

•11. HTML5 and Future Web Application

1. Where to learn?

http://www.w3schools.com/html/html5_intro.asp

2. Where to start:

http://www.w3schools.com/html/html_intro.asp

3. easy to start with an example code

<http://elibrary.ibc.ac.th/html5>

Creating A Web Page with HTML5

- What is HTML 5?
- Required HTML 5 Tags
- Using Notepad to Start your Web Page
- Viewing Your Web Page in a Browser
- Submitting Your Assignment

What is HTML 5

- HTML 5 is the latest standard for Web page coding
- HTML 5 continues to evolve; it is not a finalized standard
- Major browsers such as IE, FireFox, Chrome, and Safari support HTML 5 but not fully.
- The Browser (ie Internet Explorer, Netscape, Firefox) Reads the HTML tags Sequentially From Top to Bottom and Formats the Page Based On What the Tags tell the browser to do

What Do **HTML5** Tags Look Like?

- HTML5 Tags Look Like:

`<p> </p>` paragraph tag

` ` bold tag

` ` unordered list tag

` ` list item tag

- What is Common About XHTML Tags?

- Starting and Ending Tags
- Data Between the Tags will be Formatted According to the Tag
- The Starting Tag Starts the Type of Format; the Ending Tag Stops the Type of Format

Required HTML5 Tags

<code><!DOCTYPE html></code>	This is not an html5 tag but is used to define the document
<code><html></code>	Every Web Page Starts with the <code><html></code> tag
<code><head></code>	The Starting <code><head></code> tag always follows the <code><html></code> tag
<code><meta charset="UTF-8"></code>	Specifies the character encoding for the document
<code><title>My First Web Page</title></code>	The title tags encompass the title of your page; this is the title that shows in the title bar of a window
<code></head></code>	The Ending <code></head></code> tag always follows the ending <code></title></code> tag
<code><body></code>	Starting body tag
	Everything that appears on a web page goes between the <code><body></code> and <code></body></code> tags
<code></body></code>	Ending body tag
<code></html></code>	Ends every web page

HTML5 Additional Requirements for this Class

- All HTML5 Tags and Tag Elements Must be in lower-case
- Every HTML5 Tag Must have a Starting Tag AND an Ending Tag unless it is an empty tag such as the `
` tag
- HTML5 Tags Must be Properly Nested
- HTML5 Tag Attributes Must be in Quotes
- The DOCTYPE Declaration Should be the First Line in a HTML5 Document

<!DOCTYPE Declaration

- The following DOCTYPE Declaration should be the first line in your HTML5 document

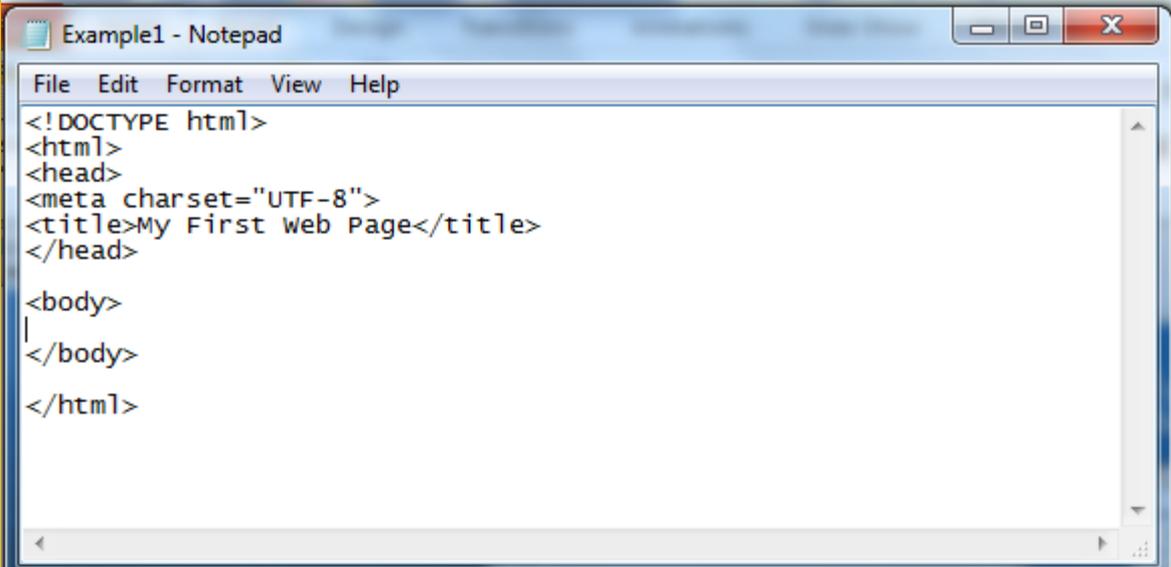
```
<!DOCTYPE HTML>
```

- The DOCTYPE declaration is not a html5 tag.
- The declaration tells the browser that the page is written in html 5.

Starting a Simple Web Page Using a Text Editor

- In Window's, Open Notepad
Click Start Button, Click on All Programs, Click on Accessories, Click on Notepad
- In Mac, use TextEdit
- In Ubuntu, use Gedit
- Whenever you create a web page, ALWAYS Save Your Web Page First

- Type the Following HTML5 Tags into your Example1.htm document.

