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HTML VISUALLESSONGUIDE

Hypertext Markup Language

Lesson 1

Building your own web page is an exciting knowledge to acquire. This lesson introduces you to HTML, the language used to create Web pages. It also explains the basics behind HTML editors and Web browsers, which you use to design and view your Web content.

HTML Fundamentals

Learning Objectives

After completing this lesson, you should be able to:

- create HTML documents;
- explain the uses of HTML elements and tags;
- identify mostly used HTML tags;
- classify different HTML attributes; and
- demonstrate the how HTML attributes and Values work.

Introducing HTML

You build Web pages using HTML, which is short for HyperText Markup Language. HTML documents are made up of text content and special codes known as tags that tell Web browsers how to display the content. HTML documents are identified by their .html or .htm file extensions.

For the most part, HTML is platform independent, which means you can view Web pages on any computer operating system, including Windows, Mac, and Linux.

HTML Tags

HTML consists of text interspersed with special instructions known as tags. Surrounded by brackets, < >, HTML tags tell a browser how to organize and present text, images, and other Web page content. Many tags are written using an opening tag and a closing tag that surround content which appears on the page. When writing HTML tags, you can use upper or lowercase letters. To make the coding easy to distinguish from other text in the page, you can type tag names in uppercase.

Rendering HTML

When a browser displays a Web page, it retrieves the HTML file for that page from a server, analyzes the HTML tags to determine how the content should be formatted, and renders the page. The HTML tags tell the browser what images, video, audio, and other content need to be downloaded and integrated into the page. The HTML may also tell the browser to download style sheets and interactive scripts to further enhance the page.

HTML Standards

The World Wide Web Consortium, or W3C, is the primary group guiding the evolution of the HTML language. The W3C is made up of hundreds of companies and organizations including Web industry leaders such as Microsoft, Apple, and Google. The standards developed by the W3C give developers of Web servers and browsers a set of common guidelines with which to develop their products.

HTML Versions

The most recent version of HTML is 5.0. Version 5.0 includes rules for using more than 90 HTML tags, most of which are covered in this book. It is a much improved HTML compared on the previous versions because of its better support for multimedia, scripting, and style sheets. Support for style sheets is especially important because it allows developers to apply more precise formatting to Web pages. It also allows developers to keep complex styling information separate from the rest of the HTML.

XHTML

XHTML, or Extensible HyperText Markup Language, is an alternative language for coding Web pages that conforms to the stricter standards of XML, or Extensible Markup Language. XHTML is tag-based and uses many of the same tags as in HTML. However, in XHTML, all tags must be closed, tag names and attributes must be coded in lowercase, and attribute values for tags must be surrounded by quotes. Most modern browsers can read both HTML and XHTML.

Understanding HTML Structure

Although Web pages can differ widely in terms of content and layout, all pages have certain HTML tags that give them the same basic structure. Understanding this structure helps you begin to build your own HTML pages.

HTML Tags

The <HTML> and </HTML> tags at the beginning and end of a text document identify it as HTML code. When a browser encounters these tags, it knows that anything within the two tags defines a Web page. Older Web browsers expect to see the HTML tags; with the latest version of HTML and newer versions of browsers, the tags are not always necessary, but adding them is good form.

Document Header

You use the header of an HTML document to add descriptive and accessory information to your Web page. The document header tags, <HEAD> and </HEAD>, immediately follow the opening <HTML> tag. The document header contains information that does not appear in the browser window, including title information, metadata, scripts, and style sheets.

Document Type Declaration

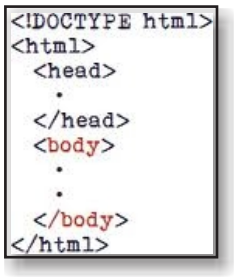
You can add a DOCTYPE declaration to specify which tags a browser can expect to see in your HTML document. In HTML 4.01, there are three document types: HTML 5.0 Transitional, HTML 5.0 Strict, and HTML 5.0 Frameset. The transitional type is the most inclusive, incorporating both current tags and older tags that have been phased out, or deprecate tags. The strict type is more pared down and excludes deprecated tags. The frameset type is the same as the transitional type but includes all the tags necessary to make frames on a page.

Document Title

You can add a title to your HTML document to help people and search engines identify your Web page. For example, if you are building a Web page for a business, you might want to include the company's name and specialization in the title. Most Web browsers display the title in the browser window's title bar. The <TITLE> and </TITLE> tags define a page title and appear inside the document header. It is good form to keep the title to fewer than 64 characters in length.

Body

The visible content that makes up your Web page, including paragraphs, lists, tables, and images, lives in the body of your HTML document. The body of the document is identified by the <BODY> and </BODY> tags. The body of a document comes after the header of a document. Most of the HTML tags covered in this book belong inside the body of the document and determine how its content is formatted.



Metadata

Metadata means "data about data." On a Web page, metadata can include author information, the type of editor used to create the page, a description of the content, relevant keywords, and copyright information. Search engines often use metadata when trying to categorize a page. You place metadata inside the document header.

