

**01**

# **Web Page and HTML Basic**

## Web page

- A webpage is a web document
  - is designed to be displayed in a **web browser** on the **World Wide Web**
- A web browser displays a web page on a **monitor** or **mobile device**.
- A webpage usually contains text and images written in **HTML** or comparable **markup language**,
  - other types of content are also embedded in webpages, such as Flash videos and music files.

## Web page

- Web pages provide **hypertext** that include a **navigation bar** or a **sidebar menu** to *other* web pages via **hyperlinks**, often referred to as *links*.

# HTML and XHTML

- HTML - HyperText Markup Language
  - The set of markup elements or tags placed in a file intended for display on a web browser.
- XML – eXtensible Markup Language
  - A text-based language designed to describe, deliver, and exchange structured information.
  - It is not intended to replace HTML -- it is intended to extend the power of HTML by separating data from presentation.
  - We can define our own tags in XML.
- XHTML – eXtensible Hypertext Markup Language
  - XHTML 1.0 developed on HTML 4.0 as an application of XML.
  - It combines the formatting strengths of HTML 4.0 and the data structure and extensibility strengths of XML.



# What is HTML

- HTML : Global publishing format for the Web
- HTML is *not* a programming language
- HTML pages can be simple text or complex multimedia
- An HTML file is a text document containing markup tags. These tags tell the Web browser how to display the page
- HTML files must have an `.htm` or `.html` file extensions

# HTML Structure

- An HTML document contains
  - Text: Displayed by the browser screen
  - Instructions
    - Interpreted by browser
    - Written in HTML elements called *tags*, which are identified by angle brackets and a keyword (`<a> . . . </a>`)
- HTML documents should contain a minimum of three tags to identify:
  - The document type as HTML (`<html> . . . </html>`)
  - Header (`<head> . . . </head>`)
    - Contains information about the document (editor, keywords, etc.)
    - Is not displayed by a browser
  - Body (`<body> . . . </body>`)
    - Contains the text, links, and graphics
    - Is displayed on the page

# Basic Structure of an HTML Document

```
<html>  
  <head>  
    <title>My First Page</title>  
  </head>  
  
  <body>  
    This will be the text,  
graphics,  
    links, etc.)  
  </body>  
</html>
```

## <head> Section

- This section is not displayed directly to the user. It is used to include Page Titles, Keywords, etc. which are used by the Browser for various purposes.
- The typical <head> section of a page will look like

```
<head>
```

```
  <title>My first Page</title>
```

```
  <meta name="description" content="VTC/CIM Homepage">
```

```
  <meta name="keywords" content="VTC, CIM">
```

```
</head>
```

- Using the **meta** "description" and "keywords" tags, you can add keywords to your pages so various search engines (Google etc) can index your site.
- When the documents are in their correct place on the web server, you should also register your documents with a search engine.



# HTML Tags

- All commands that specify the layout of our Web pages are provided in the form of *elements* (most commonly called *tags*), which are embedded in our HTML documents.
- HTML tags normally come in pairs like **<b>** and **</b>**. The first tag in a pair is the *start tag*. The second tag is the *end tag*.
- Within the angle brackets of the start tag might be extra *attributes* (or *name/value pairs*). For example,

```
<font size="12">.
```

- HTML element names are not case sensitive. **<b>** means the same as **<B>**. Later, we shall see that we should be using lower case (because XHTML needs to be in lower case).
- Comments may be included in a file, to aid human readability:

```
<!-- This is comment text -->
```
- HTML is largely free-format; start tags and end tags may be scattered anywhere within the text
- Indentation also aids readability

# Text Formatting

- One of the main purposes of HTML is to format text. Many different tags are provided to do this. Common ones include:
- Headings: <h1> through to <h6>
- Text Formats (Physical Style Formatting):

<i> . . </i> *Italic*

<b> . . </b> **bold**

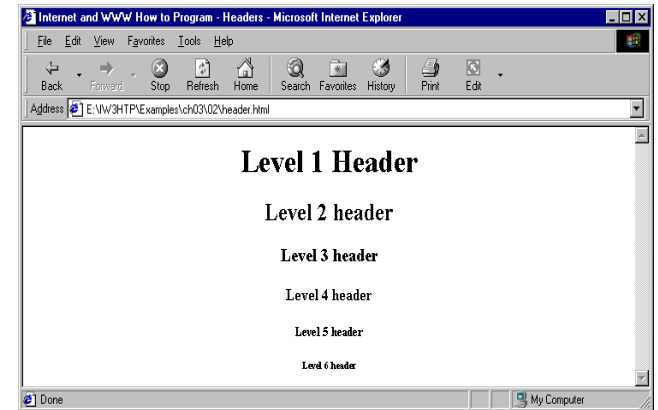
<u> . . </u> Underline

<big> . . </big> Enlarged font

<sub> . . </sub> Subscript

<sup> . . </sup> Superscript

<tt> . . </tt> Teletype (fixed-width) font



# HTML Headings

```
<html>
<head>
  <title>Untitled</title>
</head>
<body>
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<h4>This is heading 4</h4>
<h5>This is heading 5</h5>
<h6>This is heading 6</h6>
</body>
</html>
```

**This is heading 1**

**This is heading 2**

**This is heading 3**

**This is heading 4**

**This is heading 5**

**This is heading 6**

# HTML Paragraphs

```
<html>
<head>
  <title>Untitled</title>
</head>
<body>
<p>This is paragraph
  1.</p>
<p>This is paragraph
  2.</p>
<p>This is paragraph
  3.</p>
</body>
</html>
```

This is a paragraph 1.