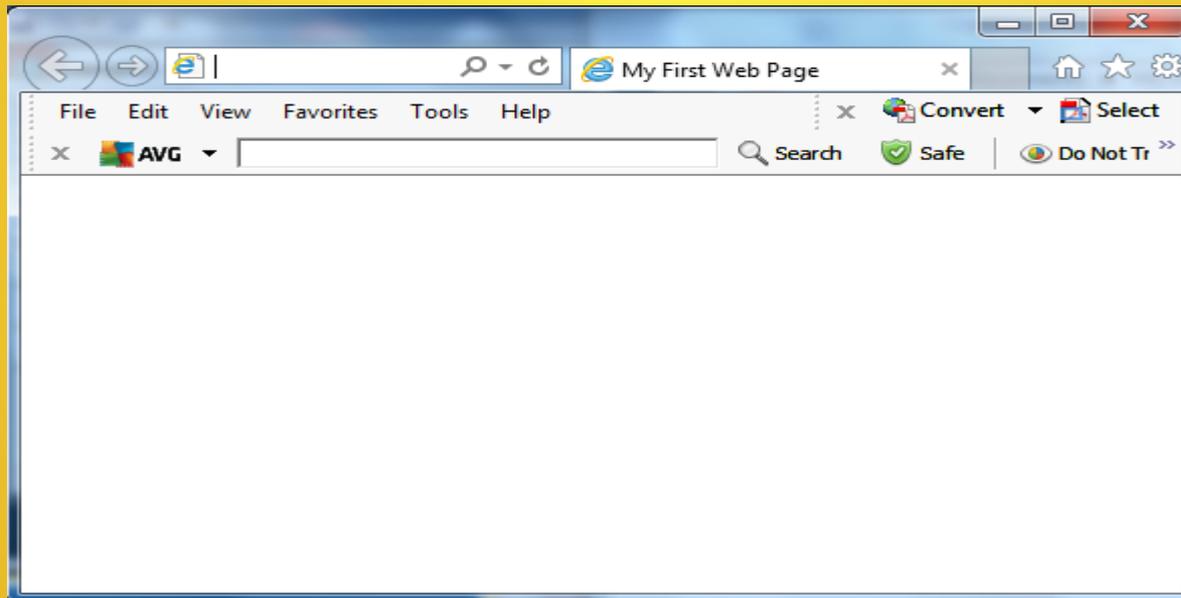


```
Example1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First Web Page</title>
</head>
<body>
|
</body>
</html>
```

- Type in the Tags Exactly as You See Them Above
- All tags must be in lower-case
- The DOCTYPE statement is NOT an HTML5 tag. DOCTYPE is capitalized.
- Save your document.
- In Notepad, an extension of htm or html needs to be added after the filename.
- Minimize the Notepad Window; We Will Come Back to It

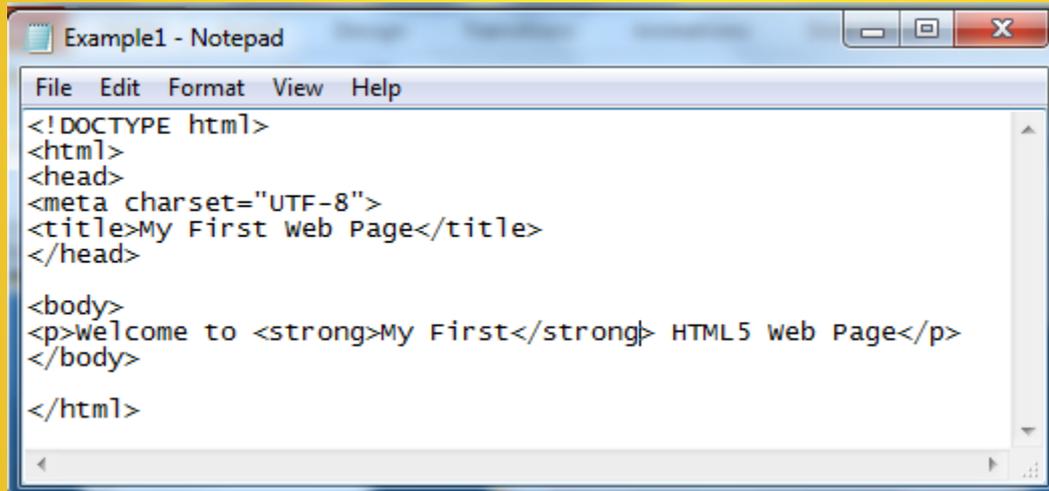
View Your Lovely Work

- You should see the “Title” on the title bar or in a tab.
- Nothing should appear on the page because nothing has been coded between the body tags yet.



Add Formatting to Text

- Maximize Your Notepad Window
- Change Your HTML5 Code To Add the paragraph and bold tags so that your code looks similar to the Following



```
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First web Page</title>
</head>

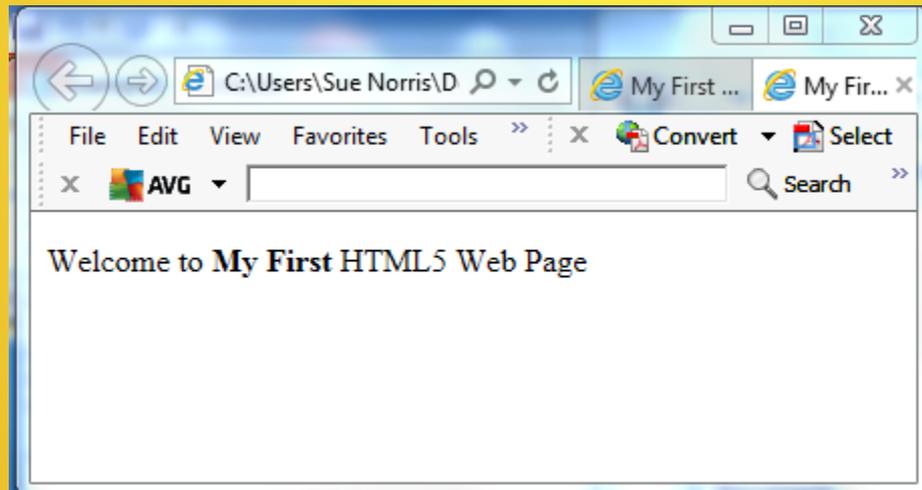
<body>
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
</body>

</html>
```

- **NOTE:** The only text formatting that can be done without using style tags is with the strong (same as bold) and em (same as italics) tags.
- When Done, Save Your Web Page and Minimize the Notepad Window

