

HTML

Fundamentals

Web Authoring and Design

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Outline

- Review Last Week
- What do we mean by HTML
Fundamentals
- Essential Tags/Formatting
- Examples
- Summary
- Review/Discussion

Last Week

- Read Chapters 1, 2 and 3
- Created a Simple Webpage
 - ▷ E.g., notepad to create hello.html
 - ▷ Test it locally (e.g., local computer in Chrome or Explorer)
 - ▷ Experiment (e.g., different tags, typing mistakes, mobile browser, ...)
 - ▷ **Setup GitHub Account/Webpage**
 - (submit URL today)

Question

- What type of webpage would you like to be able to create at the end of this course?

HTML Documents

- **HTML** source document

- ▷ A text-only document

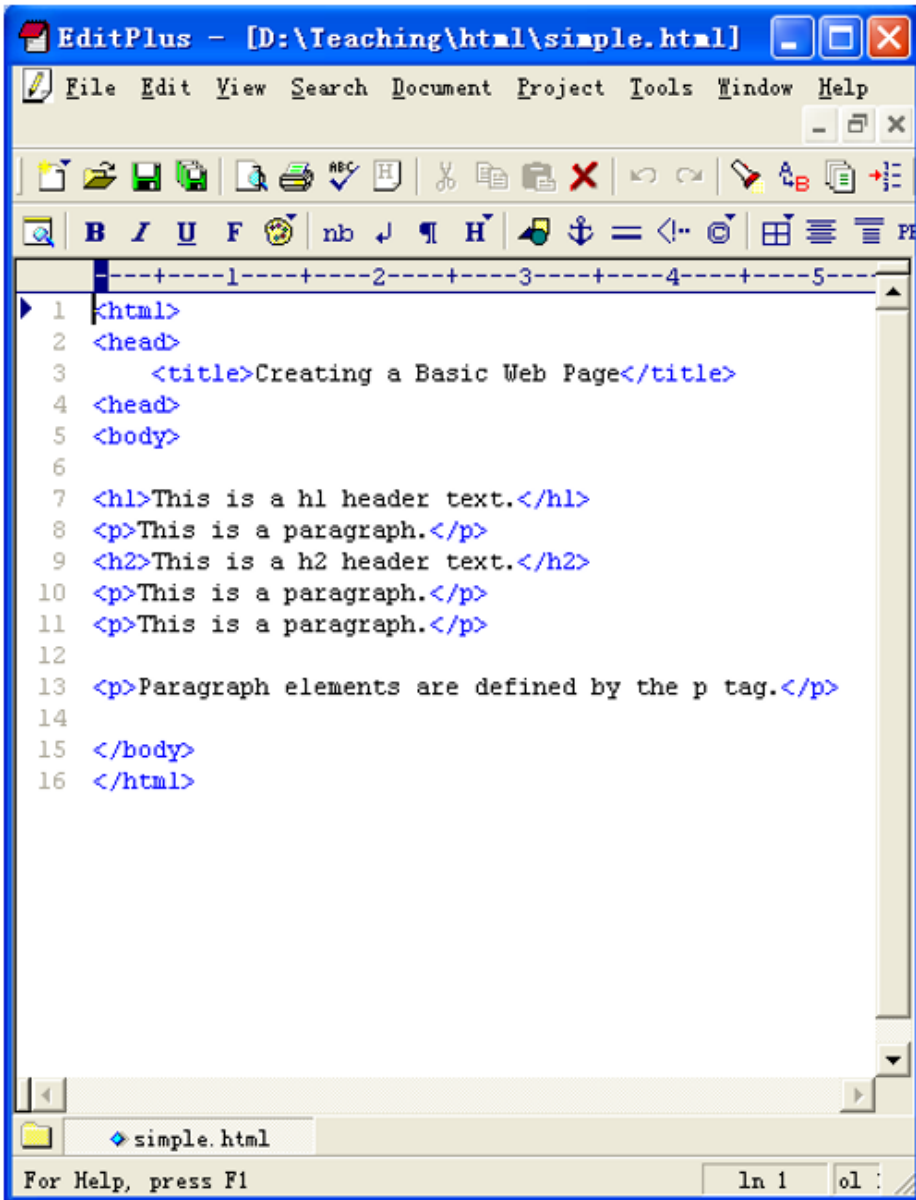
- ▷ Consists of (1) actual text, and (2) tags

- A **tag** is an html code that is enclosed in angle brackets `<>`; used to lay out the web page.