Exploring Web browsers

Web browser is a software that can retrieve HTML documents from the Web, parse the HTML instructions, and display the resulting Web pages. You can also use a browser to display HTML documents you save locally on your computer. When coding your HTML, you can use a Web browser to test your work.

Browser Discrepancies

There are many Web browsers in use today, and numerous versions of each. While most of them interpret HTML essentially in the same way, slight differences in interpretation mean that not all of them display Web pages exactly in the same way. Also, some more recent browser versions recognize newer HTML features that older browsers do not. You can avoid surprises by writing clean, well-formed HTML code and testing your pages in different browsers as you work.

Finding a Browser

Most computer operating systems come with a Web browser already installed. Microsoft Windows 7 computers include the Internet Explorer browser, while Apple Mac computers include the Safari browser. (The examples in this book use Internet Explorer and Mozilla Firefox.) Chrome is another Web browser that has become very popular. Its popularity continues to grow, as it has lived up to the users' expectations. Chrome was the first browser to introduce tab isolation and one box for both addresses and searches, and it started as a faster and cleaner browser. Opera is the least popular browser since this book was published.

Exploring HTML Editors

Because HTML documents are plain-text documents, you can use any text-editing program to code HTML and create a Web page. You can also use a variety of Web-specific coding environments that will write your HTML code, validate it, and upload it to a Web server.

Simple Text Editors

Simple text editors, also called plain-text editors, are easy to find. Microsoft Windows comes with Notepad. Simple text editors offer no-frills word processing and are often the best choice when you are learning to write HTML. This book uses the Notepad++ text editor in its examples.

HTML Editors

HTML editors, such as Adobe Dreamweaver and Microsoft Expression, are dedicated programs for writing HTML code and managing Web pages. These programs can shield you from having to write HTML code by offering a graphical environment for building Web pages as well as a text-based environment. Most HTML editors will also color your HTML tags for easier viewing, validate your code, and help you upload finished pages to a server.

Word Processing Programs

You can also use word processing programs, such as Microsoft Word, to write HTML. In Word, you can select HTML as the file type when you save a document, and the program automatically adds the appropriate HTML tags. However, commercial word processors tend to store lots of extra information with your HTML, which can make it a challenge to edit the files in other editors.

Viewing HTML Code in a Browser

You can view the HTML code for any Web page that you have loaded into your Web browser. Viewing HTML from different Web sites is a good way to learn how to write your own code and you can generate new ideas for your own pages. You can also save a Web page locally for you to use as a template or for you to study later.

In Microsoft Windows, Mozilla Firefox opens the HTML code in the Notepad text editor.

View HTML Code in a Browser

1. Open a Web page in your browser window.
2. Right-click on the page. Select and click **View Page Source**

A Notepad window appears displaying the HTML source code for the page.

3. Click the Close button ( ) when finished.

   The window closes.

Save the Source Code

1. In the Notepad window that displays the source code, click **File**.
2. Click **Save As**.

   The Save As dialog box appears.
3. Click the drop down box to navigate to the folder where you want to store the page.
4. Type a name for the page.

   HTML pages should have an .html or .htm file extension.
5. Click **Save**.

   Notepad saves the page.

Writing HTML

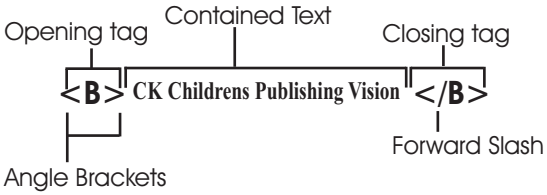
When creating an HTML document, you must use tags to specify where you want each paragraph to begin.

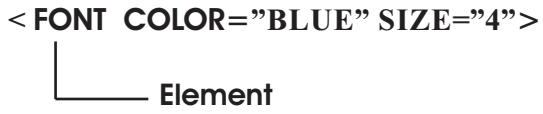
Write HTML Tags

HTML tags are commands written between less than (<) and greater than (>) signs, also known as angle brackets, that indicate how the browser should display the text.

The first word or character that appears inside the "<" opening bracket is called the element. An element is a command that tells the browser to do something, such as <FONT>.

Words that follow the element and are contained inside the ">" bracket of the opening tag are called attributes. Attributes are not repeated or contained in the closing element (tag). Attributes that appear to the right of the element are separated by a space, and followed by an equal sign. The value of the attribute is contained in quotes.





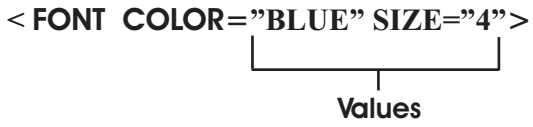
Most elements have an opening element (tag) and a closing element (tag) distinguished by the "/" inside the "<" opening bracket.

Nesting Tags

In some cases, you may want to modify your page contents with more than one tag. For example, you may want to add italic formatting to a word or phrase. There are two things to keep in mind. First, not all tags can contain all other kinds of tags. As a general rule, those tags that affect entire paragraphs can contain tags that affect individual words or letters, but not vice versa.
Second, order is everything. Whenever you use a closing tag it should correspond to the last unclosed opening tag.