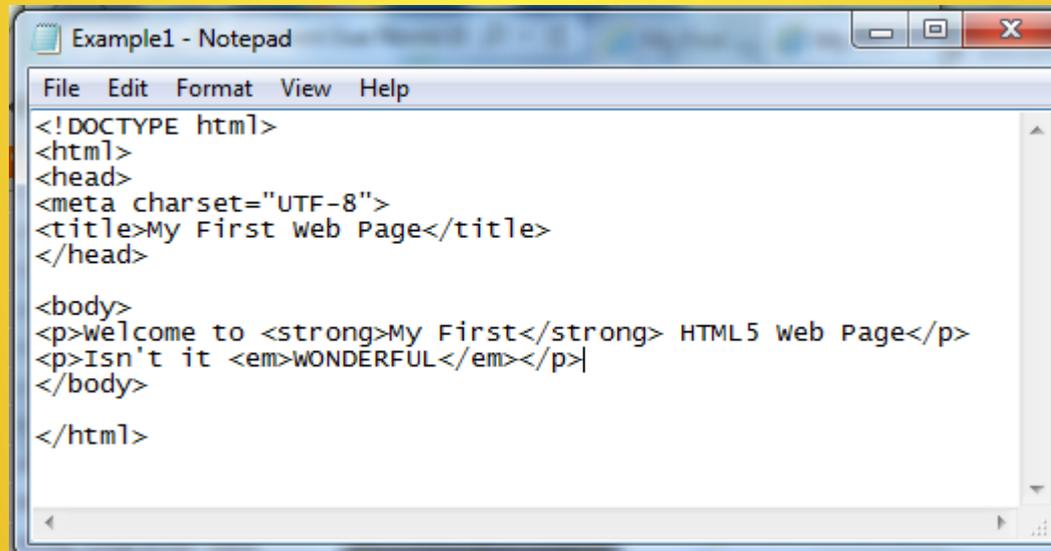
View Your Work

- Go to your Windows or Mac Documents folder Double-Click on the Example1.html ICON or file
- If You Did Everything Correctly, Your Web Page Should Look Similar to the Following and **My First** should be in **Bold**.
- If you Don't Have this, Go Back to the *Add Formatting* slide and try again.



Continuing With Your Web Page

- Create Another Paragraph with the Paragraph Tag
 - Edit Your Example1.htm file in Notepad or TextEdit to add the second Paragraph Tag as shown below.
 - Also add the `` tag for *Emphasis* formatting.
 - HTML5 RULE: Tags MUST BE Properly Nested. If formatting Starts with `<i>`, the Order of the Ending Tags Must Be: `</i>`.
 - Save Your File and Minimize the text editor window.



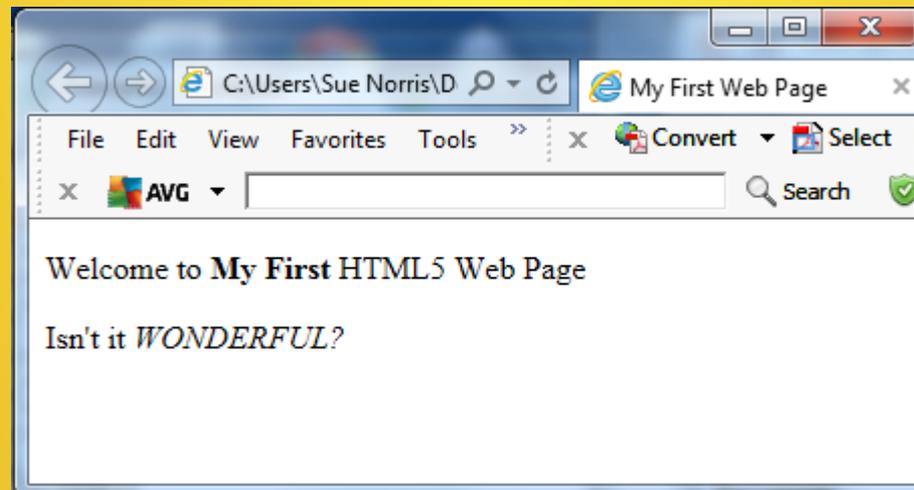
```
Example1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First web Page</title>
</head>

<body>
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
<p>Isn't it <em>WONDERFUL</em></p>
</body>

</html>
```

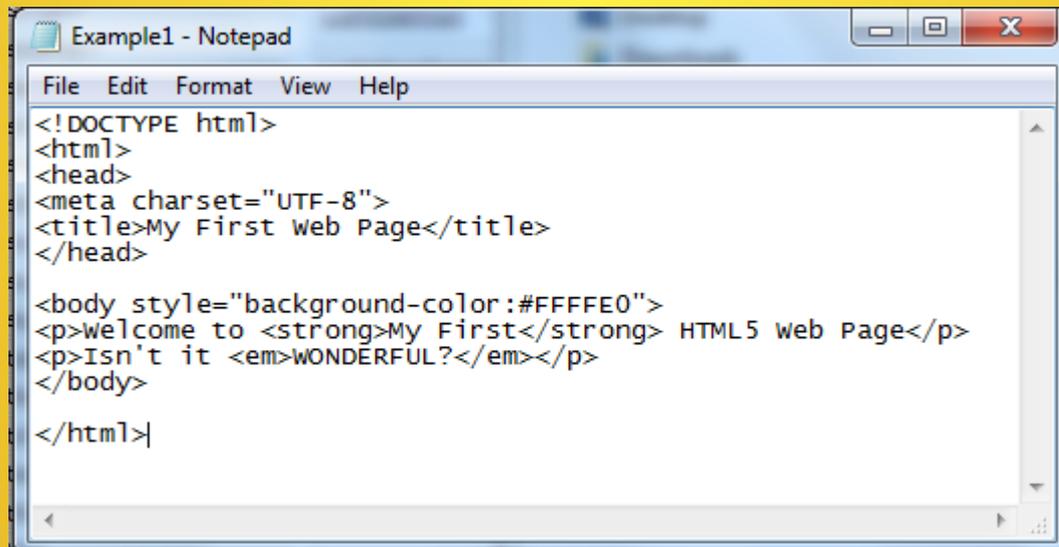
View Your Page

- Go to Your Windows or Mac Documents folder and Double-Click the Example1.htm ICON or file. Your Webpage Should Look Similar to That Shown in the Image Below.
- If it Doesn't Go Back and Make Corrections



Add a Background Color

- A Webpage Background Color is Added with an inline style of the body tag.
- Colors are Entered as 6 character hexadecimal numbers (colorvalues) or supported colornames
- A hexadecimal Code Must Start with # and be enclosed in “
- Go to the [W3Schools](#) site and pick a color that you like and jot down the 6 character hexadecimal code associated with it.
- Save Your File and Minimize Your Text Editor Window



