

HTML

(HyperText Markup Language)

What is HTML?

- HTML is a language for describing web pages.
 - HTML stands for **H**yper **T**ext **M**arkup **L**anguage
 - HTML is not a programming language, it is a **markup language**
 - A markup language is a set of **markup tags**
 - HTML uses **markup tags** to describe web pages

HTML Tags

- HTML markup tags are usually called HTML tags
- HTML tags are keywords surrounded by **angle brackets** like <html>
- HTML tags normally **come in pairs** like and
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- Start and end tags are also called **opening tags** and **closing tags**

HTML Documents = Web Pages

- HTML documents **describe web pages**
- HTML documents **contain HTML tags** and plain text
- HTML documents are also **called web pages**
- The purpose of a web browser (like Internet Explorer or Firefox) is to read HTML documents and display them as web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page:

What You Need

- You don't need any tools to learn HTML
 - You don't need an HTML editor
 - You don't need a web server
 - You don't need a web site

Editing HTML

- HTML can be written and edited using many different editors like Dreamweaver and Visual Studio.
- However, in this tutorial we use a plain text editor (like Notepad) to edit HTML. We believe using a plain text editor is the best way to learn HTML.

.HTM or .HTML File Extension?

- When you save an HTML file, you can use either the .htm or the .html file extension. There is no difference, it is entirely up to you.

Example

- Create a hello_world.html file and write the code below:

```
<html>
```

```
<body>
```

```
<h1>My First Heading</h1>
```

```
<p>My first paragraph.</p>
```

```
</body>
```

```
</html>
```


HTML Headings

- HTML headings are defined with the <h1> to <h6> tags.

<h1>This is a heading</h1>

<h2>This is a heading</h2>

<h3>This is a heading</h3>

HTML Paragraphs

- HTML paragraphs are defined with the <p> tag.

<p>This is a paragraph.</p>

<p>This is another paragraph.</p>

HTML Links

- HTML links are defined with the <a> tag.

`This is a link`

- Linking to E - mail Addresses

`< a href="mailto:name@example.com">E-mail us < /a >`

HTML Images

- HTML images are defined with the tag.

```

```

HTML Elements

- An HTML element is everything from the start tag to the end tag:

Start tag *	Element content	End tag *
<code><p></code>	This is a paragraph	<code></p></code>
<code></code>	This is a link	<code></code>
<code>
</code>		

* The start tag is often called the **opening tag**. The end tag is often called the **closing tag**.

HTML Element Syntax

- An HTML element starts with a **start tag / opening tag**
- An HTML element ends with an **end tag / closing tag**
- The **element content** is everything between the start and the end tag
- Some HTML elements have **empty content**
- Empty elements are **closed in the start tag**
- Most HTML elements can have **attributes**

Empty HTML Elements

- HTML elements with no content are called empty elements.
- `
` is an empty element without a closing tag (the `
` tag defines a line break).

Note: HTML tags are not case sensitive: `<P>` means the same as `<p>`. Many web sites use uppercase HTML tags.

HTML Attributes

- HTML elements can have **attributes**
- Attributes provide **additional information** about an element
- Attributes are always specified in **the start tag**
- Attributes come in name/value pairs like: **name="value"**

Attribute Example

- HTML links are defined with the `<a>` tag. The link address is specified in the **href attribute**:

```
<a href="http://www.ppiu.edu.kh">This is a link</a>
```

HTML Lines

- The `<hr />` tag creates a horizontal line in an HTML page.

`<p>This is a paragraph</p>`

`<hr />`

`<p>This is a paragraph</p>`

`<hr />`

`<p>This is a paragraph</p>`

HTML Comments

- Comments can be inserted into the HTML code to make it more readable and understandable. Comments are ignored by the browser and are not displayed.

```
<!-- This is a comment -->
```

How to View HTML Source

- Have you ever seen a Web page and wondered "Hey! How did they do that?"
- To find out, right-click in the page and select "View Source" (IE) or "View Page Source" (Firefox), or similar for other browsers. This will open a window containing the HTML code of the page.