Values

Attributes in turn often have values. In some cases, you must pick a value from a small group of choices. For example, the COLOR attribute for the FONT tag can take values of colors or hexadecimal values.



Correct (no overlapping lines)

Incorrect (the set tags cross over each other)

Starting an HTML Document

You can start an HTML document using a text editor, HTML editor, or word processing program. You use sets of HTML tags to define the basic structure of your page.

The <HTML>, <HEAD>, and <TITLE> tags are basic elements that appear at the beginning of all HTML documents.

Start an HTML Document

1. Launch Notepad++.

   Note: The examples in this book use Notepad++.

2. Type **<HTML>** then press **Enter**.

   This tag declares the document as HTML.

3. Type **<HEAD>** then press **Enter**.

   This tag defines where the title, metadata, and other descriptive information appear.

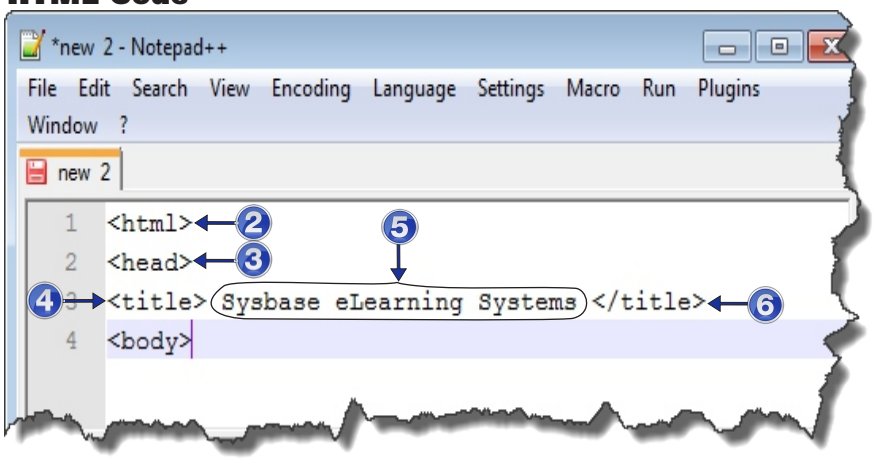
4. Type **<TITLE>**.

5. Type the title text for your page.

   Title text describes the contents of the page and appears in the title bar of the Web browser

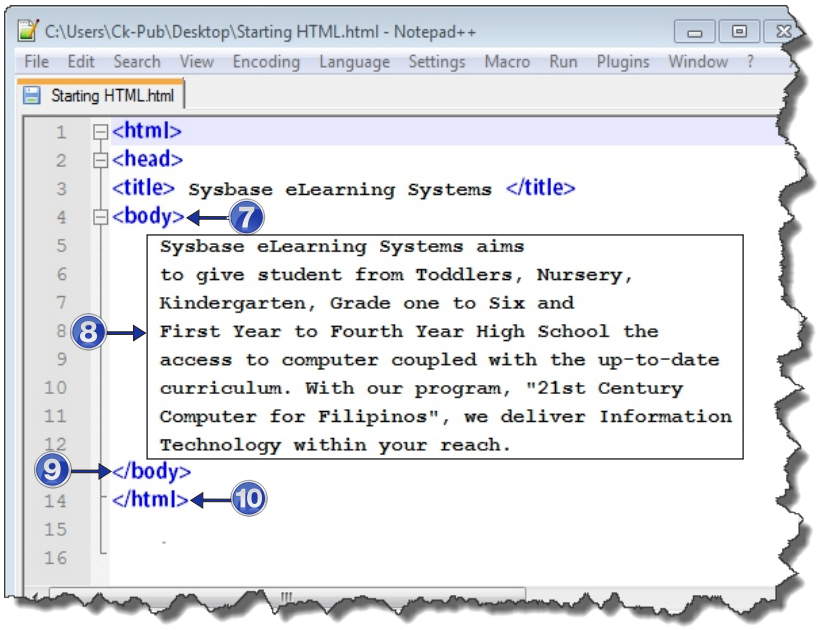
6. Type **</TITLE>** then press **Enter**.

HTML Code



You can use the body tags, <BODY> and </BODY>, to define the content in your Web page. Page content can include lines of text, bulleted and numbered lists, tables, forms, and more.

HTML Code



7. Type **<BODY>** then press **Enter**.

   This tag marks the beginning of the actual content of your Web page.

8. Type the body text you want to appear on the page then press Enter after the last text.

   Body text is the content that appears in the browser window. For practice, you can type a simple paragraph for the body text.