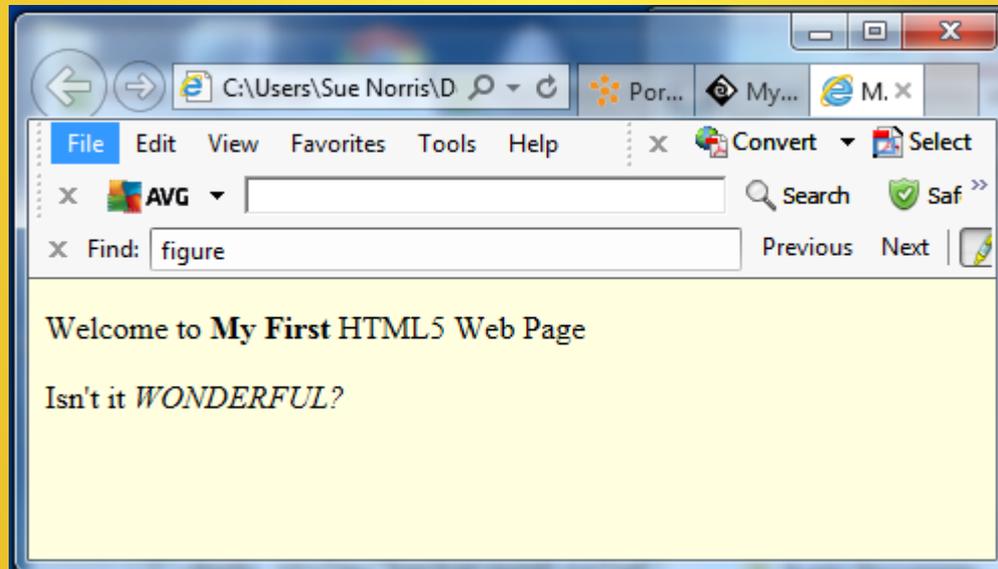
```
Example1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First web Page</title>
</head>

<body style="background-color:#FFFFE0">
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
<p>Isn't it <em>WONDERFUL?</em></p>
</body>

</html>
```

View Your Web Page

- Go to Your Windows or Mac Documents folder and Double-Click the Example1.htm ICON/file. Your Webpage Should Look Similar to That Shown in the Image Below.
- If it Doesn't Go Back to the Add a Background Color slide and Make Corrections



Add a Link

- Links Are Created with the Anchor Tag: `<a>`
- A Link to the Microsoft web site would look like:
`Click here`
to go to the IBC Site.
 - This Represents a Link to an **External** Web Site or site that is outside of the web site from which the current web page is in.
 - The Information Between the “ ” s is the Address of the Linked to Page.
 - When an address starts with http and includes the complete path to a page, it is called an **absolute** address.
 - Http stands for **hyper-text transfer protocol**. It is the Internet protocol used to define how a web page is formatted and displayed.
 - `www.ibc.ac.th` is the domain name of where the web page resides.
 - The “/” separates domain names, folder names and web page names. When no page name is listed, the browser will try to load a page named `index.htm` or `index.html`.
 - The Information in **Yellow** and Between the `>` and `` is What Appears on the Web Page for the User to Click

Add a Link continued

- A Link to Another Page Within the Same Web Site is called an Internal link. An internal link might Look Like: `Computers Page`
 - Name of Page is `computers.htm`
 - No Path is Specified if page is within the same folder as calling Web Page
 - The web page will display `Computers Page` as a link for the user to click on. If the user clicks on it, the `computers.htm` page will open.
 - When an address does not start with `http` and just includes the name of the page, it is called a relative address.
 - Relative addresses can include dots and slashes (i.e. `../`) before the page name. The combination of these would tell the browser in which folder to look for the page relative to the root folder from which the loaded page was opened from.

Relative Address Examples

- If the address for the object to be loaded only includes the filename and extension of the object, the browser will look for the object in the root folder or folder from which the calling page was opened.
 - `Go to Planets `
 - ``
- If the object is located in a sub-folder of the root folder, the object name is preceded with the folder name and a "/".
 - The following examples show a relative address to a folder named "sample" which is sub-folder of the root folder.
 - `< href="sample/planets.htm">Go to Planets `
 - ``
- If the object is located in a different folder than the root folder but on the same level as the root folder, the object name is preceded with ../ followed by the folder name.
 - The following examples show a relative address to a folder named "sample" which is at the same level as the root folder.
 - `< href="../sample/planets.htm">Go to Planets `
 - ``

Check Your HTML Source Code

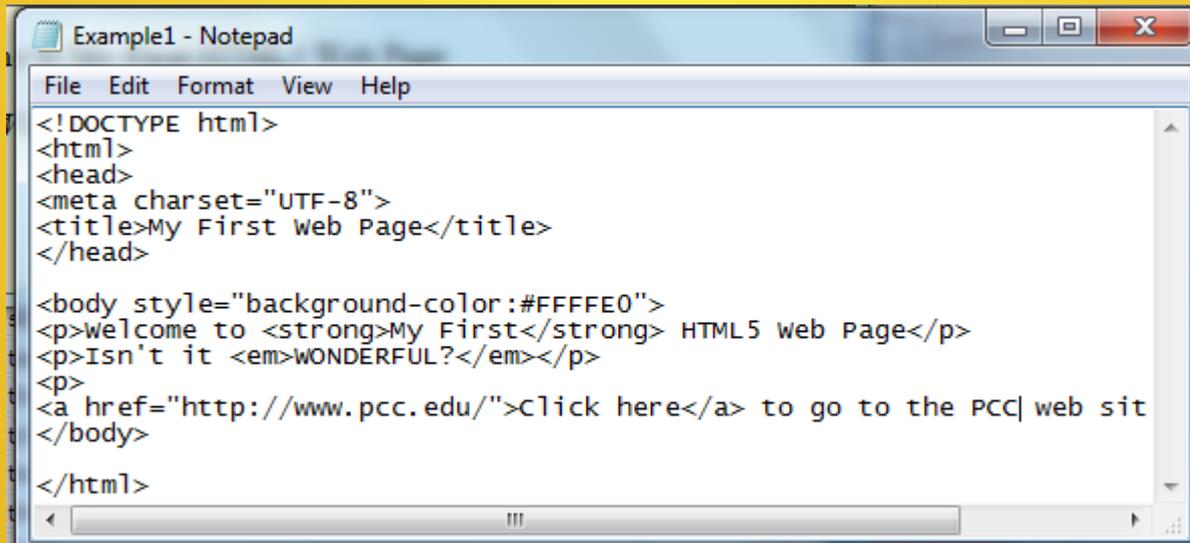
- If you Use a Web-Page Editor, Check the Source Code of Your `<a>` tag.
 - It Should Look Similar to the Following:
`Computers Page`
 - The following is Incorrect and Won't Work
`<a href="file:///C:/..... `
 - This is Pointing to a Location on YOUR Hard Drive.
 - When it is Transferred to the Web Server, the Browser will Look for the File at the Same Location on the User's Hard Drive. Not Likely There.