- **XHTML** is a simple, more standardized version of HTML

- XHTML/HTML can be created using a simple text editor like notepad

- File extension must be **.html** or **.htm**



The screenshot shows the EditPlus text editor with a blue border. The title bar reads "EditPlus - [D:\Teaching\html\simple.html]". The menu bar includes File, Edit, View, Search, Document, Project, Tools, Window, and Help. The toolbar contains various icons for file operations and editing. The main text area shows the following HTML code:

```
1 <html>
2 <head>
3   <title>Creating a Basic Web Page</title>
4 </head>
5 <body>
6
7 <h1>This is a h1 header text.</h1>
8 <p>This is a paragraph.</p>
9 <h2>This is a h2 header text.</h2>
10 <p>This is a paragraph.</p>
11 <p>This is a paragraph.</p>
12
13 <p>Paragraph elements are defined by the p tag.</p>
14
15 </body>
16 </html>
```

The status bar at the bottom shows "simple.html" and "ln 1 ol".

HTML Source



Firefox display of the html source

HTML, XML, XHTML

- XML (eXtensible Markup Language):
 - ▷ Is a set of rules that lets web designers classify their data in a way customized to their needs.
 - ▷ Extendable by creating new types of tags.
- XHTML (eXtensible HyperText Markup Language):
 - ▷ A new version of HTML based on XML
 - ▷ Inherits strict syntax rules of XML

HTML vs XHTML

■ Some comparisons of HTML vs. XHTML

HTML	XHTML
Tags aren't extensible	Tags are extensible
Tags are not case-sensitive	Only lowercase tags are allowed
Possible to leave off and ending tag like <code></body></code>	Tags should appear in pairs
Overlapping tags	No overlapping tags

HTML & XHTML

Note

■ Single `tags`

- ▷ E.g., `
` doesn't require a closing `</br>` tag
- ▷ HTML 4 does not require the ``/`` in empty tags, XHTML does

Tags (Elements)

- Tags are also called **elements**
- An **attribute** is a special code that can enhance or modify a tag. They are generally located in the starting tag after the tag name.
- Basic syntax for xhtml tags and attributes
 - ▷ `<tag attribute="value"> </tag>`
 - ▷ All tags **must be lower case**
 - ▷ all values of attributes need to be surrounded by quotes

Blocks of Text

- **<h1>, .. <h5>** 6 levels of headings available, ranging from <h1> to <h6>, 1 being the most important one
- **<blockquote> .. </blockquote>** Blockquotes are used to identify a **citation**.
- **<p>..</p>** Paragraphs

Small parts within a Block of Text

- Paragraphs and lists are meant to identify whole blocks of text, we sometimes want to provide meaning to a word (or a few words) within a text
- default, **** elements are displayed in bold
- default, **** elements are displayed in italic
- **<abbr>** element
 - ▷ I just bought a **<abbr title="Compact Disc">CD</abbr>**

Small parts within a Block of Text (Cont)

■ Inline quotes

▷ He said `<q>`“Hello World”`</q>` and just left

■ Plenty of other inline semantic elements

▷ See [HTML element reference documentation](#) for a comprehensive list

Review Basic Tags

Tag	Function
<code><html>...</html></code>	Encloses the entire HTML document.
<code><head>...</head></code>	Encloses the head of the HTML document. Used within the <code><html></code> tag pair.
<code><title>...</title></code>	Indicates the title of the document. Used within the <code><head></code> tag pair.
<code><body>...</body></code>	Encloses the body of the HTML document. Used within the <code><html></code> tag pair.
<code><p>...</p></code>	A paragraph; skips a line between paragraphs.
<code>
</code>	A line break.
<code><hr /></code>	A horizontal rule line.
<code><h1>...</h1></code>	A first-level heading.
<code><h2>...</h2></code>	A second-level heading.
<code><h3>...</h3></code>	A third-level heading.
<code><h4>...</h4></code>	A fourth-level heading (seldom used).
<code><h5>...</h5></code>	A fifth-level heading (seldom used).
<code><h6>...</h6></code>	A sixth-level heading (seldom used).