9. Type **</BODY>** then press **Enter**.

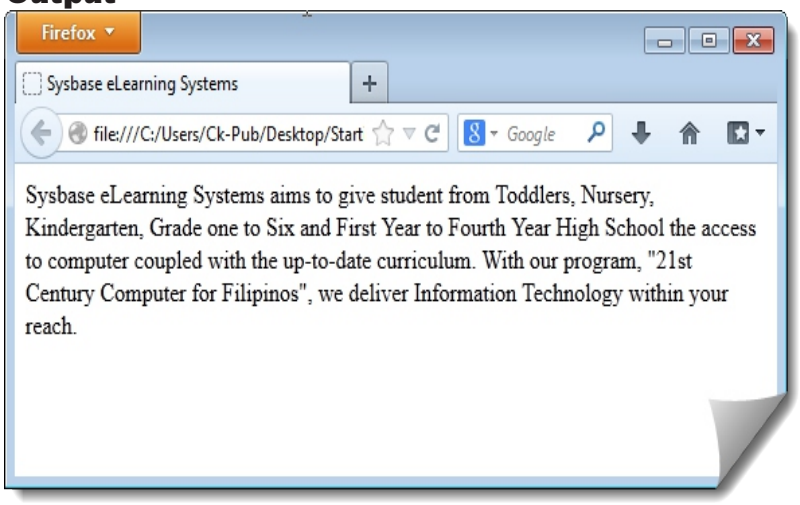
   This tag closes the body portion of the page.

10. Type **</HTML>**.

    This tag ends the HTML code of your document.

    You can save your document and view the page in a Web browser.

Output



Saving an HTML Document

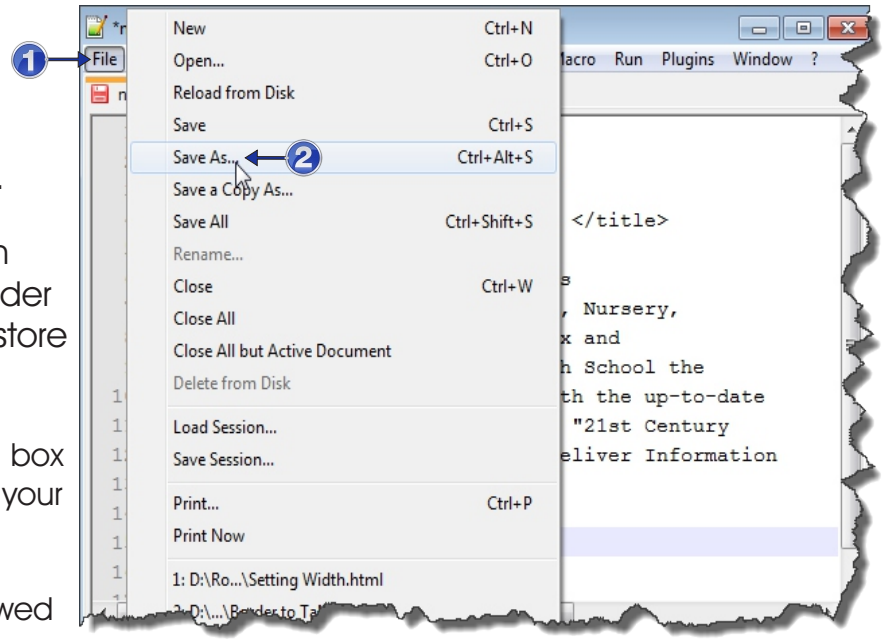
You can save your Web page as an HTML file so that users can view it in a Web browser. When saving a Web page, you can use either the .html or .htm file extension.

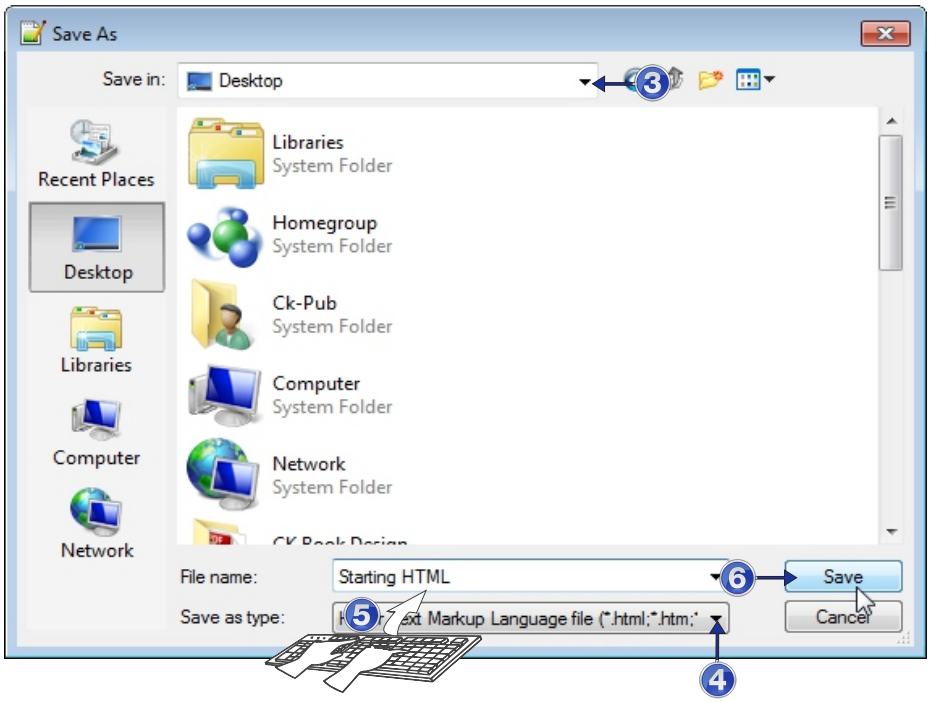
When naming a Web page, it is best not to use spaces and to keep the characters limited to letters, numbers, hyphens (-), and underscores (_). If you are creating a home page for a Web site, it is common to name the page index.html or default.htm.