Web Page and Object Names

- **IMPORTANT:** page names specified in the `href` attribute of the `anchor` tag or object names specified in the `src` attribute of an `img` tag SHOULD match the name of the file or image stored on the server **EXACTLY**.
 - Includes case
 - No spaces should be included in name.

Try It

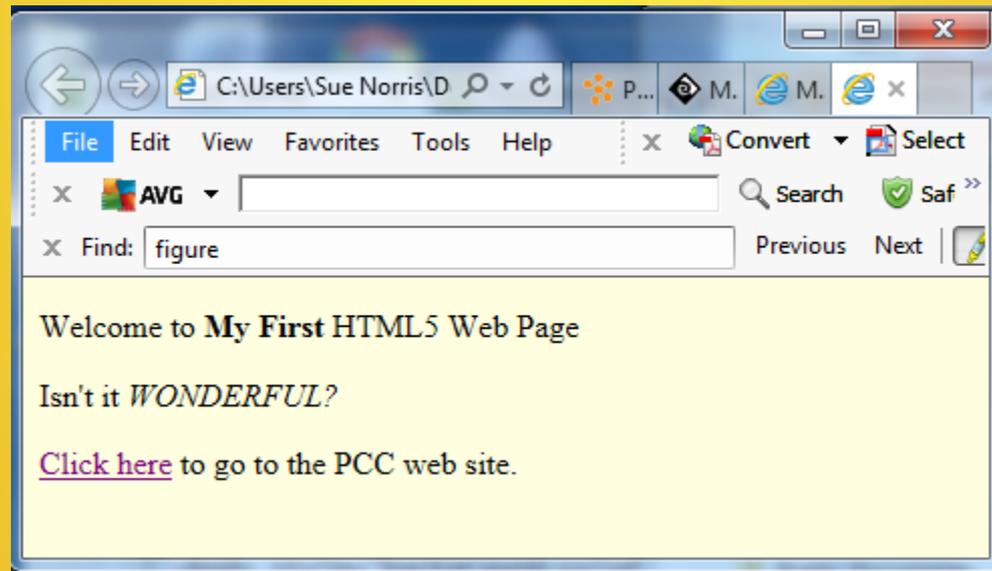
- Maximize Your text editor window with Example1.htm
- Edit your HTML Code So That It Looks as Pictured Below.
- Save Your File and Minimize the text editor Window



```
Example1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First web Page</title>
</head>
<body style="background-color:#FFFFE0">
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
<p>Isn't it <em>WONDERFUL?</em></p>
<p>
<a href="http://www.pcc.edu/">Click here</a> to go to the PCC| web sit
</body>
</html>
```

View Your Web Page

- Go to Your Windows or Mac Documents folder and Double-Click the Example1.htm ICON/file. Your Webpage Should Look Similar to That Shown in the Image Below.
- Try Your Link. Does It Go to the PCC Site?
- If it Doesn't Go Back to the Adding a Link slide, Make Corrections, and Try Again



Creating A List

- Ordered Lists (numbered) are Created with the ol and li tags
 - Example of Two Item Ordered List

```
<p>Buddhism</p>
<ol>
<li>Early Buddhism</li>
<li>Abhidharmic School</li>
</ol>
```
- Unordered Lists (bulleted) are Created with the ul and li tags
 - Example of Two Item Unordered List

```
<p>Buddhism</p>
<ul>
<li>Early Buddhism</li>
<li>Abhidharmic School</li>
</ul>
```

Creating A List continued

- Description Lists are Created with the dl and dt and dd tags
 - Example of Two Item Description List

```
<p>Buddhism</p>
<dl>
<dt>Early Buddhism</dt>
<dd>- Teachings in Nikayas and Agamas</dd>
<dt>Abhidharmic Schools</dt>
<dd>- Buddhist Schools</dd>
</dl>
```

Try It

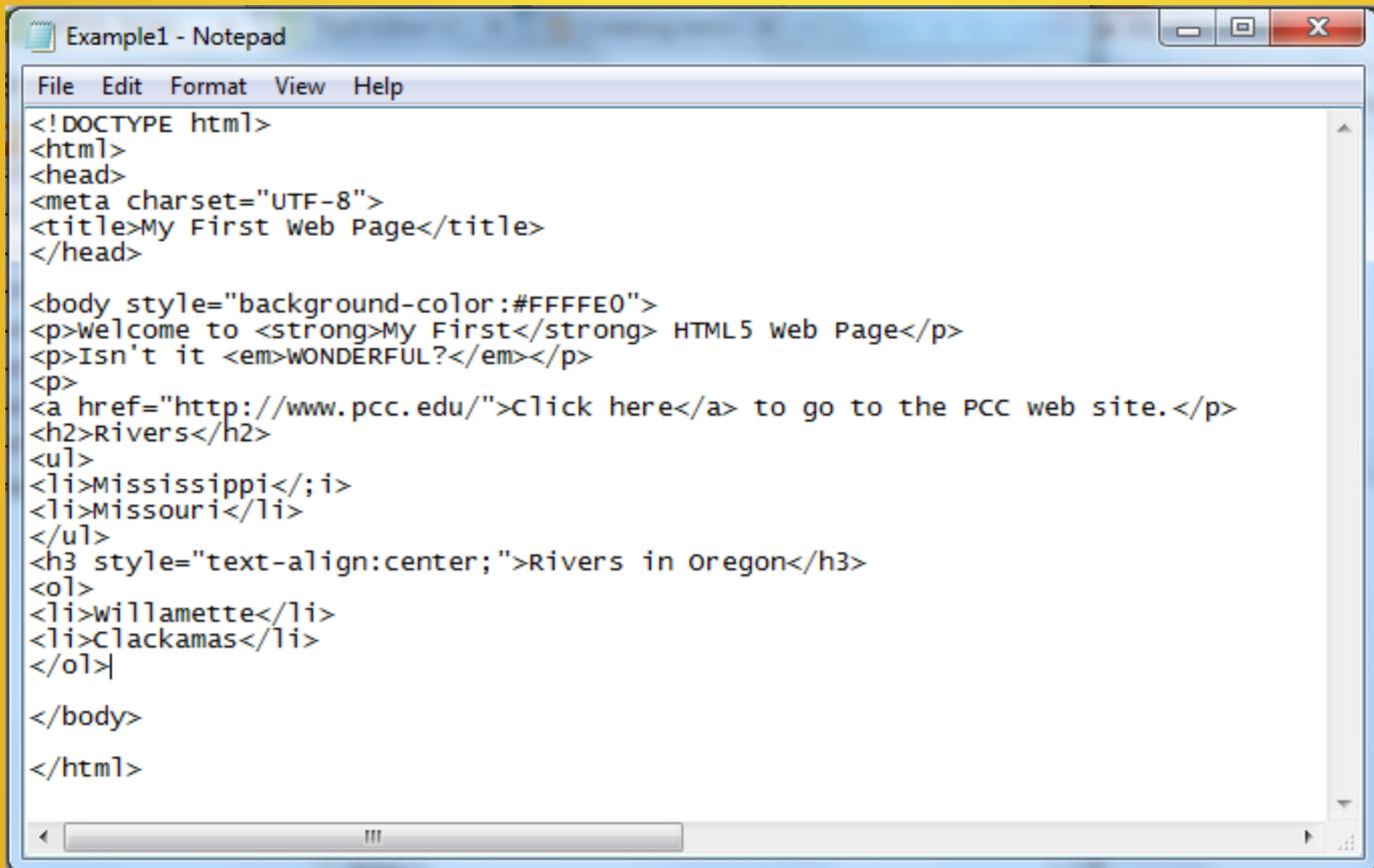
- <http://elibrary.ibc.ac.th/html5/example1.html>

