HTML Programming Basic Skills (1)

Wen-Hsiang Lu (盧文祥)
Department of Computer Science and Information Engineering,
National Cheng Kung University
2015/09/25

What is HTML?

- HTML is a language for describing web pages.
- HTML stands for Hyper Text Markup Language
- 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 Structure

- A HTML document
  - consists of HTML's (markup) tags and plain text contents
  - HTML tags are keywords surrounded by angle brackets
    - Tag example: <head>、<p>、
、<img>
  - The plain text is described between "<html>" and </html> tags
    - A HTML document is divided into two sections
      - Heading section：represented by tag "<head>"
      - Body section：represented by tag "<body>"
  - http://www.w3schools.com/html/default.asp

HTML Document Example

```
<!DOCTYPE HTML>
<html>
    <head>
        <title>The title of this webpage</title>
    </head>

    <body>
        <h1>My First Homepage</h1>
        <p>I am Tim.</p>
        I like reading.
    </body>
</html>
```

4

HTML Document Displayed
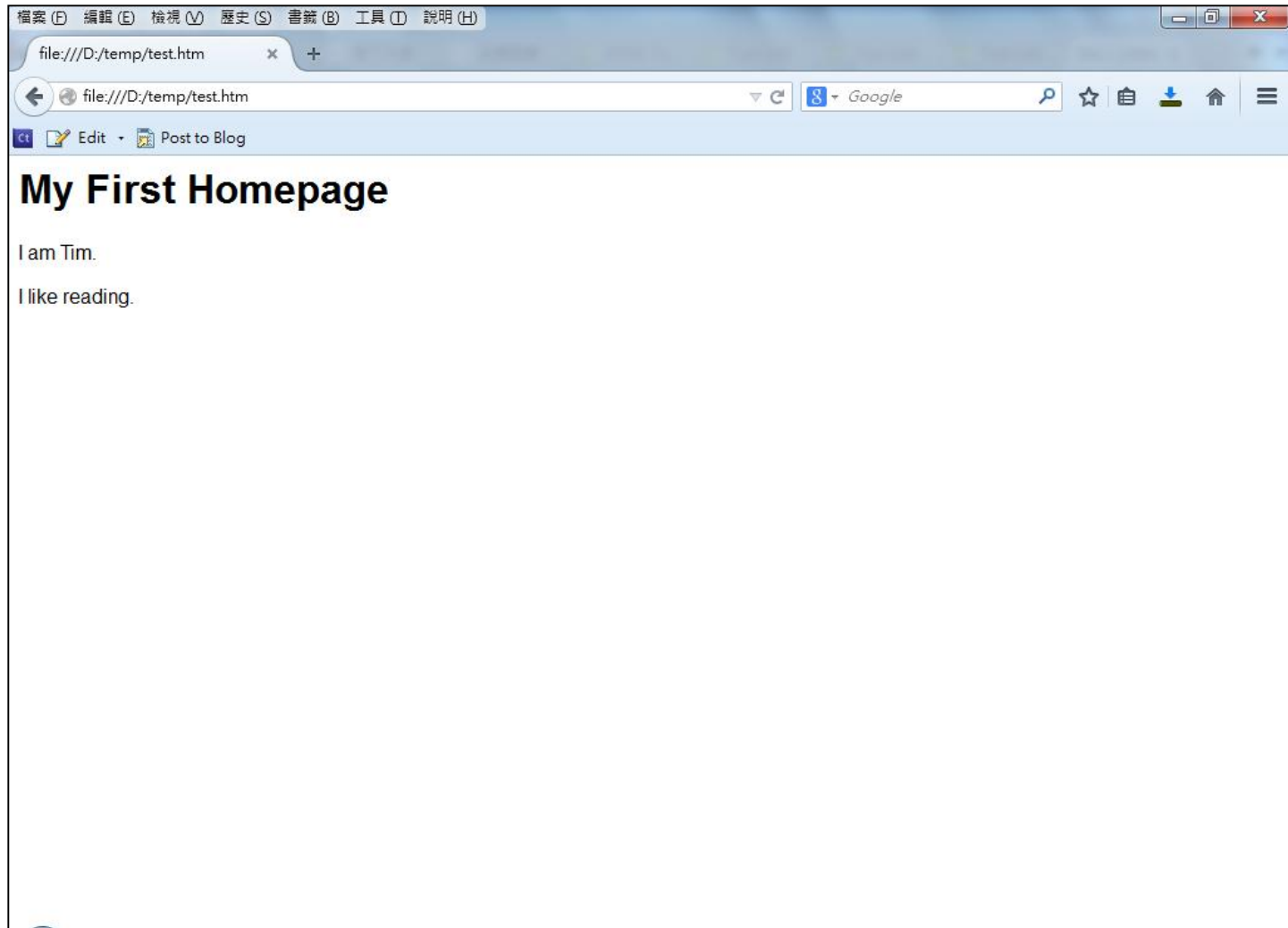
Heading Section

- HTML head elements

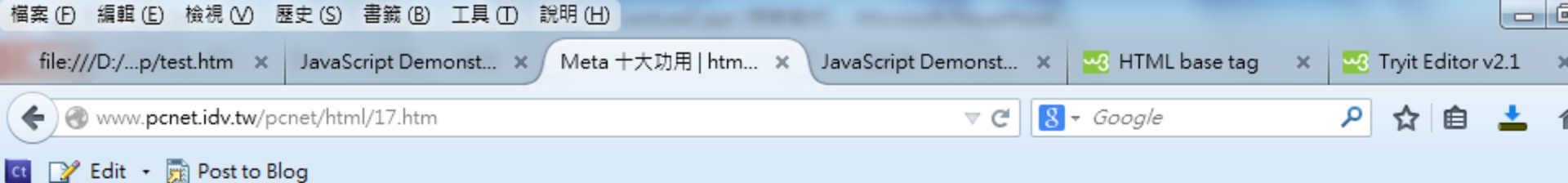| Tag	Description	
<head>	Defines information about the document	
<title>	Defines the title of a document	
<base>	Defines a default address or a default target for all links on a page	
<link>	Defines the relationship between a document and an external resource	
<meta>	Defines metadata about an HTML document	part1-1.htm
<script>	Defines a client-side script, e.g., JavaScript and VBScrip	part1-2.htm

<meta> Tag (1)

- Metadata is information about data.

- The <meta> tag provides metadata about the HTML document. Metadata will not be displayed on the page, but will be machine parsable.

- The <meta> tag always goes inside the head element.

- The metadata can be used by browsers (how to display content or reload page), search engines (keywords), or other web services.

\<meta\> Tag (2)

- Meta elements are typically used to specify
  - page description
  - keywords
  - author of the document
  - last modified
  - other metadata.

```
<head>
<meta name="description" content="Free Web tutorials" />