Save an HTML Document

1. Click **File**.
2. Click **Save As.**

   The Save As dialog box appears.
3. Click the Save in drop down box and navigate to the folder or drive where you want to store or save the file.
4. Click Save as type drop down box and select Text Document as your type.
5. Type a name for the file, followed by **.html** or **.htm.**
6. Click **Save**.





Previewing it in a Browser

After you create and save an HTML document, you can view it in your Web browser. Your Web browser can view HTML pages that you have saved on your computer as well as pages on the Internet.

View an HTML Page

1. Open your **Web browser**.

   This example uses the Mozilla Firefox browser.

2. Click **Firefox**.

3. Click **New Tab**.

   The Open File dialog box appears.

4. Click **Open File**.

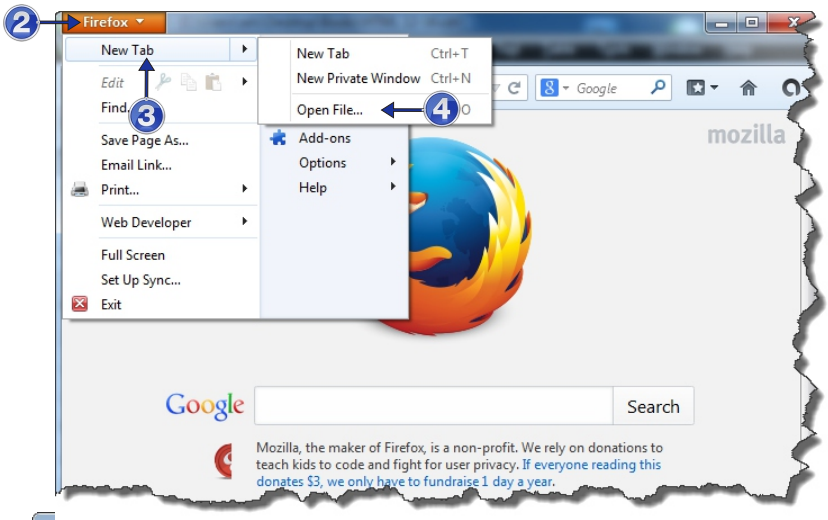
5. Click the drop down box to navigate to the folder or drive in which your HTML document is stored.

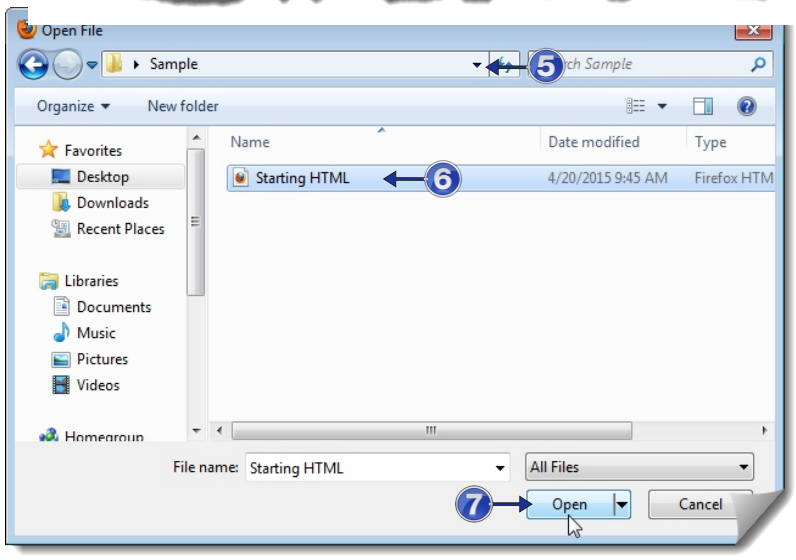
6. Click the filename.