This is a paragraph 2.

This is a paragraph 3.

# Text Formatting

- Paragraphs: `<p> . . . </p>`
- Line breaks: `<br />`
  - `<br>` has no closing tag (`</br>`) in HTML. To convert this tag to XHTML and to ensure compatibility with HTML browsers, add a space and forward slash to the end of the tag (`<br />`).
- Preformatted text: `<pre> . . . </pre>`:  

```
<pre>
  Name Tel Year
  John 123 1st
  Mary 345 2nd
</pre>
```

# Hyperlinks

- Links may be embedded anywhere in an HTML document.
- Links may contain a reference to :
  - a remote Web page, specified by a full URL;
  - a local Web page, specified by its filename within directory of the current page;
  - a local Web page, specified by its filename relative to the directory of the current page;
  - a line within the current page (a anchor)

# Hyperlink Example

```
<html>
<body>
<h1>This is another Web page.</h1><br />
<p> There are 4 ways of referencing other documents: </p>
<ol>
  <li> Absolute:
    <a href="http://www.vtc.edu.hk">This text </a>
    is a link to the VTC.</li>
  <li> Relative: <a href="test.html">This text </a>
    is a link to a local HTML page.</li>
  <li> Relative: <a href="./var/test2.html">This text </a>
    is also a link to a local HTML page.</li>
  <li> Anchor:<a href="#xyz">Go to anchor</a></li>
</ol>
<br />
This is the anchored location <a name="xyz"></a>
</body>
</html>
```

## Hyperlink Example





## Horizontal Lines (Rules)

- The `<hr />` element creates a horizontal line on the page.
- Its attributes include:
  - The "align=" attribute indicates the alignment of the rule line (default="center");
  - The "size=" attribute indicates the thickness of the rule line, in pixels (default=2);
  - The "width=" attribute indicates the horizontal width of the rule line (default="100%"). This can be specified either in pixels or as a percentage of the screen width.

- **For Examples:**

```
<hr size="6" width="400" />
```

```
<hr size="6" width="50%" />
```

```
<hr align="left" size="6" width="100" />
```

## HTML Character Set

- All text in an HTML file, outside of element angle brackets, is displayed as text by a web browser.
- Only standard ASCII text may be used in an HTML file, so how do we display special characters?
- Named entities begin with an ampersand (&) and end with a semicolon (;). The names are case sensitive:

<code>&amp;reg;</code>	yields	®
<code>&amp;copy;</code>	yields	©
<code>&amp;amp;</code>	yields	&
<code>&amp;quot;</code>	yields	"
<code>&amp;lt;</code>	yields	<
<code>&amp;gt;</code>	yields	>

# Text Alignment

- To align an individual heading or paragraph, use the `align="left"`, `align="right"` or `align="center"` attributes.
- A more flexible method for alignment is to use the division element (`<div>`).
- `<div>` may have several attributes (e.g. `align=""`), all of which are applied to all of the text held within the division.
- `<div>` has two advantages over `align`:
  - `<div>` needs to be used only once, rather than as an attribute to many elements.
  - It can be used to align any block element, even ones that do not have the `align` attribute within their tag structure.
- `<span>` may be used to surround individual words or groups of words. We'll discuss more in our later CSS lectures.

# HTML5 Tags

- HTML5 is a cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).
- WHATWG was working with web forms and applications, and W3C was working with XHTML 2.0. In 2006, they decided to cooperate and create a new version of HTML.
- Some rules for HTML5 were established:
- New features should be based on HTML, CSS, DOM, and JavaScript
- Reduce the need for external plugins (like Flash)
- Better error handling
- More markup to replace scripting
- HTML5 should be device independent
- The development process should be visible to the public

- **The HTML5 <!DOCTYPE>**
- In HTML5 there is only one <!doctype> declaration, and it is very simple:
- <!DOCTYPE html>
- Usually browse with FireFox.

## <header>

- The <header> tag specifies a header for a document or section.
- The <header> element should be used as a container for introductory content or set of navigational links.
- You can have several <header> elements in one document.

## <header>

- <!DOCTYPE html>
- <html>
- <body>
- <article>
- <header>
- <h1>Internet Explorer 9</h1>
- <p><time pubdate datetime="2011-03-15"></time></p>
- </header>
- <p>Windows Internet Explorer 9 (abbreviated as IE9) was released to
- the public on March 14, 2011 at 21:00 PDT.....</p>
- </article>
- </body>
- </html>

### Internet Explorer 9

Windows Internet Explorer 9 (abbreviated as IE9) was released to the public on March 14, 2011 at 21:00 PDT.....

## Online Learning Resources

- <https://www.w3schools.com/html/>
- <https://www.tutorialspoint.com/html/>
- <http://htmldog.com/guides/html/beginner/>
- Online Editor:
  - <http://cssdeck.com/labs>



The End