<meta name="keywords" content="HTML, CSS, XML, JavaScript" />
<meta name="author" content="Tim Lee" />
<meta http-equiv="content-type" content="text/html; charset=UTF-8" />
</head>
```

一、顯示及排列中文

`<META http-equiv="Content-Type" content="text/html; charset=big5">`
說明： Content-Type==>文件內容格式 ;==>CONTENT內要作的每件事" "，分別以分號區隔 text/html==>純文字/超文字 charset==>字元組為中文繁體大五碼，如用iso-2022-jp是指日文

二、讓搜索引擎容易找到您

`<META NAME="KeyWords" CONTENT="電腦教學'網路教學'Linux教學'CSS教學'HTML教學'軟體教學'發信教學'SEO教學'交換連結">` `<META NAME="KeyWords" CONTENT="css'HomePage'html'linux'seo">`
說明：網頁內文關鍵字，可使用中、英文均可

三、關於網站的內容描述

`<META NAME="Description" CONTENT="這是一個免費學習網頁製作的好地方，網路研究所">`
說明：Description==>內容的主要描述

四、這個網頁的作者是誰

`<META NAME="Author" CONTENT="PCNET">`
說明：標註本網頁作者姓名等資料

<!DOCTYPE>

- The <!DOCTYPE> declaration is not an HTML tag; it is an instruction to the web browser about what version of HTML the page is written in.
  - <!DOCTYPE html>
  - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
  - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
  - <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">
  - <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN" "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">

Notes of HTML

- <!-- ******** -->

- <!-- Example -->

- <!-- ******** -->

- <!-- Content of this paragraph is demonstrated by JavaScript code -->

- Notes can <u>cross columns</u>

- Notes <u>do not display</u> on web page

  – [Example] part1-2.htm

Tags

- Tag types
  - paired tag：<html>…</html>，<a>…
  - single tag：
，<p>
- Tag's name has no difference with uppercase and lowercase
- It is <u>not allowed to define tag's</u> name by yourself
- Tags can contain **attributes**
  - <img src=Photo.gif>
  - Cheng Kung University
  - Three formats of tag attributes
    - <body bgcolor= green>
    - <body bgcolor= 'green' >
    - <body bgcolor= "green" >

Paragraph Layout (1)

-
 : Change to a new line (line break)
- <pre>…</pre> : Maintain the original text layout
- <p> : Paragraph tags
- <**div**> : a block level element used for grouping HTML elements.
- Special characters ：< 、> 、" 、&
  -    => Whitespace
  - <   => <
  - > => >
  - "   => "
  - &   => &
- [Example] part2-1.htm