HTML Paragraphs and Line Break

- Paragraphs are defined with the `<p>` tag.
 `<p>This is a paragraph</p>`
 `<p>This is another paragraph</p>`
- Use the `
` tag if you want a line break (a new line) without starting a new paragraph:
 `<p>This is
a para
graph with
line breaks</p>`

HTML Text Formatting

Tag	Description
<u></u>	Defines bold text
<u><big></u>	Defines big text
<u></u>	Defines emphasized text
<u><i></u>	Defines italic text
<u><small></u>	Defines small text
<u></u>	Defines strong text
<u><sub></u>	Defines subscripted text
<u><sup></u>	Defines superscripted text
<u><ins></u>	Defines inserted text
<u></u>	Defines deleted text

HTML "Computer Output" Tags

Tag	Description
<u><code></u>	Defines computer code text
<u><kbd></u>	Defines keyboard text
<u><samp></u>	Defines sample computer code
<u><tt></u>	Defines teletype text
<u><var></u>	Defines a variable
<u><pre></u>	Defines preformatted text

HTML Citations, Quotations, and Definition Tags

Tag	Description
<u><abbr></u>	Defines an abbreviation
<u><acronym></u>	Defines an acronym
<u><address></u>	Defines contact information for the author/owner of a document
<u><bdo></u>	Defines the text direction
<u><blockquote></u>	Defines a long quotation
<u><q></u>	Defines a short quotation
<u><cite></u>	Defines a citation
<u><dfn></u>	Defines a definition term

HTML Fonts

- The `` tag is deprecated in HTML 4, and removed from HTML5.
- The World Wide Web Consortium (W3C) has removed the `` tag from its recommendations.
- In HTML 4, style sheets (CSS) should be used to define the layout and display properties for many HTML elements.

HTML Fonts Example

<p>

This paragraph is in Arial, size 5, and in red text color.

</p>

<p>

This paragraph is in Verdana, size 3, and in blue text color.

</p>

HTML Styles - CSS

- CSS was introduced together with HTML 4, to provide a better way to style HTML elements.
- CSS can be added to HTML in the following ways:
 - in **Cascading Style Sheet files** (CSS files)
 - in the **<style> element** in the HTML head section
 - in the **style attribute** in single HTML elements

HTML Styles – CSS (cont.)

- HTML Style Example - Background Color

```
<html>
```

```
<body style="background-color:yellow;">
```

```
<h2 style="background-color:red;">This is a heading</h2>
```

```
<p style="background-color:green;">This is a paragraph.</p>
```

```
</body>
```

```
</html>
```

HTML Styles – CSS (cont.)

- HTML Style Example - Font, Color and Size

```
<html>
```

```
<body>
```

```
<h1 style="font-family:verdana;">A heading</h1>
```

```
<p style="font-family:arial;color:red;font-size:  
20px;">A paragraph.</p>
```

```
</body>
```

```
</html>
```

HTML Styles – CSS (cont.)

- HTML Style Example - Text Alignment

```
<html>
```

```
<body>
```

```
<h1 style="text-align:center;">Center-aligned  
heading</h1>
```

```
<p>This is a paragraph.</p>
```