Power of Links

- The true power of WWW comes with hyperlinks
- Surfer click on a specially marked word or image on a web page and automatically be jumped to another web page or another place in the same web page.
 - ▷ Another web page – External link
 - ▷ Another place – Internal link
- Use `<a>` (anchor) tag to create a link

Hyperlinks

■ To search for something, visit

`Bing`

There are 3 types of target you can define.

- **anchor targets**, to navigate within the same page
- **relative URLs**, usually to navigate within the same website
- **absolute URLs**, usually to navigate to another website

Anchor targets

- Anchor target to navigate within the same page. By prepending your href with #, you can target an HTML element with a specific id attribute.
- For example, `` will navigate to the `<div id="footer">` within the same HTML document. This type of href is often used to navigate back to the top of the page.

Relative URLs

- If you want to define a link to another page of the same website, you can use relative URLs
- But relative to what? Well, relative to the current page

Go to the `contact page`

Absolute URLs

- This URL can be segmented in 3 parts:
 - **protocol** http://
 - **domain** ireallylovecats.com
 - **file path** gallery.html
- This **absolute URL** is **self-sufficient**: no matter where you use the link form, it contains *all* the information required to find the correct file, on the correct domain, with the correct protocol

Cats on my page ``
Link``

Images

- Images use the `` element
``

Also specify attributes:

```

```

If you use `animated` .gif files – the animations will play in the browser

Tables <table>

- HTML tables are meant for tabular data only, which is any type of content that can be semantically arranged in rows and columns
- Syntax - Building a table in HTML requires a specific structure:
 - ▷ open a <table>
 - ▷ add rows with <tr>
 - ▷ add regular cells with <td> or heading cells with <th>

Tables <table>

- Tables used not only for displaying data in tabular format
- A table (<table>) in HTML
 - ▷ Consists of rows (<tr>)
 - ▷ Each row consists of rectangular boxes called cells (<td>)
 - ▷ <table>

```
<tr><td>R1,Cell1</td><td>R1,Cell2</td></tr>  
<tr><td>R2,Cell1</td><td>R2,Cell2</td></tr>  
</table>
```

Table Example

```
<table>
  <tr>
    <td>John Lennon</td>
    <td>Rhythm Guitar</td>
  </tr>
  <tr>
    <td>Paul McCartney</td>
    <td>Bass</td>
  </tr>
</table>
```

John Lennon	Rhythm Guitar
Paul McCartney	Bass

thead, tfoot and tbody

- Just like a webpage can have a header and a footer, a table can have a head, a body, and a foot

thead, tfoot and tbody

```
<table>
  <thead>
    <tr>
      <th>Name</th>
      <th>Instrument</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>John Lennon</td>
      <td>Rhythm Guitar</td>
    </tr>
    <tr>
      <td>Paul McCartney</td>
      <td>Bass</td>
    </tr>
  </tbody>
</table>
```

Name	Instrument
John Lennon	Rhythm Guitar
Paul McCartney	Bass

colspan and rowspan

- You can merge columns or rows by using the rowspan and colspan respectively

```
<table>
  <tr>
    <th colspan="2">Michael Jackson Singles</th>
  </tr>
  <tr>
    <th rowspan="3">1979</th>
    <td>Don't Stop 'Til You Get Enough</td>
  </tr>
  <tr>
    <td>Rock with You</td>
  </tr>
  <tr>
    <td>Off the wall</td>
  </tr>
</table>
```

colspan and rowspan

- The “Michael Jackson Singles” cell spans across 2 columns, so the following row includes two cells.
- Because the cell “1979” spans across 3 rows, the 2 following rows only include a one cell, to allow space for the “1979” column.