Adding a Header Tag

- Header Tags are Used to Emphasize Web Page Sections and Subsections in an Outline Fashion
- Header Tags Range From h1 to h6 with h1 Being the Largest and h6 the Smallest
- Examples:
 - `<h1>Main Section</h1>`
 - `<h2>Sub-section</h2>`
 - `<h3>Sub-sub-section</h3>`

Try It

- Maximize your Example1.htm text editing Window
- Edit Your HTML Code To Look as Below
- Save Your File and Minimize the Window



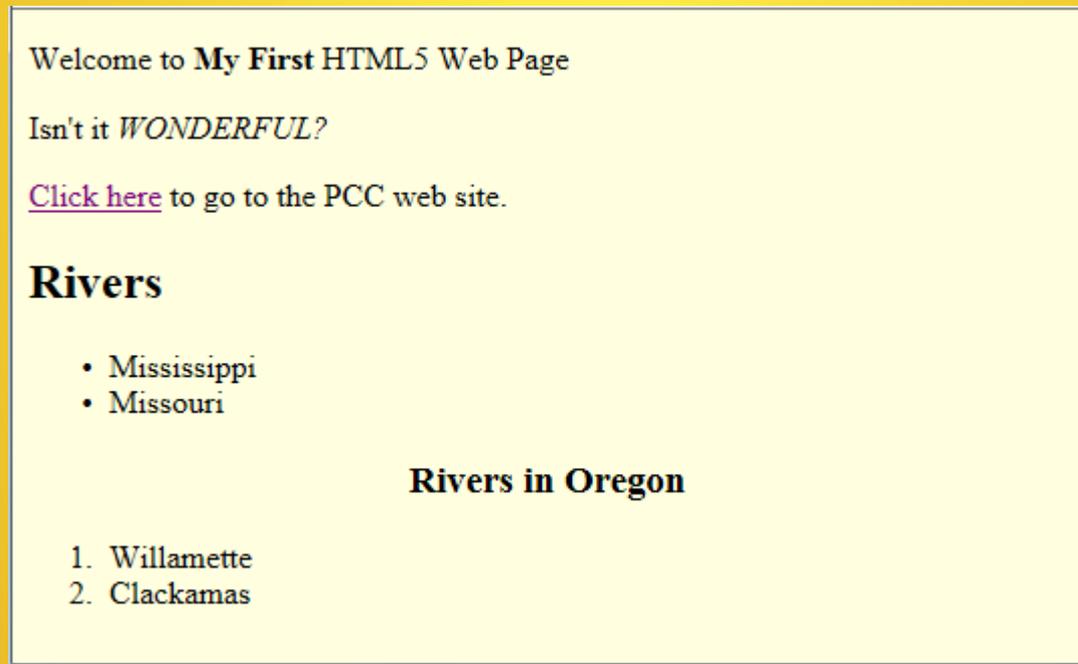
```
Example1 - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First web Page</title>
</head>

<body style="background-color:#FFFFFFE0">
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
<p>Isn't it <em>WONDERFUL?</em></p>
<p>
<a href="http://www.pcc.edu/">Click here</a> to go to the PCC web site.</p>
<h2>Rivers</h2>
<ul>
<li>Mississippi</li>
<li>Missouri</li>
</ul>
<h3 style="text-align:center;">Rivers in Oregon</h3>
<ol>
<li>willamette</li>
<li>Clackamas</li>
</ol>

</body>
</html>
```

View Your Work

- Go to Your Windows or Mac Documents folder and Double-Click the Example1.htm ICON/file. Your Webpage Should Look Similar to That Shown in the Image Below.
- Do You Notice the Heading Difference?
- If it Doesn't Go Back to the Adding a Header slide, Make Corrections, and Try Again



Tables

- Tables are Created with the following tags:
 - table
 - tr for table Rows
 - td for Table Cells
- In the Example on the next slide, a 3 Row, 3 Column Table is Created
 - The Table is 500 pixels wide
 - The Table has a border that is 1 pixel wide.
 - A border="0" will allow for a borderless table.
- Note: The Information Between the <td> & </td> is Just Padding; You Can Have Anything You Like
- Open Your Example1.htm file and add the tags for a table. Put whatever data you want into the Cells. Save Your File.
- See the [W3Schools Tutorial Site](#) for Additional Information on Creating Tables

</p>

Tables

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First Web Page</title>
</head>