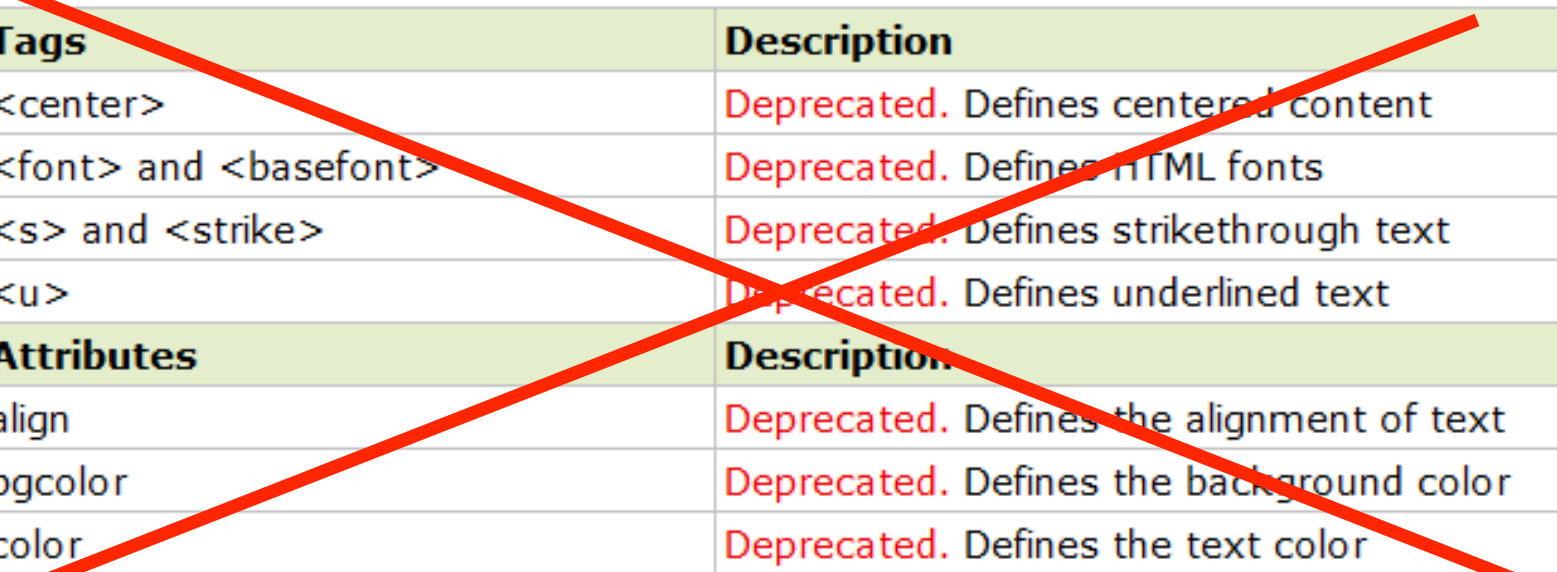
```
</body>
```

```
</html>
```

HTML Styles – CSS (cont.)

- Deprecated Tags and Attributes
- In HTML 4, several tags and attributes were deprecated. Deprecated means that they will not be supported in future versions of HTML.
- These tags and attributes should be avoided:

HTML Styles – CSS (cont.)



Tags	Description
<center>	Deprecated. Defines centered content
 and <basefont>	Deprecated. Defines HTML fonts
<s> and <strike>	Deprecated. Defines strikethrough text
<u>	Deprecated. Defines underlined text
Attributes	Description
align	Deprecated. Defines the alignment of text
bgcolor	Deprecated. Defines the background color
color	Deprecated. Defines the text color

- For all of the above: Use styles instead!

HTML Hyperlinks (Links)

- A hyperlink (or link) is a word, group of words, or image that you can click on to jump to a new document or a new section within the current document.
- The `<a>` tag can be used in two ways:
 - To create a link to another document, by using the `href` attribute
 - To create a bookmark inside a document, by using the `name` attribute

HTML Hyperlinks (Links) (cont.)

- Example

```
<a href="http://www.ppiu.edu.kh/">Visit Click  
me!</a>
```

- The example below will open the linked document in a new browser window or a new tab:

```
<a href="http://www.ppiu.edu.kh/"  
target="_blank">Click me!</a>
```

HTML Hyperlinks (Links) (cont.)

- HTML Links - The name Attribute
 - The name attribute specifies the name of an anchor.
 - The name attribute is used to create a bookmark inside an HTML document.
 - Bookmarks are not displayed in any special way. They are invisible to the reader.

HTML Hyperlinks (Links) (cont.)

- Example of HTML Links – the name Attribute
 - A named anchor inside an HTML document:
`Useful Tips Section`
 - Create a link to the "Useful Tips Section" inside the same document:
`Visit the Useful Tips Section`
 - Or, create a link to the "Useful Tips Section" from another page:
`Visit the Useful Tips Section`

HTML Images

- In HTML, images are defined with the `` tag.
- The `` tag is empty, which means that it contains attributes only, and has no closing tag.

```

```

HTML Images

- The ***align*** attribute was created to align an image within the page (or if the image is inside an element that is smaller than the full page, it aligns the image within that element).

```

```

HTML Backgrounds

- Background Images

```
<body background="drkrainbow.gif">
```

```
<body background="drkrainbow.gif" bgcolor="#333333">
```

```
<body background="drkrainbow.gif" bgproperties="fixed">
```

HTML Image Maps

- Image maps allow you to add multiple links to the same image, with each link pointing to a different page. They are particularly helpful when the image needs to be divided up in irregular shapes (such as maps).
- Each of these clickable areas is known as a *hotspot* .

HTML Image Maps (cont.)

```

<map name="cafe" >
  <area shape="circle" coords="154,150,59" href="cafe.html"
        target="_self" alt="Cafe" >
  <area shape="poly"
        coords="272,79,351,79,351,15,486,15,486,218,272,218,292,
        166,292,136,270,76" href="courtyard.html" target="_self"
        alt="Courtyard" / >
  < area shape="rect" coords="325,224,488,286"
        href="kitchens.html" target="_self" alt="Kitchens" / >
< /map >
```

HTML Tables

- Tables are defined with the `<table>` tag.
- A table is divided into rows (with the `<tr>` tag), and each row is divided into data cells (with the `<td>` tag). `td` stands for "table data," and holds the content of a data cell. A `<td>` tag can contain text, links, images, lists, forms, other tables, etc.
- The `<caption>` element is used to describe the content of table

HTML Tables (cont.)