7. Click **Open**.

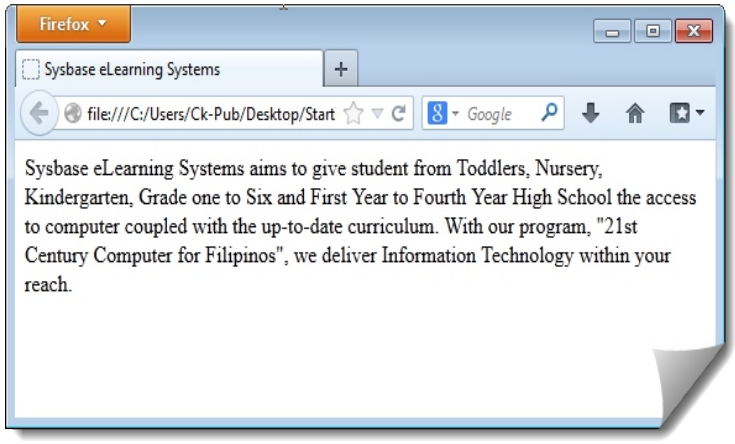
   The Open dialog box displays the path and name of the file.

8. In the Open dialog box, click **OK**.





- If you make changes to the HTML of the page that is displayed in the browser, you can click to refresh the page and view the changes.



Adding Metadata

You can add metadata to your page to include extra descriptive information that does not appear in the browser window. Metadata can include a page description, author and copyright information, keywords, and more. What you insert in metadata tags can help search engines categorize your page.

You define metadata in the document header using the <META> tag.

Add an Author Name

1. Click between the **<HEAD>** and **</HEAD>** tags and press **Enter** to start a new line.

   In this example, the metadata appears below the <TITLE> tags.

2. Type **<META NAME= "author"** followed by a space.

3. Type **CONTENT="My Name">**, replacing My Name with your name or company name.

4. Press **Enter**.

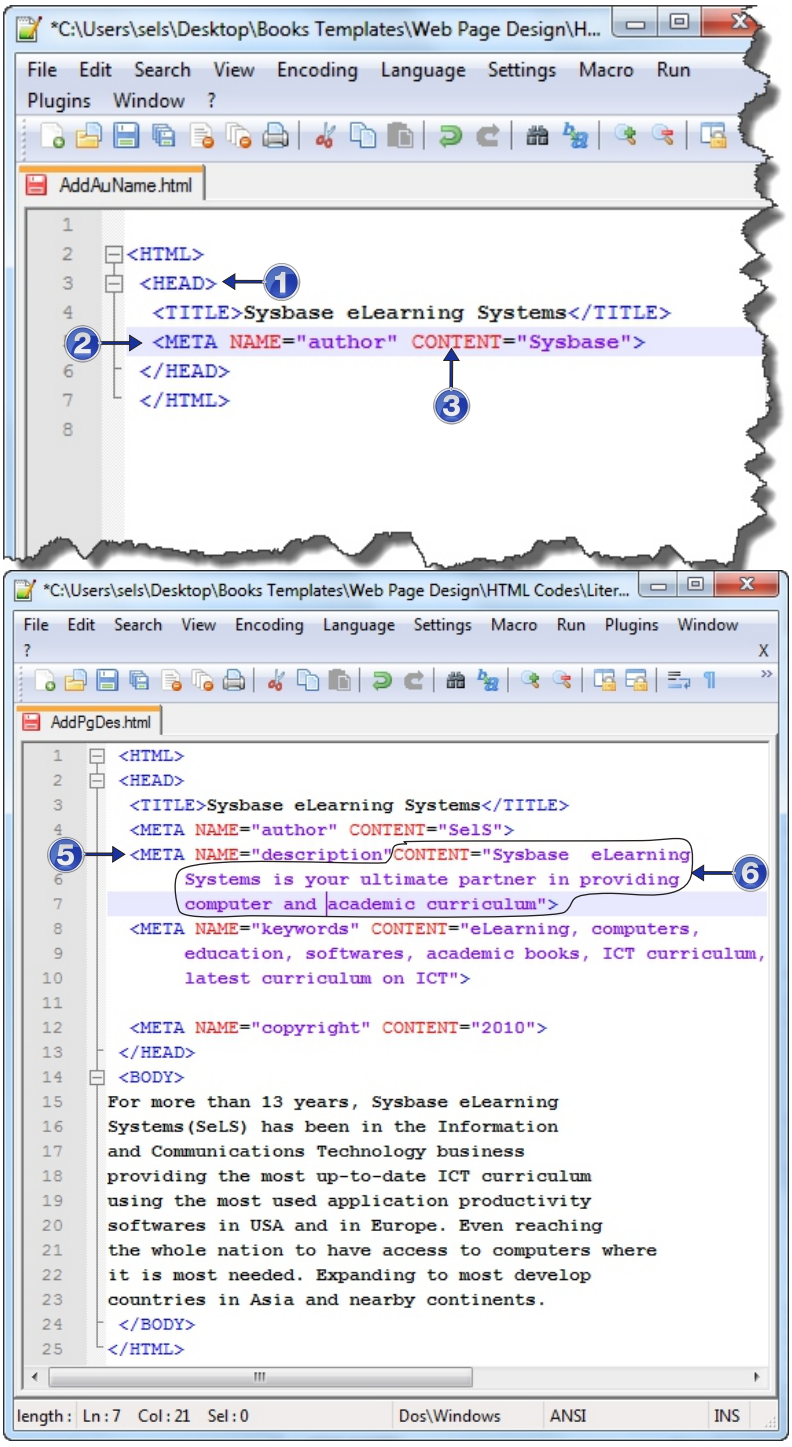
Add a Page Description

5. Type **<META NAME="description"** and a blank space.

6. Type **CONTENT="description">**, replacing description with your own page description.

7. Press **Enter**.

HTML Code



Specify Keywords

8. Type **<META NAME= "Keywords"** and a space.

9. Type **CONTENT="MyKeywords">**, replacing MyKeywords with a keyword.

   For multiple keywords, use a comma followed by a space to separate the keywords.