<body style="background-color:#FFFFE0">
<p>welcome to <strong>My First</strong> HTML5 web Page</p>
<p>Isn't it <em>WONDERFUL?</em></p>
<p>
<a href="http://www.pcc.edu/">Click here</a> to go to the PCC web site.</p>
<h2>Rivers</h2>
<ul>
<li>Mississippi</li>
<li>Missouri</li>
</ul>
<h3 style="text-align:center;">Rivers in Oregon</h3>
<ol>
<li>willamette</li>
<li>Clackamas</li>
</ol>
<table border="1" style="width:500px">
  <tr>
    <td>Cell One</td>
    <td>Cell Two</td>
    <td>Cell Three</td>
  </tr>
  <tr>
    <td>Cell Four</td>
    <td>Cell Five</td>
    <td>Cell Six</td>
  </tr>
  <tr>
    <td>Cell Seven</td>
    <td>Cell Eight</td>
    <td>Cell Nine</td>
  </tr>
</table>
</body>
</html>
```

View Your Table

- Double-click on the Windows ICON or Mac Documents folder for Example1.htm to View Your Work
- It Should Look Similar to the Following
- If It Doesn't, Go Back and Review Your Tags

Welcome to **My First** HTML5 Web Page

Isn't it *WONDERFUL*?

[Click here](#) to go to the PCC web site.

Rivers

- Mississippi
- Missouri

Rivers in Oregon

1. Willamette
2. Clackamas

Cell One	Cell Two	Cell Three
Cell Four	Cell Five	Cell Six
Cell Seven	Cell Eight	Cell Nine

Add an Image

- Images are added with the **image** Tag: ``
- The `img` tag is positioned in the xhtml source code where you want the image to be loaded.
- In the following example:

```

```

- `ibc_logo.jpg` is the name of the image.
- The image has a **width** of 700 pixels
- The browser will search and load the image from a folder named **images**
- The `../` tells the browser that the images folder is at the same level as the root folder or folder from which the calling page was loaded.

Add an Image con't.

- In the following example:

```

```

- Since there is nothing before the `images` folder name, the browser searches and loads the image from an images folder that is a sub-folder of the root folder or folder from which the calling page was loaded.

Try It

- Create a sub-folder to your Windows Desktop or Mac Documents folder and name it `image`.

Try It

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>My First Web Page</title>
</head>

<body style="background-color:#FFFFE0">
<p>welcome to <strong>My First</strong> HTML5 Web Page</p>
<p>Isn't it <em>WONDERFUL?</em></p>
<p>
<a href="http://www.pcc.edu/">Click here</a> to go to the PCC web site.</p>
<h2>Rivers</h2>
<ul>
<li>Mississippi</li>
<li>Missouri</li>
</ul>
<h3 style="text-align:center;">Rivers in Oregon</h3>
<ol>
<li>willamette</li>
<li>Clackamas</li>
</ol>
<table border="1" style="width:500px">
  <tr>
    <td>Cell One</td>
    <td>Cell Two</td>
    <td>Cell Three</td>
  </tr>
  <tr>
    <td>Cell Four</td>
    <td>Cell Five</td>
    <td>Cell Six</td>
  </tr>
  <tr>
    <td>Cell Seven</td>
    <td>Cell Eight</td>
    <td>Cell Nine</td>
  </tr>
</table>
<p></p>
</body>
</html>
```

- Update your Example1.htm source code with the new information

View Your Web Page

- Go to your Windows ICON or Mac Documents folder and double-click the Example1.htm to View Your Work
- It Should Look Similar to the Following
- If It Doesn't, Go Back and Review Your Tags

Isn't it *WONDERFUL?*

[Click here](#) to go to the PCC web site.

Rivers

- Mississippi
- Missouri

Rivers in Oregon

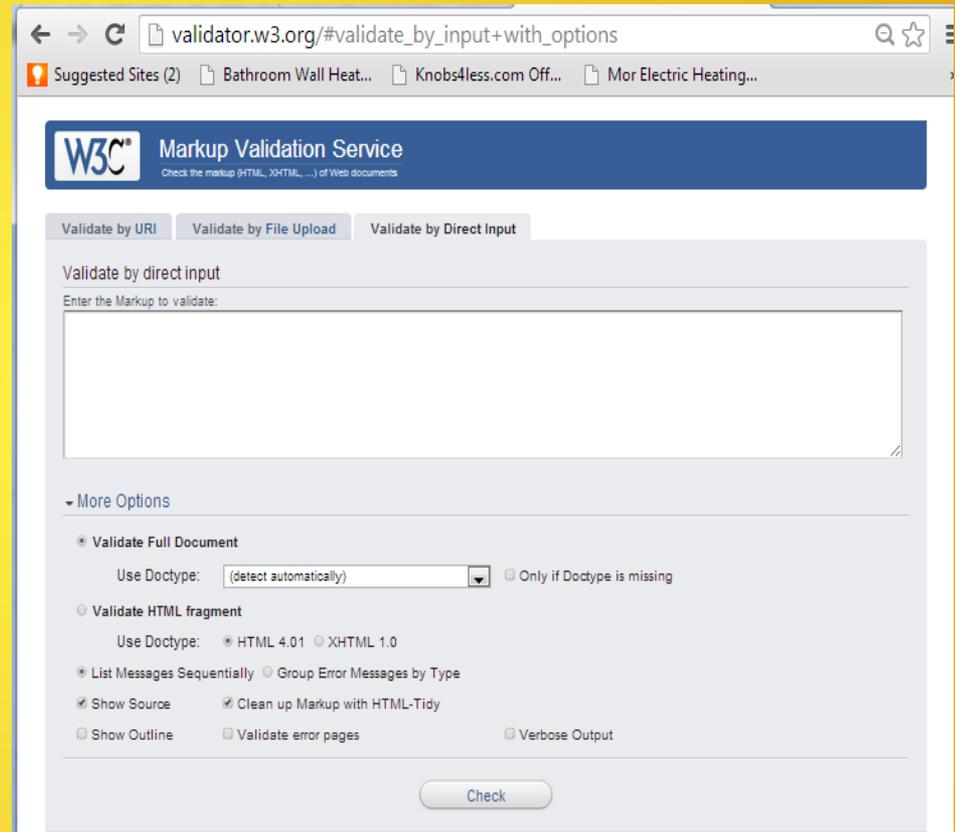
1. Willamette
2. Clackamas

Cell One	Cell Two	Cell Three
Cell Four	Cell Five	Cell Six
Cell Seven	Cell Eight	Cell Nine