- Table Example

```
<table border="1">  
  <caption> This is table </caption>  
  <tr>  
    <td>row 1, cell 1</td>  
    <td>row 1, cell 2</td>  
  </tr>  
  <tr>  
    <td>row 2, cell 1</td>  
    <td>row 2, cell 2</td>  
  </tr>  
</table>
```

How the HTML code above looks in a browser:

row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

HTML Tables (cont.)

- HTML Table Headers
 - Header information in a table are defined with the `<th>` tag.
 - All major browsers display the text in the `<th>` element as bold and centered.

HTML Tables (cont.)

- Example of HTML Table Header

```
<table border="1">  
  <tr>  
    <th>Header 1</th>  
    <th>Header 2</th>  
  </tr>  
  <tr>  
    <td>row 1, cell 1</td>  
    <td>row 1, cell 2</td>  
  </tr>  
  <tr>  
    <td>row 2, cell 1</td>  
    <td>row 2, cell 2</td>  
  </tr>  
</table>
```

How the HTML code above looks in your browser:

Header 1	Header 2
row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

HTML Tables (cont.)

- Use the ***rowspan*** and ***colspan*** attributes to make cells stretch over more than one row or column.
- ***colspan*** is used to merge columns of a table.
- ***rowspan*** is used to merge rows of a table.

HTML Tables (cont.)

- ***colspan*** example

```
< table border="1" >
< caption > Spanning columns using the colspan attribute < /caption >
< tr >
< td bgcolor="#efefef" width="100" height="100" > & nbsp; < /td >
< td bgcolor="#999999" width="100" height="100" > & nbsp; < /td >
< td bgcolor="#000000" width="100" height="100" > & nbsp; < /td >
< /tr >
< tr >
< td bgcolor="#efefef" width="100" height="100" > & nbsp; < /td >
< td colspan="2" bgcolor="#999999" > & nbsp; < /td >
< /tr >
< tr >
< td colspan="3" bgcolor="#efefef" height="100" > & nbsp; < /td >
< /tr >
< /table >
```

HTML Tables (cont.)

- ***rowspan*** example:

```
< table border="1" >
< caption > Spanning rows using the colspan attribute < /caption >
< tr >
< td bgcolor="#efefef" width="100" height="100" > & nbsp; < /td >
< td bgcolor="#999999" width="100" height="100" > & nbsp; < /td >
< td rowspan="3" bgcolor="#000000" width="100" height="100" > & nbsp; < /td >
< /tr >
< tr >
< td bgcolor="#efefef" height="100" > & nbsp; < /td >
< td rowspan="2" bgcolor="#999999" > & nbsp; < /td >
< /tr >
< tr >
< td bgcolor="#efefef" height="100" > & nbsp; < /td >
< /tr >
< /table >
```


HTML Lists

- The most common HTML lists are **ordered** and **unordered lists**.
- HTML Unordered list
 - An unordered list starts with the `` tag. Each list item starts with the `` tag.
 - The list items are marked with bullets (typically small black circles).

HTML Lists (cont.)

- Example of unordered lists

```
<ul>
```

```
<li>Coffee</li>
```

```
<li>Milk</li>
```

```
</ul>
```

How the HTML code above looks in a browser:

- Coffee
- Milk

HTML Lists (cont.)

- HTML Ordered Lists

```
<ol>  
  <li>Coffee</li>  
  <li>Milk</li>  
</ol>
```

How the HTML code above looks in a browser:

1. Coffee
2. Milk

HTML Lists (cont.)

- HTML Nested Lists

```
<ol type="1">
```

```
  <li>List Item 1
```

```
    <ol type="a">
```

```
      <li>Nested List Item 1
```

```
      <li>Nested List Item 2
```

```
    </ol>
```

```
  <li>List Item 2
```

```
</ol>
```

I. List Item 1

a. Nested List Item 1

b. Nested List Item 2

II. List Item 2

HTML Lists (cont.)

- HTML Definition Lists
 - A definition list is a list of items, with a description of each item.
 - The `<dl>` tag defines a definition list.
 - The `<dl>` tag is used in conjunction with `<dt>` (defines the item in the list) and `<dd>` (describes the item in the list):

HTML Lists (cont.)

- HTML Definition Lists

```
<dl>
```

```
  <dt>Coffee</dt>
```

```
  <dd>- black hot drink</dd>
```

```
  <dt>Milk</dt>
```

```
  <dd>- white cold drink</dd>
```

```
</dl>
```

How the HTML code above looks in a browser:

Coffee

- black hot drink

Milk

- white cold drink