challenge.
- Let you author your own interactive story for your child.
- Create a repeating bulletin board or other textual/visual/aural display on your computer for an office or home monitor.

ADDITIONAL TIPS:

- UPPERCASE vs. lowercase: some languages/computers/applications are case sensitive, some are not, so it's **best practice to always assume things are case sensitive**. I normally use **lowercase** when coding my HTML.
- Best practice: **always name files for the Web in lowercase and use only letters, numbers and the - (dash) or _ (underscore) characters in the file name itself and then a period and then the file extension also in lowercase** (such as .jpg or .png or whatever). In some operating systems, UPPERCASE and lowercase letters are not interchangeable for file names (hotel.jpg is different than Hotel.jpg), so I always stick with all lowercase for file names on Web sites. Also, **never use spaces in file names**.
- File names that are short but still make sense are better for accessibility for blind people and for search engine optimization.

ADDITIONAL TIPS:

So, for names, use:

`november_calendar.html` or `nov-cal.html`

rather than:

`november calendar.html` `November Calendar.html`

or `November Calendar2576%$$$.html`

(because you don't want to have spaces in your file names)

And, use:

`hotel_exterior.jpg` or `madison_hotel_exterior.jpg`

Instead of `mssc000001.jpg` or `HOTEL ext53633.jpg`

(because the first two are more descriptive, both for humans and search engines, and don't have spaces)

ADDITIONAL TIPS:

- Relative vs. absolute links:

`./images/leemarklogo.gif` is a relative link.

<http://www.leemark.com/images/leemarklogo.gif> is an absolute link.

`../` tells the computer/server to go up one directory

`./` or `nothing` before file name tells the computer/server to stay at the same level as the HTML file this coding is contained within.

Examples:

`./images/leemarklogo.gif` or just `images/leemarklogo.gif` = look for leemarklogo.gif in the images directory, which can be found in the **same directory** as the HTML file this coding is contained within.

`../images/leemarklogo.gif` = look for leemarklogo.gif in the images directory, which can be found **ONE LEVEL UP FROM** this HTML file this coding is contained within.

- Precision is important: Be sure to type names in your HTML exactly as they are named.

index.html is different than index.htm

my_dog.jpeg is different than my_dog.jpg

ADDITIONAL TIPS:

- If possible, **test your work in multiple brands of Web browsers** (Chrome, Internet Explorer, Firefox, Safari, etc.) and on multiple types of computers (Windows laptop, Mac, iPad, Android tablet, etc.), because sometimes things look different or are handled differently by different browsers/devices.
- **Keep notes** of what you learn to remember tags you found to do something you like, or other coding.
- **Have fun!**

ADDITIONAL RESOURCES:

Simple HTML tutorial:

<https://www.york.ac.uk/teaching/cws/www/webpage1.html>

A page with simple HTML examples:

http://csb.stanford.edu/class/public/pages/sykes_webdesign/05_simple.html

More detailed tutorials for learning HTML:

W3Schools: <http://www.w3schools.com/html/default.asp> (this one is great and also has tabs for learning CSS, JavaScript, and more)

HTML Goodies: <http://www.htmlgoodies.com/primers/html/>

HTML Code Tutorial: <http://www.htmlcodetutorial.com/>

http://www.cs.trinity.edu/About/The_Courses/cs301/html/HTMLPrimerAll.html

(the above is the tutorial I used when first learning HTML, but it is old and doesn't cover CSS)

HTML Tags Ordered Alphabetically: <https://www.w3schools.com/tags/default.asp>

HTML Markup Validation Service: <http://validator.w3.org/> (to check your pages for technical correctness)

<https://www.quora.com/What-are-the-10-most-important-things-to-learn-in-HTML-programming>

ADDITIONAL RESOURCES:

Two more links for CSS and HTML help:

CSS tutorial at <https://www.w3schools.com/css/default.asp>

Also see their "try-it" page at:

https://www.w3schools.com/css/tryit.asp?filename=trycss_default

Here you can alter the CSS and HTML in the left-hand column, click the green "Run >>" button and your results show up in the right column, just like they would in a full Web browser window. It's a good way to quickly try stuff out, practice and learn.

THANK YOU AND HAPPY CODING!