10. Press **Enter**.

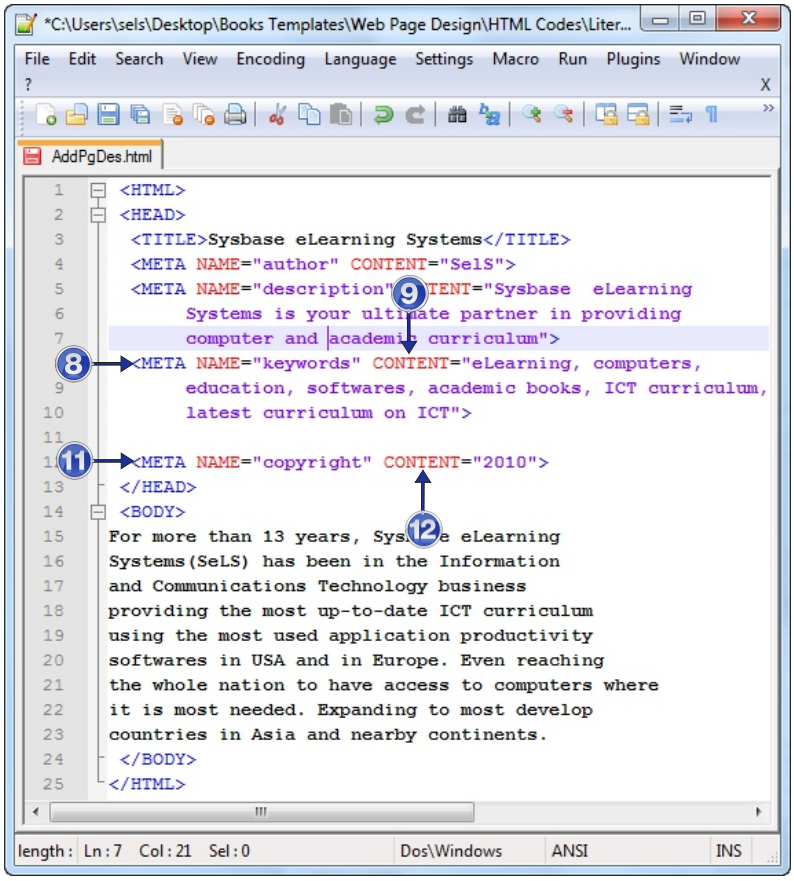
Add a Copyright

11. Type **<META NAME="copyright"** and a space.

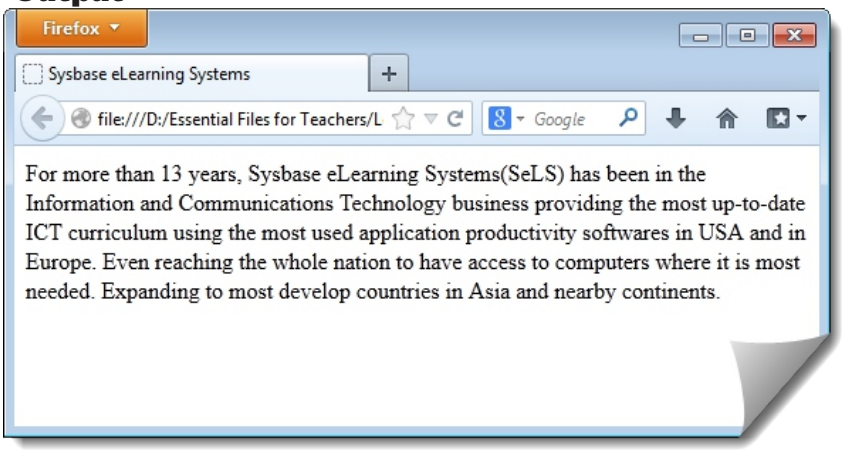
12. Type **CONTENT="2010">**, replacing 2010 with your own numbers or copyright information.

13. Press **Enter**.

   The metadata is now a part of the HTML document.



Output



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Laboratory

Hypertext Markup Language

VISUALLESSONGUIDE

Manual

Laboratory Manual

Lesson 1: HTML Fundamentals

This lesson shows how the HTML documents are created and manipulated. It includes proper way of displaying the results in the web browser.

Objectives

After completing all the laboratory activities in this lesson, the student will be able to demonstrate the proper use of some HTML elements or tags and it's format .

