

HTML –HyperText Markup Language

- ❖ HTML is a document description language
 - ◆ Web Publishing Syntax
 - ◆ CPU and Operating System Independence
 - ◆ Web Browser Independence
- ❖ Provides document layout description for:
 - ◆ Text, Images, Animation, Sound, Hyperlinks
 - ◆ Interaction with server forms and programs
- ❖ HTML Element Tags
 - ◆ ASCII text based
 - ◆ Denoted by enclosing in < >
 - ◆ Not case sensitive – May use upper or lower case
- ❖ HTML is **NOT** a programming language

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WWW Format Description Languages

- ❖ **HTML**: (Hyper Text Markup Language) 1990
 - ◆ Interpreted Language by Web Browser.
 - ◆ Describes both the **structure** and **presentation** (format) of a document.

- ❖ **XHTML**: 1997
 - ◆ Extensible Hyper Text Markup Language
 - ◆ Describes **structure** using elements in an html document.

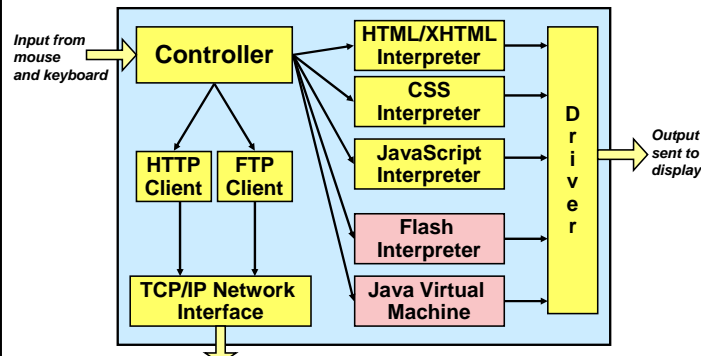
- ❖ **CSS**: 1995
 - ◆ Cascaded Style Sheet
 - ◆ Describes **presentation** (format) of elements in an html document.

Enroll in CMST385 to learn how to code XHTML and CSS

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The Web Browser Application

A Web Browser is a fault tolerant HTML/XHTML, CSS, and JavaScript interpreter that renders a web page.



Communication with remote server through network

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HTML: Document Elements

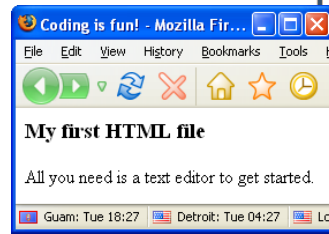
- ❖ **<html>** *Beginning of html code*
- ❖ **<head>** *Beginning of head*
- ❖ **<title>My Page</title>** *Document title*
- ❖ **</head>** *End of head closing tag*
- ❖ **<body>** *Beginning of body*
- ❖ **</body>** *End of body closing tag*
- ❖ **</html>** *End of html code closing tag*

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HTML: Simple Document Example

HTML Tag nesting order: **Last Open is First Closed**

```
<html>
<head>
  <title>Coding is fun!</title>
</head>
<body>
  <h3>
    My first HTML file
  </h3>
  <p>
    All you need is a text editor to get started.
  </p>
</body>
</html>
```



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HTML: Block Level Elements

❖ Paragraph = Normal text

◆ `<p>`This is a paragraph`</p>`

❖ Headings = Bold text

◆ `<h1>`XX-Largest`</h1>` = XX-Large

◆ `<h2>`X-Larger`</h2>` = X-Large

◆ `<h3>`Large`</h3>` = Large

◆ `<h4>`Medium`</h4>` = Medium

◆ `<h5>`Small`</h5>` = Small

◆ `<h6>`X-Small`</h6>` = X-Small

❖ **Warning: Nesting of block level elements is not permitted!**

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HTML: Comments

❖ XHTML Comments are considered hidden text

- ◆ Comments are ignored by the web browser rendering engine and display nothing in client area
- ◆ Permits writing notes to those that view xhtml code
- ◆ Can be used for debugging by disabling sections of code which may extend across multiple lines.

❖ Syntax:

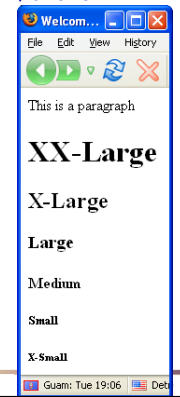
`<!-- This is a Comment -->`

- ◆ Can extend across multiple lines
- ◆ Can not contain "`-->`" in comment
- ◆ Can not nest comments

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HTML: Block Level Example

```
1. <html>
2.   <head> <!--Head section executes first-->
3.     <title>Welcome to Block Level HTML</title>
4.   </head>
5.   <body> <!-- displayed in browser-->
6.     <p>This is a paragraph</p>
7.     <h1>XX-Large</h1>
8.     <h2>X-Large</h2>
9.     <h3>Large</h3>
10.    <h4>Medium</h4>
11.    <h5>Small</h5>
12.    <h6>X-Small</h6>
13.  </body>
14. </html>
```