Paragraph Layout (2)

- `<blockquote>`: Indent (縮排) tag
- `<address>`: Special post/mail format
- `<center>`: text position alignment
- [Example] part2-1.htm

Paragraph Layout (3)

- \<hr>: line tag
  - size attribute (line thickness)
  - width attribute (line width)
  - align attribute (line position alignment)
  - noshade attribute (shadow lines)
- [Example] part2-1.htm

Paragraph Layout (4)

- Example: use five div elements to create a multiple column layout.

```html
<html>
<body>

<div id="container" style="width:500px">

<div id="header" style="background-color:#FFA500;">
<h1 style="margin-bottom:0;">Main Title of Web Page</h1>
</div>

<div id="menu" style="background-color:#FFD700;
height:200px;width:100px;float:left;">
<b>Menu</b><br>
HTML<br>
CSS<br>
JavaScript</div>

<div id="content" style="background-color:#EEEEEE;
height:200px;width:400px;float:left;">
Content goes here</div>

<div id="footer" style="background-color:#FFA500;
clear:both;text-align:center;">
Copyright © W3Schools.com</div>

</div>

</body>
</html>
```

Main Title of Web Page

Menu
HTML
CSS
JavaScript

Content goes here

Copyright © W3Schools.com

Page Background: <body> Tag

- The attributes of tag <body>
  - bgcolor attribute (background color)
    - » [Example] part3-1.htm
  - background attribute (background image)
  - text attribute (text color)
  - leftmargin, topmargin attribute (page's left & top border)
- [Example] part3-2.htm

Text Formatting (1)

Effect	Tag	Effect	Tag
title	<h1>, <h2>,..., <h6>	Delete Line	<s> <strike> <del>
Bold	<b> <strong>	Small font	<tt>
Italic	<i> <em> <var> <cite>	Increase font	<big>
		Reduce Font	<small>
		Superscript font	<sup>
		Subscript font	<sub>
Underline	<u> <ins>		

Text Formatting (2)

- <h?>: Text heading tag(? is the value between 1 to 6)
  - align attributes：left、center、right
- <b>、<strong>: Bold tag
- <i>、<em>、<var>、<cite>: Italic tag
- <u>、<ins> : Underline tag
- <s>、<strike>、<del> : Strike tag
- [Example] part4-1.htm

Text Formatting (3)

- <tt>: Small font tag
- <big>、<small>: Increase and reduce font size tag
- <sub>、<sup>: Subscript and Superscript tag
- <blink>: Blinking text tag
- [Example] part4-2.htm

Multifunction Text Formatting

- <font>: Multifunction text layout tag
  - size attribute (font size)
  - color attribute (font color)
  - face attribute (font type)
- [Example] part4-2.htm

List Tags

- `<li>`: Item tag
- `<ol>`: Ordered list
- `<ul>`: Unordered list (Standard list with indent (縮排))
- `<lh>`: Unordered list (Standard list without indent)
- Nested list
- [Example] part5-1.htm

Table Tag (1)

- Table declaration：<table>…</table>
  - row：<tr>…</tr>
  - cell：<td>…</td>
  - cell header ：<th>…</th>
- [Example] part6-1.htm

Table Tag (2)

- Table attributes
  - border width: <table border="3">…</table>
  - width of the internal borders:
    <table border="3" cellspacing="5">
  - width: <table border="3" width="600">
  - height: <table border="3" height="30%">
  - position: <table align="left">   [center, right]
  - background color: <table bgcolor="FFFF00">
  - border color : <table bordercolor="FF0000">
  - background image: <table background="bg1.gif">
- [Example] part6-1.htm

Table Tag (3)

- \<tr> row's attributes
  - row's background color ：\<tr bgcolor="FFFF00">
  - Align content in a table row ：\<tr align="left"> [center, right]
  - Vertically align content in a table row ：
    \<tr valign="top"> [middle, bottom]
- [Example] part6-2.htm

Table Tag (4)

- \<th>\<td> cells' attributes
  - cell width ：\<td width="100">
  - cell height ：\<td height="50">
  - Align content in a cell ：\<td align="left"> [center, right]
  - Vertically align content in a cell ：
    \<td valign="top"> [middle, bottom]
  - cell background color ：\<td bgcolor="FFFF00">
- [Example] part6-3.htm

Table Tag (5)

- <th><td>cells' attributes
  - Specify the number of columns the current cell spans across ：
    <td colspan="2">
  - Specify the number of rows the current cell spans across ：
    <th rowspan="2">
- Table caption ：<caption>…</caption>
  - Align the caption ：<caption align="left"> [center, right]
- Nested Table
- [Example] part6-4.htm