Michael Jackson Singles

Don't Stop 'Til You Get Enough

Rock with You

1979Off the Wall

Attributes (Revisited)

- An **attribute** is a special code that can enhance or modify a tag. They are generally located in the starting tag after the tag name.
- Basic syntax for xhtml tags and attributes
 - ▷ **<tag attribute="value"> </tag>**
 - ▷ All tags must be lower case
 - ▷ all values of attributes need to be surrounded by quotes

Common Attributes

■ **id**

▷ unique identifier for elements

■ **class**

▷ the class of the element, used to *specify similar attributes for dissimilar elements* by putting them in the same class

■ **style**

▷ an inline style definition

■ **title**

▷ a text to display in a tool tip

Example Attributes

■ Examples 1

▷ `<p id="firstParag" class="indent" title="This paragraph introduces html attributes">`

▷ Assuming **style sheet** contains

▷ `.indent { margin-right: 5%; margin-left: 5%;}`

■ Example 2

▷ `<p id="firstParag" style="margin-right: 5%; margin-left: 5%;" title="This paragraph introduces html attributes">`

Attributes Cont.

■ lang

- ▷ sets the language code; “en”: English, “fr”: French, “es”: Spanish, “de”: German etc.

■ dir

- ▷ sets the text direction, left to right or right to left

■ `<p lang="fr" dir="ltr">bonjour!</p>`

■ accesskey

- ▷ assigns an access key to an element. An **access key** is a single character from the document character set.

■ tabindex

- ▷ Sets the tab order of an element

Deprecated Attributes

- In order to separate structure from presentation many HTML attributes/tags used for presentation were **deprecated**, starting from HTML version 4
- Some deprecated attributes
 - ▷ font, `Text`
 - ▷ align, `<p align="center">Centered text</p>`
 - ▷ *bgcolor*, *width*, *height*, etc.

List

■ Ordered lists & Unordered lists

▷ `` for ordered

▷ `` for unordered

▷ `` for each item inside the list

■ Browser inserts a blank line before & after the list (block-level element)

■ Example

▷ ` Item 1 Item 2
Item3 `

Nested lists

```
<ul>  
  <li>Top Level, Item 1</li>  
  <li>Top Level, Item 2  
    <ul>  
      <li>Sublevel 1, Item 1  
        <ul>  
          <li>Sublevel 2, Item 1</li>  
          <li>Sublevel 2, Item 2</li>  
        </ul>  
      </li>  
      <li>Sublevel 1, Item 2</li>  
    </ul>  
  </li>  
  <li>Top Level, Item 3</li>  
</ul>
```

Customizing List Display

- List numbers or marks can be customized

- ▷ “*type*” attribute

- Example

- ▷ `<ul type=“square”>`

- ▷ `<ol type=“A”>`

- ▷ `<ol type=“a”>`

- ▷ `<ol type=“I”>`

- ▷ `<ol type=“i”>`

- “*type*” attribute is not allowed in XHTML 1.0 Strict, so use *style sheets* instead

Definition Lists

- `<dl>` for “*list element*”;
- `<dt>` for “*definition terms*”;
- `<dd>` for “*definition data*”
- Example

```
<dl>
  <dt><strong>CPU</strong></dt>
  <dd>Central Processing Unit</dd>
  <dt><strong>ALU</strong></dt>
  <dd>Arithmetic Logic Unit</dd>
  <dt><strong>GHz</strong></dt>
  <dd>Gigahertz</dd>
</dl>
```

Summary

- Overview of HTML Fundamentals
- Hands-On/Practical
- Thinking about Designing your Website
 - ▷ Multiple .html documents, content, structure, (works and doesn't work on a webpage) – easy to for the user to navigate/understand