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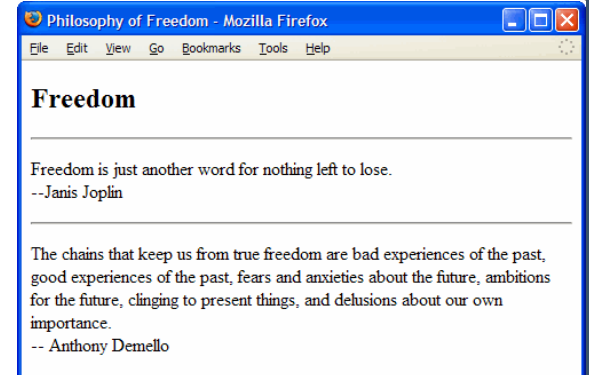
HTML: Horizontal Rules

- ❖ The Horizontal Rule `<hr>` element draws a horizontal bar across the web page
- ❖ `<hr>` is a block level element
 - ◆ Typically used to separate document sections
 - ◆ Represents element placement not text markup
 - ◆ Therefore, `<hr>` is an *empty element* and does not require an end tag
 - ◆ Avoid "sandwich" effect don't overuse
 - ◆ Limit to one `<hr>` element per web page
 - ◆ **Warning: Nesting of `<hr>` within heading or paragraph elements is not permitted! It is a block level element.**

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HTML: Assignment 1 - Part A

- ❖ Write the HTML code to display the following.
- ❖ Print the HTML valid code and the browser output.



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HTML: Inline -Text Markup Elements

- ❖ Some Inline Text Markup Elements

◆ <code></code> Usually bold <code></code>	= Usually bold
◆ <code></code> Emphasize <code></code>	= Usually italics
◆ <code><sub></code> Subscript text <code></sub></code>	= Subscript text
◆ <code><sup></code> Superscript text <code></sup></code>	= Superscript text
◆ <code><big></code> Big text <code></big></code>	= Big text
◆ <code><small></code> Small text <code></small></code>	= Small text
◆ <code><code></code> Monospaced text <code></code></code>	= Monospaced text
◆ <code><q></code> Quoted text <code></q></code>	= "Quoted Text"
◆ <code><abbr title="Japan">JP</abbr></code>	= JP
- ❖ Break Line is an *Inline* and *Empty* Element
 - ◆ The line will break `
` here.

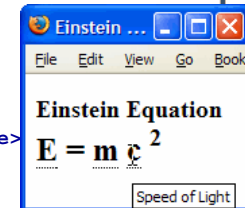
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Inline Markup Example 1

Inline tags need to be nested within a block level element.

```

1. <html>
2.   <head>
3.     <title>Einstein Equation</title>
4.   </head>
5.   <body>
6.     <p>
7.       Einstein Equation<br />
8.       <abbr title="Energy">E</abbr> =
9.       <abbr title="Mass">m</abbr>
10.      <abbr title="Speed of Light">c</abbr>
11.      <sup>2</sup>
12.    </p>
13.  </body>
14. </html>
    
```



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Inline Markup Example

Inline tags can be nested within other inline elements.

1. `<html>`
2. `<head>`
3. `<title>Inline Element Example</title>`
4. `</head>`
5. `<body>`
6. `<h2><abbr title="Extensible Hyper Text Markup Language">`
7. `XHTML</abbr>Recommendations:</h2>`
8. `<p>Elements are nested to create combined effects:
`
9. `<big>big <big>bigger <big>biggest</big></big></big>
`
10. `or Bold and bold-Italics</p>`
11. `<p>Closing tags are reverse order of open tags:
`
12. `<code>Last Opened is First Closed!</code></p>`
13. `<p>The title element text can not`
14. `be marked up.</p>`
15. `</body>`
16. `</html>`

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Inline Element Example - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

XHTML Recommendations:

Extensible Hyper Text Markup Language

Elements can be nested to create combined effects:

big bigger biggest

or Bold and *bold-Italics*

Closing tags are reverse order of open tags:
Last Opened is First Closed!

The title element text can not be marked up.

HTML: Assignment 1 - Part B

- ❖ Write the XHTML code to display your name and the following.
- ❖ Print the XHTML valid code and the browser output.

Combustion: - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

Combustion:

Methane and Oxygen = Carbon Dioxide and Water

$$\text{CH}_4 + 2 \text{O}_2 = \text{CO}_2 + 2 \text{H}_2\text{O}$$

Balanced equation for complete combustion of propane:

$$\text{C}_3\text{H}_8 + 5 \text{O}_2 = 3 \text{CO}_2 + 4 \text{H}_2\text{O}$$

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