HTML5 Validation

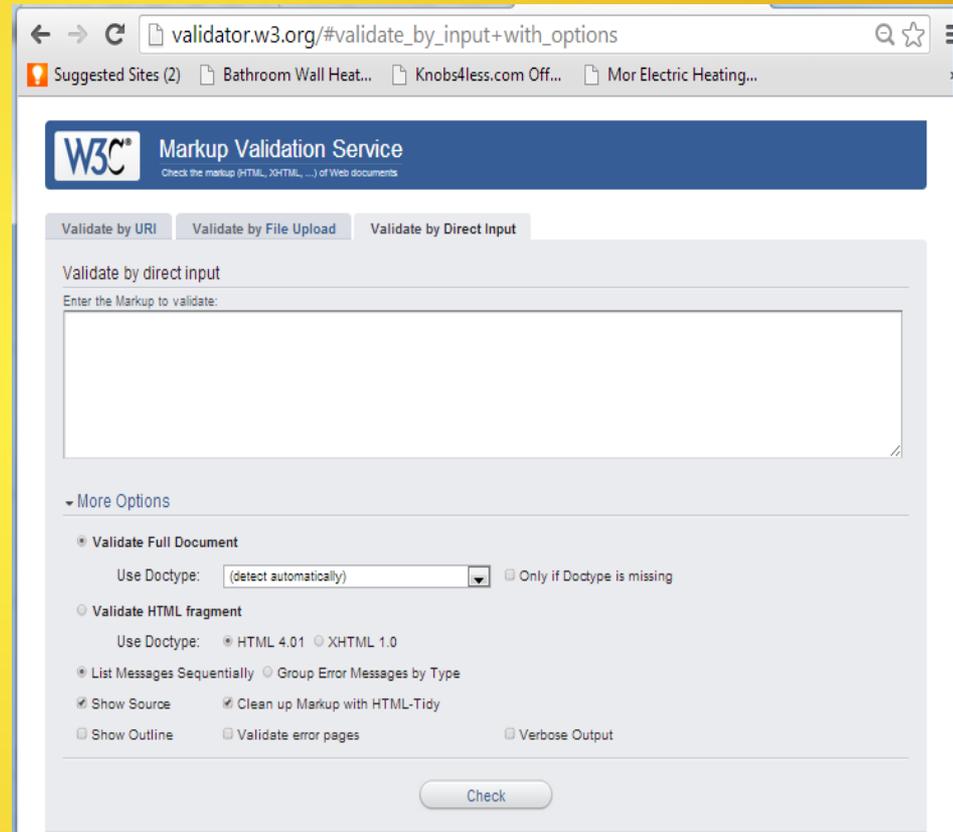
- Validate HTML5 Source Code
 - Verifies If Source Code Conforms to HTML5 Standards
 - Pinpoints Errors
 - Offers Recommendations
- Several Web Sites Available
Try: <http://validator.w3.org/>
- See Web Page Notes for Further Information



The screenshot shows the W3C Markup Validation Service interface in a browser. The address bar displays the URL `validator.w3.org/#validate_by_input+with_options`. The page header includes the W3C logo and the text "Markup Validation Service" with a subtitle "Check the markup (HTML, XHTML, ...) of Web documents". Below the header, there are three tabs: "Validate by URI", "Validate by File Upload", and "Validate by Direct Input". The "Validate by Direct Input" tab is active. The main content area is titled "Validate by direct input" and contains a text input field labeled "Enter the Markup to validate:". Below the input field, there is a section titled "More Options" with several settings: "Validate Full Document" (selected), "Use Doctype:" (set to "detect automatically"), "Only if Doctype is missing" (unchecked), "Validate HTML fragment" (unchecked), "Use Doctype:" (set to "HTML 4.01"), "List Messages Sequentially" (selected), "Group Error Messages by Type" (unchecked), "Show Source" (checked), "Clean up Markup with HTML-Tidy" (checked), "Show Outline" (unchecked), "Validate error pages" (unchecked), and "Verbose Output" (unchecked). A "Check" button is located at the bottom right of the form.

HTML5 Validation continued

- Validate HTML5 Source Code
 - Verifies If Source Code Conforms to HTML5 Standards
 - Pinpoints Errors
 - Offers Recommendations
- Several Web Sites Available
Try: <http://validator.w3.org/>
- See Web Page Notes for Further Information



The screenshot shows the W3C Markup Validation Service interface in a web browser. The browser's address bar displays the URL `validator.w3.org/#validate_by_input+with_options`. The page header features the W3C logo and the text "Markup Validation Service" with a subtitle "Check the markup (HTML, XHTML, ...) of Web documents". Below the header, there are three tabs: "Validate by URI", "Validate by File Upload", and "Validate by Direct Input", with the latter being the active tab. The main content area is titled "Validate by direct input" and contains a large text input field labeled "Enter the Markup to validate:". Below the input field, there is a section titled "More Options" with several settings: "Validate Full Document" (selected) with a "Use Doctype" dropdown set to "(detect automatically)" and an "Only if Doctype is missing" checkbox; "Validate HTML fragment" (unselected) with a "Use Doctype" dropdown set to "HTML 4.01" and "XHTML 1.0" radio buttons; "List Messages Sequentially" (selected) and "Group Error Messages by Type" (unselected) radio buttons; "Show Source" (checked) and "Clean up Markup with HTML-Tidy" (checked) checkboxes; "Show Outline" (unchecked), "Validate error pages" (unchecked), and "Verbose Output" (unchecked) checkboxes. A "Check" button is located at the bottom right of the form.

Viewing the HTML5 Source Code of a Web Page

- The HTML Code of any Web Page Can Easily be Viewed in a Browser
- In IE, click **View** on the Menu Bar and Select **Source**
- In Mozilla Firefox, click **View** on the Menu Bar and Select **Page Source**

Transfer Files to Web Server

- Use a FTP Program To Transfer Student Web Pages and Files to the Web Server
 - FileZilla

Summary

- What is HTML5
- HTML5 Tags
- Required HTML5 Tags
- Creating a Web Page in Notepad or TextEdit
- Viewing a Web Page in the Browser
- Download example html files at:
<http://elibrary.ibc.ac.th/html5/>