This Week

■ Read Chapters 5, 6, 7

■ Github Webpage

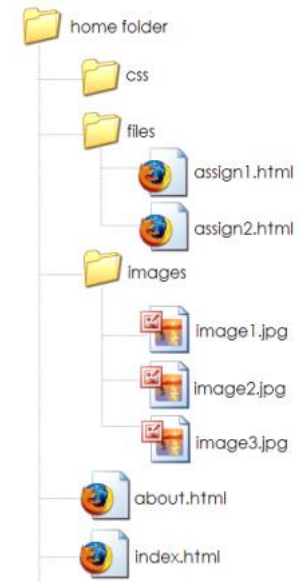
▷ xxxxx.github.io

▷ Multiple file/structure

■ Review Slides

■ Experiment and implementing various HTML features (e.g., multiple pages, images, tables, formatting, ...)

■ Quizzes



Questions/Discussion

■ Revision Questions

Question

- 1. Which of the following is an example of an IP address?

- a. www.whitehouse.gov
- b. <http://www.whitehouse.gov/history/index.htm>
- c. .gov
- d. 216.43.187.162

Answer

■ Answer: d

Question

- When you are browsing the Web and viewing web pages, your computer is acting as a:

- a. telnet
- b. client
- c. server
- d. packet

Answer

■ Answer: b

Question

■ Basic syntax for XHTML tags and attributes is:

■ a. `<tag attribute=value> </tag>`

■ b. `<tag attribute=value> <tag>`

■ c. `<tag attribute="value"> <tag>`

■ d. `<tag attribute="value"> </tag>`

Answer

■ Answer: d

Question

■ The XHTML code `CS Department at School` will create a _____ to CS web page:

- a. internal link
- b. external link
- c. anchor
- d. combination link

Answer

■ Answer: b

Question

- What does HTML stand for?
- a. Hyperlinks and Text Markup Language
- b. Home Tool Markup Language
- c. Hyper Text Markup Language

Answer

■ Answer: c

Question

Choose the correct HTML tag for the largest heading

a. <head>

b. <heading>

c. <h6>

d. <h1>

Answer

■ Answer: d

Question

What is the correct HTML tag for inserting a line break?

a. <lb>

b. <break>

c.

Answer

■ Answer: c

Question

- Choose the correct HTML tag to make a text bold

- a. <btext>
- b. <bold>
- c. <bb>
- d.

Answer

■ Answer: d

Question

Choose the correct HTML tag to make a text italic

a. `<italics>`

b. `<ii>`

c. `<it>`

d. ``

Answer

■ Answer: d

Question

- What is the correct HTML for making a hyperlink to ZJNU Computer Science website?

- a. ` ZJNU CS`
- b. ` ZJNU CS`
- c. ` ZJNU CS`
- d. `ZJNU CS`

Answer

■ Answer: b

Question

How can you make a list that lists the items with numbers?

a. ``

b. ``

c. `<dl>`

d. `<list>`

Answer

■ Answer: a

Question

- What is the correct HTML for inserting an image?

- a. ``
- b. `<image src="image.gif">`
- c. `image.gif`
- d. ``

Answer

■ Answer: d

Question

A browser is a software program which interprets the HTML documents and displays it on the user's screen.

True

False

Answer

True

Question

A tag is an html code that is enclosed in angel brackets (<>), and it's used to lay out the web page.

True

False

Answer

Answer: True

Question

- In XHTML, both uppercase and lowercase tags are allowed for tag names.

Answer

Answer: False

Question

- The following XHTML code will display all the lowercase English characters on screen:

```
<!-- abcdefghijklmnopqrstuvwxyz-->
```

Answer

❑ Answer: False

Question

- The following is a legitimate XHTML code:
`<h2>Bold and italic</h2>`

Answer

❑ Answer: False

Task

- Investigate what is the purpose of the Domain Name System (DNS)?

Class Quiz

■ Class Quiz

- ▷ 30 Questions/30 Minutes
- ▷ Multiple Choice