Lab 1.1 Start Now

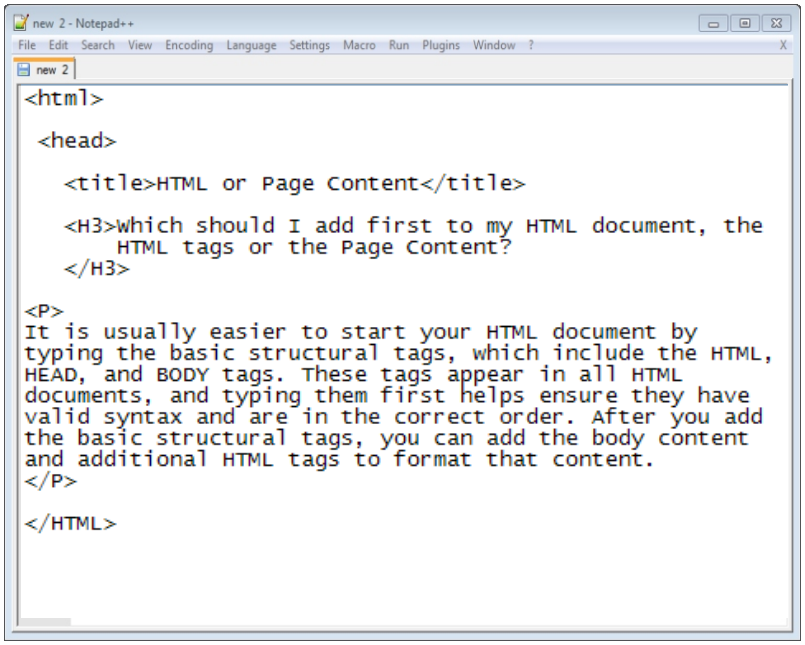
Estimated Completion time: 10-15 Minutes

Score

Directions:

1. Launch **Notepad ++**.
2. Type the HTML codes shown on your right.
3. Save the HTML document as **StartNow.html** and preview it on your browser.

Preview:



Lab 1.2 God's Pleasure

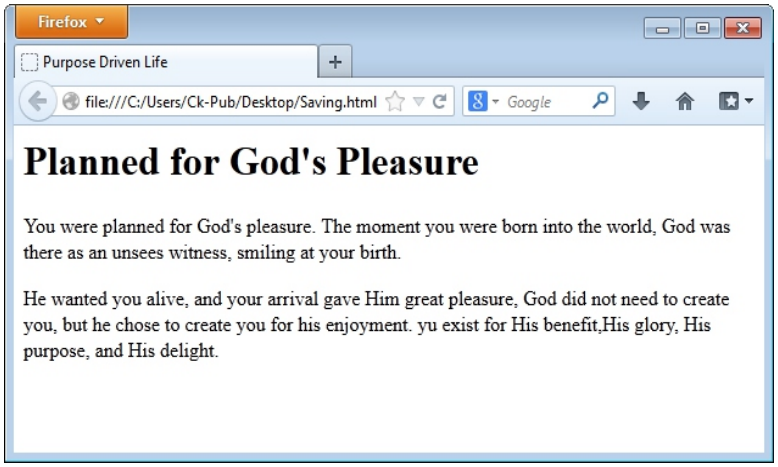
Score

Estimated Completion time: 10-15 Minutes

Directions:

1. Launch **Notepad ++**.
2. Create a Web page like the one shown on your right.
3. Use the appropriate tags and the text content provided in the picture.
3. Save the document as **God'sPleasure.html** and view it in your browser.

Preview:



Lab 1.3 The Next Earth

Score

Estimated Completion time: 5-10 Minutes

Directions:

1. Launch **Notepad ++**.
2. Create a new Web page and use the data on your right.
3. Add the paragraph and the metadata on your right.
4. Save the HTML document as **LatestWithMetadata.html** then test it by previewing it in your browser.

Paragraph

As the search continues for Earth-size planets orbiting at just the right distance from their star, a region termed the habitable zone, the number of potentially life-supporting planets grows. In two decades we have progressed from having no extrasolar planets to having too many to search. Narrowing the list of hopefuls requires looking at extrasolar planets in a new way. Applying a nuanced approach that couples astronomy and geophysics, Arizona State University researchers report that from that long list we can cross off cosmic neighbor Tau Ceti.

Metadata :

Source : Arizon State University
Credit : Joshua Gonzalez
Date: April 22, 2015

Lab 1.4 Selfie In Space

Score

Estimated Completion time: 5-10 Minutes

Directions:

1. Open the HTML document **SelfieInSpace.html**.

2. Add the paragraph text as shown to complete the Web page. Your output should look like the picture on your right. Use appropriate HTML tags. Take note of the heading used.

3. Save the HTML document as **SelfieInSpace.html** and view it in your browser.

Preview:

Lab 1.5 Fun in the Phillipines

Score

Estimated Completion time: 5-10 Minutes

Directions:

1. Launch **Notepad ++**.

2. Create a short Web page and use the text on your right and use the correct HTML tags to complete the activity.

3. Save the exercise as **Fun in the Phillipines.html**.

Preview: