

# 網頁程式設計 Web Programming

Ch2: HTML

111-2-r1

# Outline

- HyperText Markup Language
- Static HTML page
- HTML Header

REF: 新觀念PHP7+MySQL+AJAX網頁設計範例教本(第五版)，旗標。

REF: 輕鬆玩HTML5+CSS3+JavaScript網頁程式設計，全華。

# HyperText Markup Language

- HyperText Markup Language (HTML) is a markup language used to display the information through a web browser.
- It can be combined with Cascading Style Sheets (CSS) and other scripting languages (like JavaScript) for building a brilliant webpage.
- When Client's web browser receives a HTML from the web server/opens a local HTML file, it renders the HTML into multi-media webpage.

# HyperText Markup Language (cont.)

- HTML describes the structure of the design of webpage with documented words.
- HTML elements are delineated by tags, written using angle brackets.
- → `<html>...</html>`
- With HTML, image, video and other objects (like form) are able to be embedded into the rendered page for presentation.

# Naming Comparison

- HTML (HTML4 and before)
  - HTML4 became a W3C Recommendation in 1997
  - It continues to serve as a rough guide to many of the core features of HTML
- HTML5 (called XHTML before)
  - It includes more processing models to encourage interoperable implementations in HTML
  - Many new syntactic features are added, such as section, nav (navigation), and figure
- DHTML (Dynamic HTML)
  - It involves HTML, CSS and script languages (like Flash, JS, and AJAX) to provide dynamic webpages for user browsing

REF: <https://www.w3.org/TR/html5-diff/>

# HyperText Markup Language

- HTML markup description consists of several key components:

- Tags (and their attributes)
- Character-based data type
- Character reference
- Entity reference

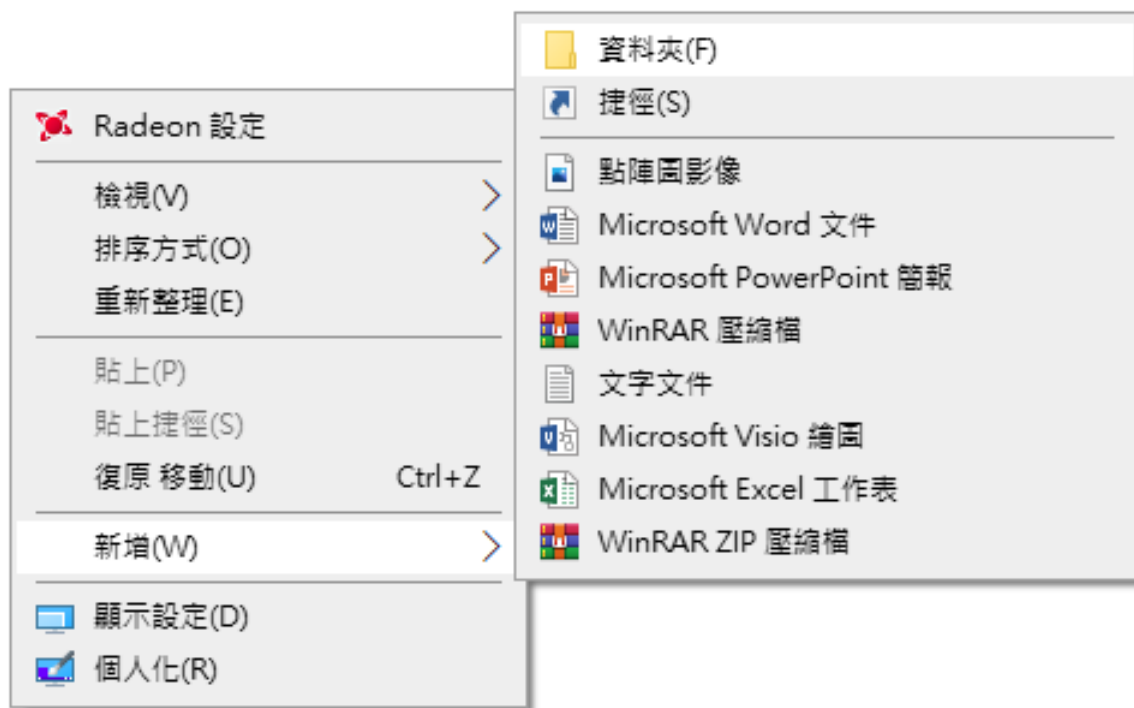
→ 不同的 tag 可呈現出不同的 html 元素 (element) 效果

- HTML tags most commonly come in pairs like <html> and </html>, while some are unpaired, such as <img src...> and <a href...>
- The first tag in such a pair is the start tag, and the second one is the end tag
- They are also called **opening tags** and **closing tags**.

REF: <https://en.wikipedia.org/wiki/HTML>

# 如何使用文字編輯器軟體簡單撰寫 HTML

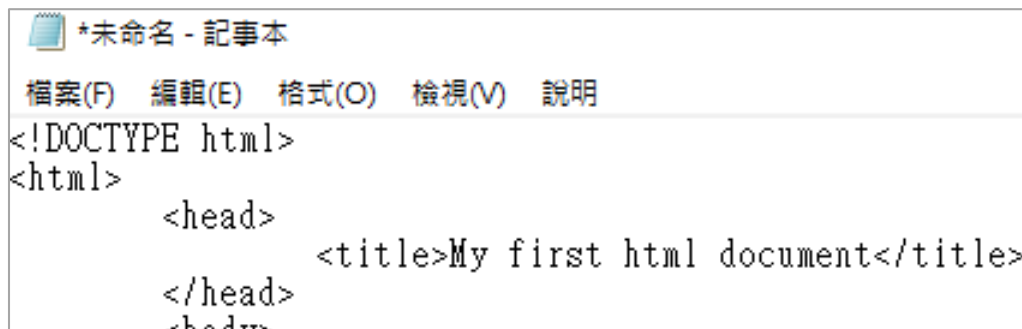
- 首先需要決定你的網頁檔案要放在電腦中的哪個資料夾
- 建議單獨新增一個資料夾，將網頁存放在裡面 (練習時比較好整理)
- 也可以在資料夾內部新增其他子資料夾，將圖片/影片/... 進行分類



也可以自行依照需求命名 (例如 hw1, hw2...)

# 如何使用文字編輯器軟體簡單撰寫 HTML (cont.)

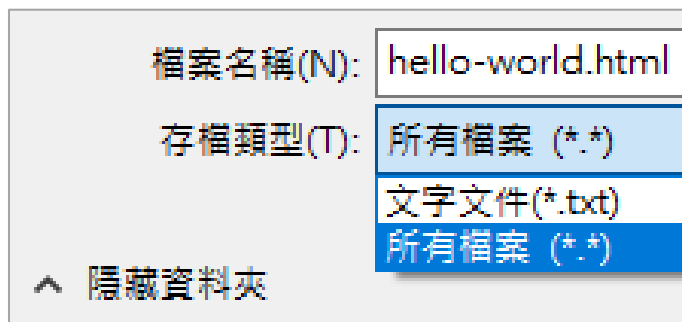
- 可以使用 windows 內建的記事本 (notepad) 建立檔案



```
*未命名 - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
<!DOCTYPE html>
<html>
  <head>
    <title>My first html document</title>
  </head>
  <body>
```

準備一個乾淨的 html template  
練習時直接複製來修改會更方便

- 記得存檔時的存檔類型要選擇 “所有檔案” 並且 “檔名後面要手動加上副檔名”



← 副檔名為 .html 或者 .htm 都可以，此範例為 hello-world.html

← 選擇所有檔案 (\*.\*)

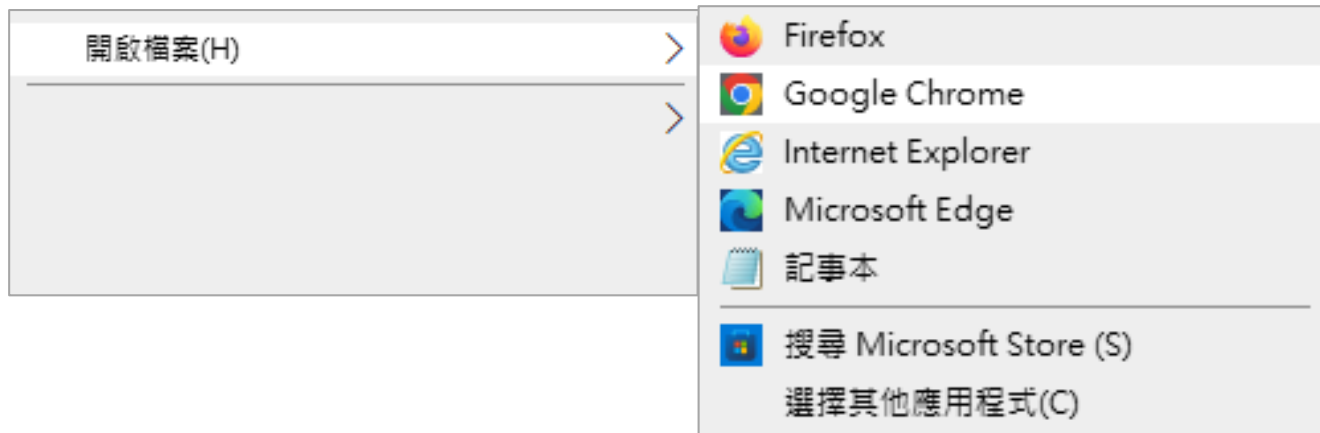


# 如何使用文字編輯器軟體簡單撰寫 HTML (cont.)

- 根據預設的瀏覽器 (browser)，存好的檔案可能會出現不同的檔案圖示



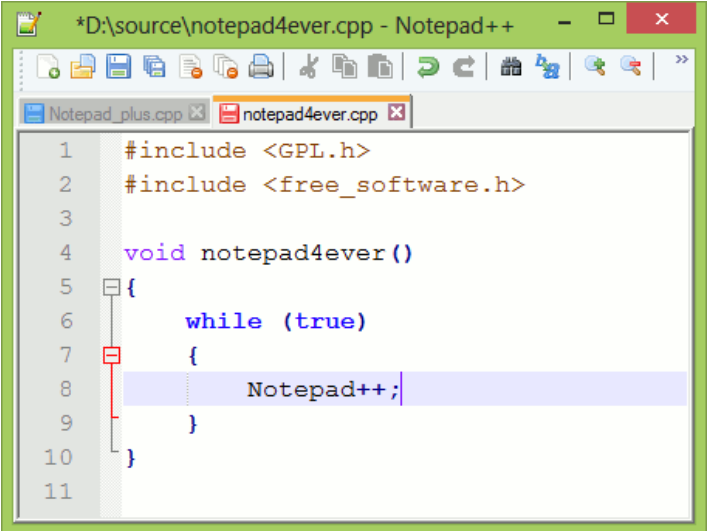
- 右鍵點選圖示後選擇“開啟檔案”後會出現可供選擇的瀏覽器



# 如何使用文字編輯器軟體簡單撰寫 HTML (cont.)

- *Notepad++ is a free source code editor and Notepad replacement that supports several languages. It runs in the MS Windows environment, which is governed by GNU General Public License.*
- 推薦使用這套文字編輯器軟體
- 編輯純文字文件或者**觀看**原始碼 (加註解) 很方便
- ~~Notepad++ 不是 IDE 所以沒辦法幫你編譯原始碼~~
- Notepad++ 下載點
  - <https://notepad-plus-plus.org/downloads/>

REF: <https://notepad-plus-plus.org/>

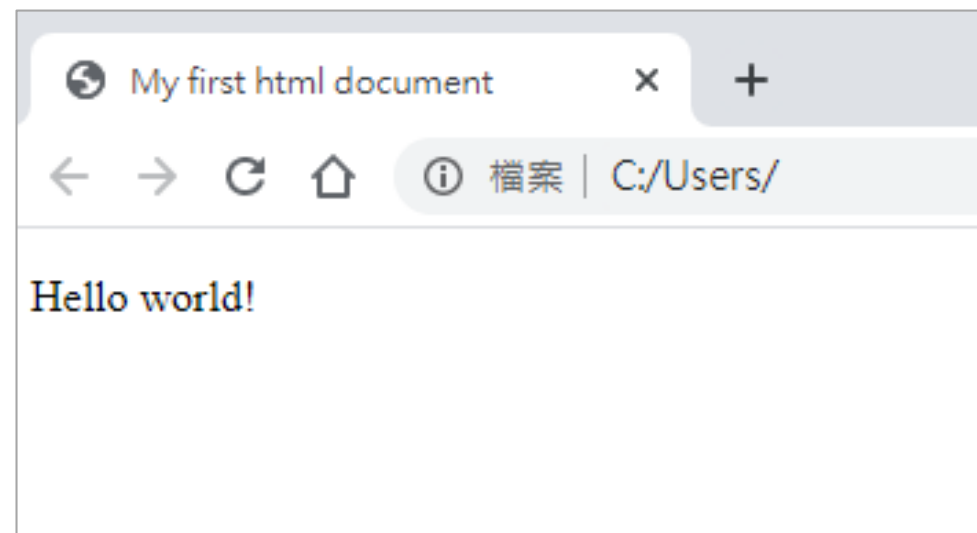


```
1  #include <GPL.h>
2  #include <free_software.h>
3
4  void notepad4ever()
5  {
6      while (true)
7      {
8          Notepad++;
9      }
10 }
11
```

# HyperText Markup Language

- This is the classic "Hello World!" in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div>
8       <p>Hello world!</p>
9     </div>
10  </body>
11 </html>
```



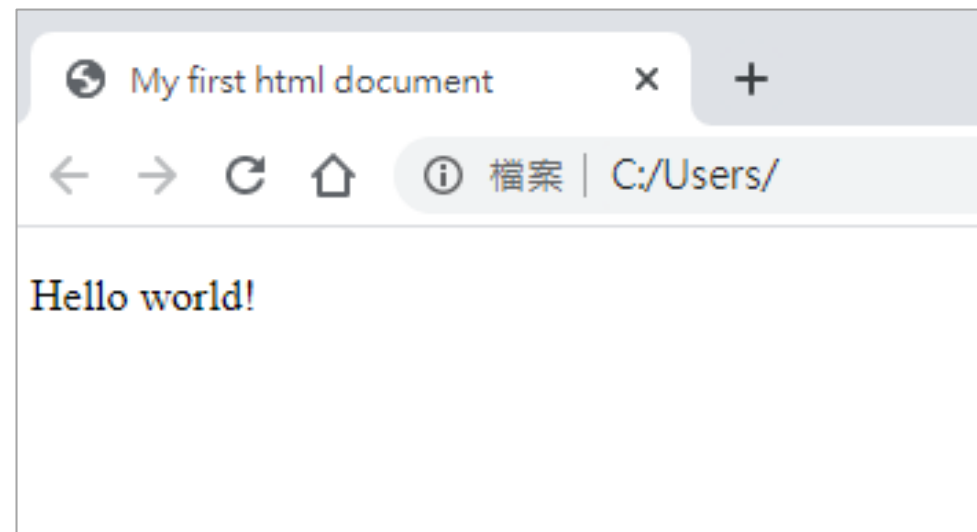
- Try your best!

標籤內不分大小寫 <html> 和 <HTML> 結果是一樣的  
若無特別想法建議全部使用小寫

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <title>My first html document</title>
5  </head>
6  <body>
7  <div>
8  <p>Hello world!</p>
9  </div>
10 </body>
11 </html>
```

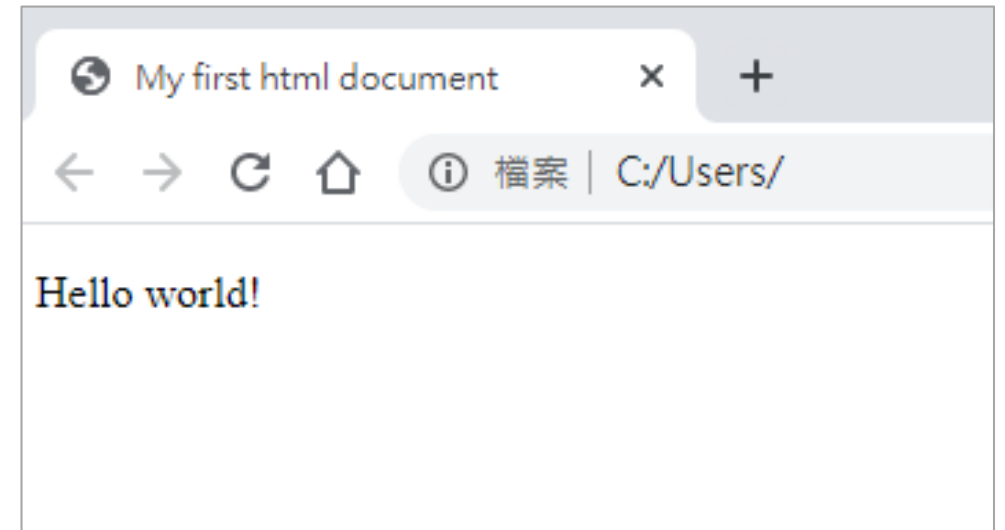


- Using indent ("TAB" key) to increase the readability of document layout.

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div>
8        <p>Hello world!</p>
9      </div>
10   </body>
11 </html>
```

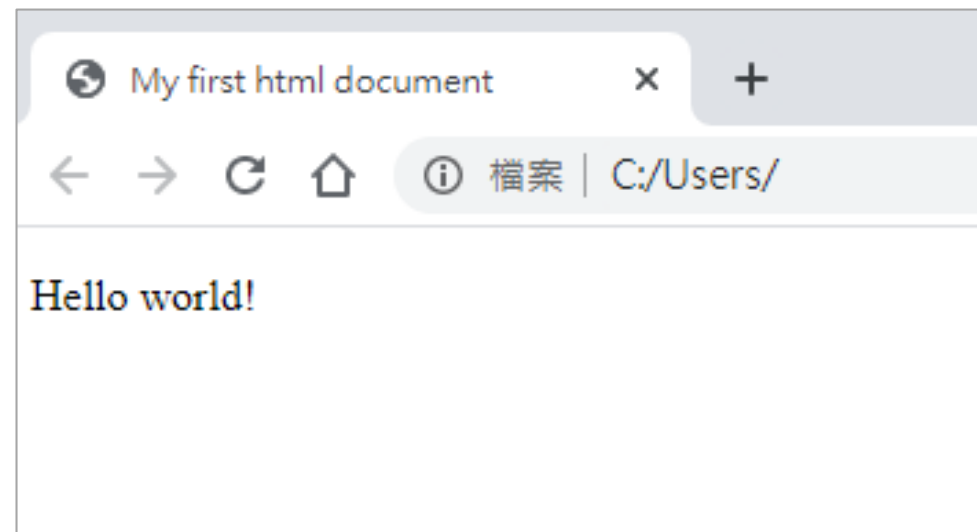


- The “Document Type Declaration” `<!DOCTYPE html>` is a clam for HTML5.

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>My first html document</title>
5      </head>
6      <body>
7          <div>
8              <p>Hello world!</p>
9          </div>
10     </body>
11 </html>
```



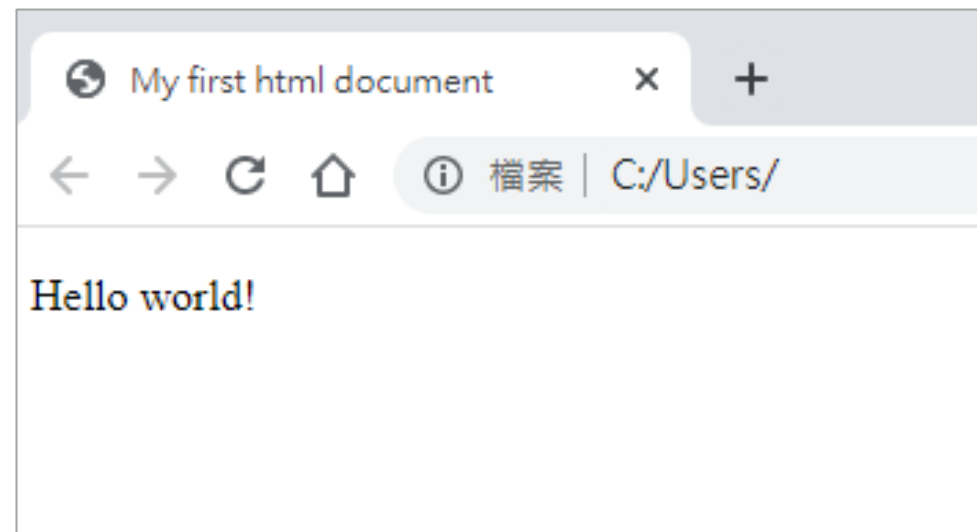
- If this declaration is not included, most browsers will revert this webpage as the quirks mode for rendering in maintaining backward compatibility.

REF: [https://en.wikipedia.org/wiki/Quirks\\_mode](https://en.wikipedia.org/wiki/Quirks_mode)

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>My first html document</title>
5      </head>
6      <body>
7          <div>
8              <p>Hello world!</p>
9          </div>
10     </body>
11 </html>
```

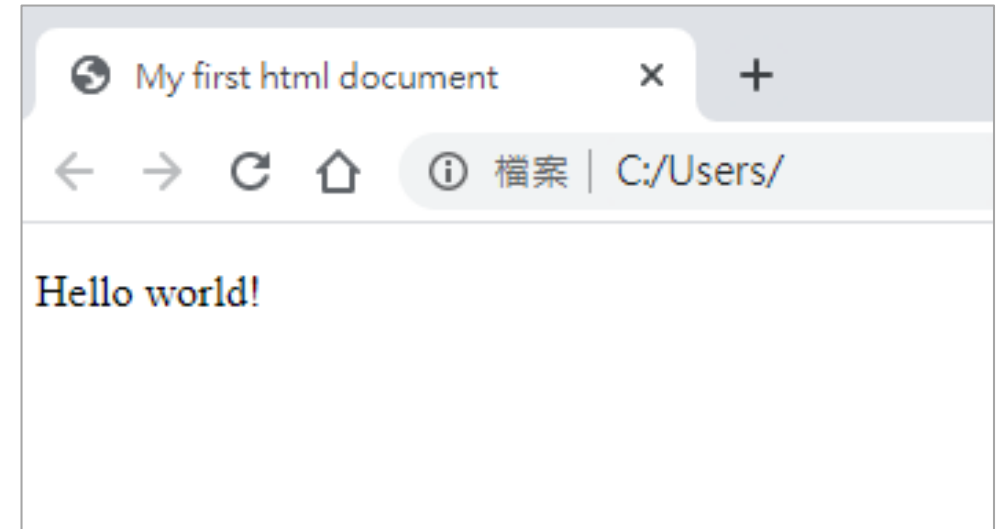


- The text between <html> and </html> describes the whole range of HTML document.

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>My first html document</title>
5      </head>
6      <body>
7          <div>
8              <p>Hello world!</p>
9          </div>
10     </body>
11 </html>
```



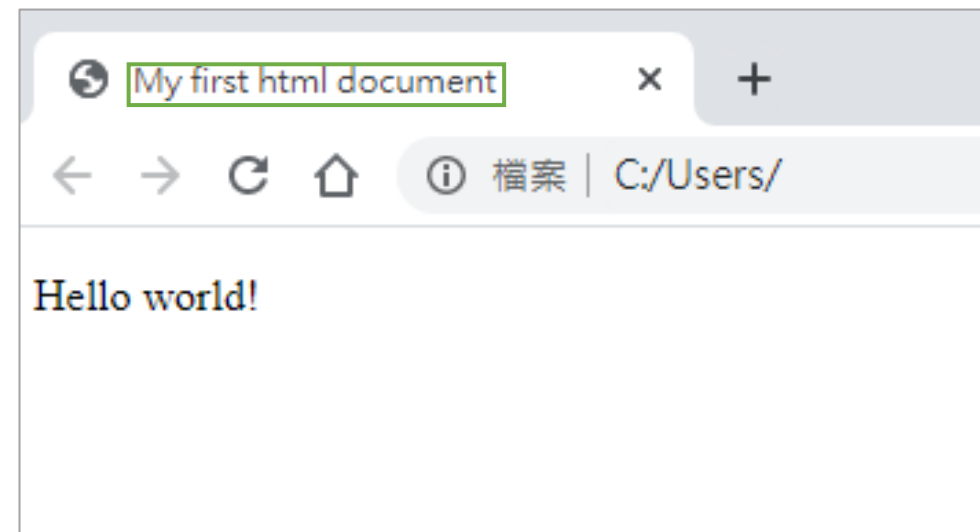
- The markup text between <header> and </header> brings the header information of this webpage.



# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>My first html document</title>
5      </head>
6      <body>
7          <div>
8              <p>Hello world!</p>
9          </div>
10     </body>
11 </html>
```

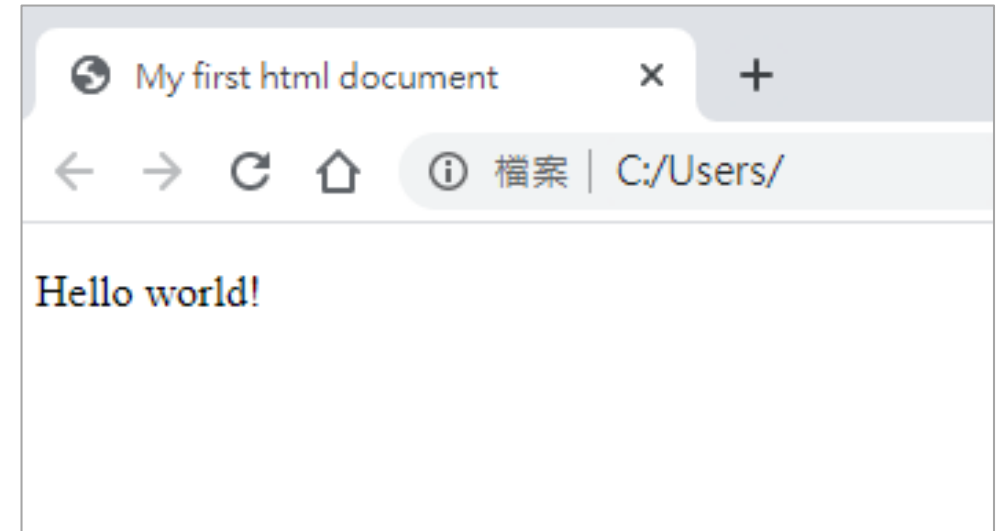


- The markup text in `<title>` and `</title>` describes the presented title on client's web browser.

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title>My first html document</title>
5      </head>
6      <body>
7          <div>
8              <p>Hello world!</p>
9          </div>
10     </body>
11 </html>
```

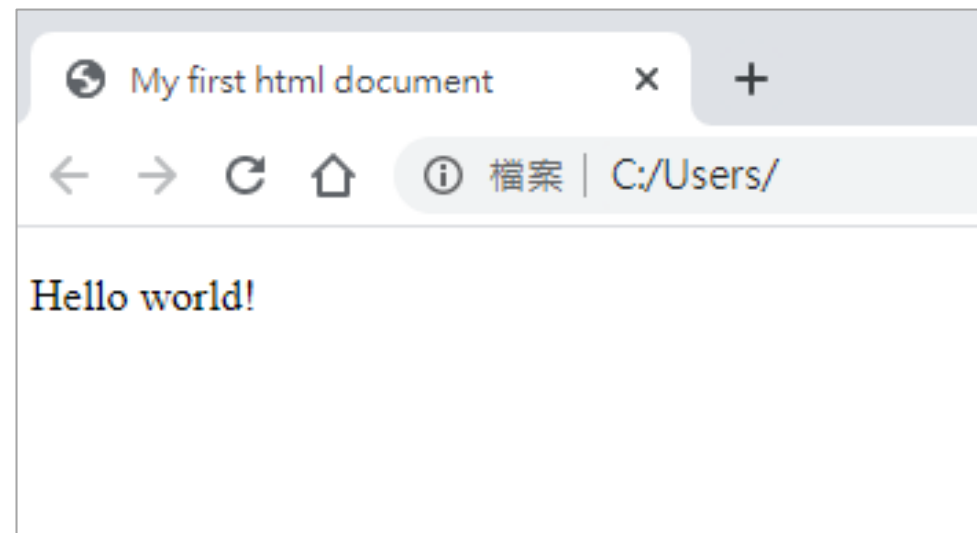


- The text between <body> and </body> shows the visible page content for the client.

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div>
8       <p>Hello world!</p>
9     </div>
10  </body>
11 </html>
```

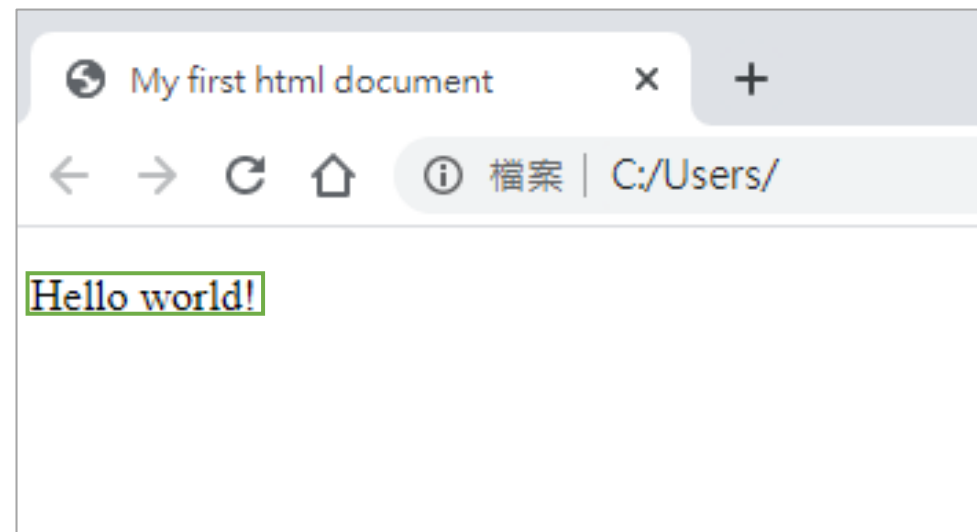


- <div> and </div> defines a division of the web page with easy styling  
(定義一個區塊)

# HyperText Markup Language (cont.)

- This is the classic "Hello World!" in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div>
8       <p>Hello world!</p>
9     </div>
10  </body>
11 </html>
```



- <p> and </p> defines an area for printing text

# <html>

- <html> 標籤是 HTML 網頁的根元素，它是一個容器元素，其內容就是其他 HTML 標籤，擁有 <head> 和 <body> 兩個子標籤。
- 如果需要，在 <html> 標籤可以額外使用 lang 屬性來指定網頁使用的語言，<html lang="zh-TW">
- lang 的屬性值會使用 2 碼代表，例如：en (英文)、fr (法文)、de (德文)、it (義大利文) 和 ja (日文)等。在 lang 屬性值也可以加上次 2 碼的國家或地區
- 例如 en-US 是美式英文、zh-TW 是正體中文等。

# HyperText Markup Language (cont.)

- Trying to use headline size tag in HTML

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <div>
8          <h1>Hello World!</h1>
9          <h2>Hello World!</h2>
10         <h3>Hello World!</h3>
11         <h4>Hello World!</h4>
12         <h5>Hello World!</h5>
13         <h6>Hello World!</h6>
14      </div>
15  </body>
16 </html>
```



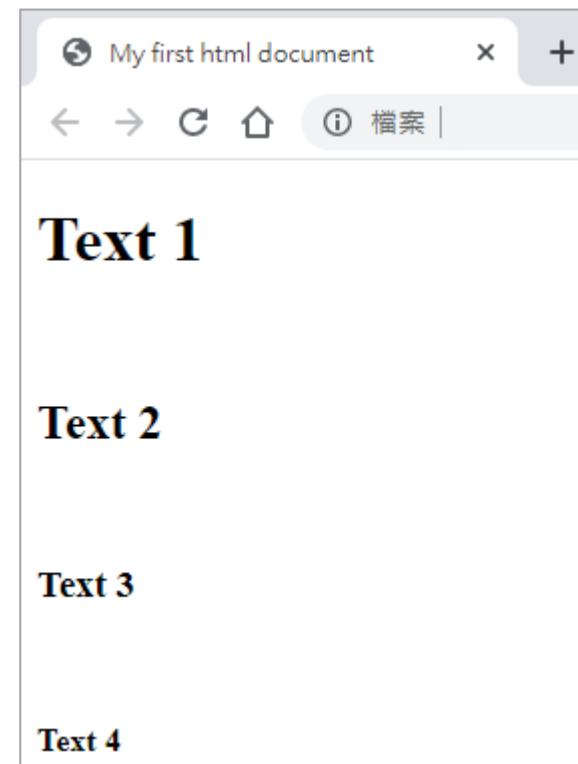
- <h1> and </h1> defines the headline text size for presentation.
- There are 6 sizes can be selected.

注意標題會自動換行  
也會吃掉文字效果

# HyperText Markup Language (cont.)

- Trying to use line break (換行) tag in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div>
8        <h1>Text 1</h1>
9        <br>
10       <h2>Text 2</h2>
11       <br>
12       <h3>Text 3</h3>
13       <br>
14       <h4>Text 4</h4>
15     </div>
16   </body>
17 </html>
```



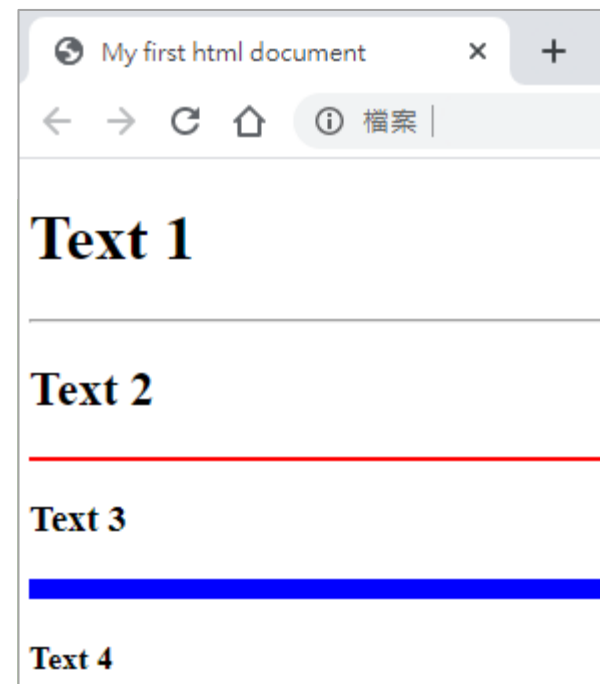
- Use `<br>` to make the line break

也會看到使用 `<br />` 的方式表示

# HyperText Markup Language (cont.)

- Trying to use horizontal rule (水平分隔線) tag in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div>
8       <h1>Text 1</h1>
9       <hr>
10      <h2>Text 2</h2>
11      <hr color="red">
12      <h3>Text 3</h3>
13      <hr color="blue" size="10" />
14      <h4>Text 4</h4>
15    </div>
16  </body>
17 </html>
```



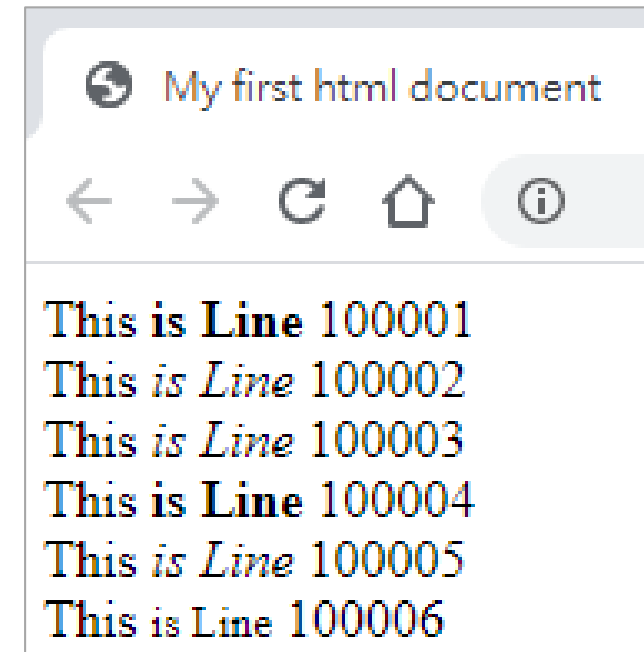
- Use `<hr>` tag to present the horizontal rule (also with color/size attributes)



# HyperText Markup Language (cont.)

- Trying to use following tags to change text format in HTML

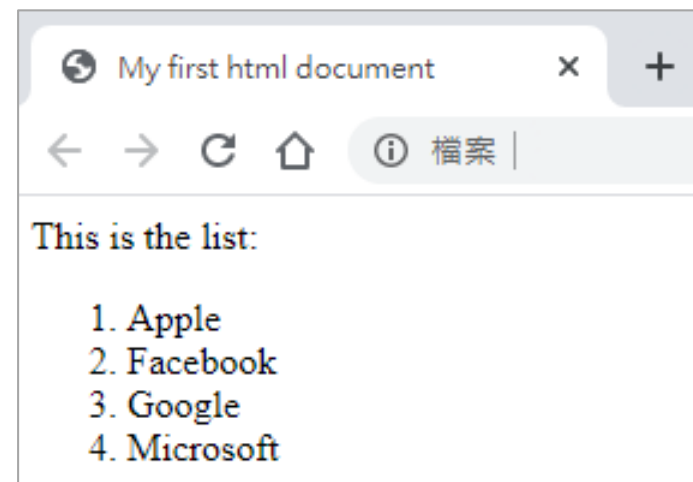
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>My first html document</title>
5  </head>
6  <body>
7    <div>
8      <h3>This <b>is Line</b> 100001<br></h3>
9      <h3>This <i>is Line</i> 100002<br></h3>
10     <h3>This <em>is Line</em> 100003<br></h3>
11     <h3>This <strong> is Line</strong> 100004<br></h3>
12     <h3>This <cite>is Line</cite> 100005<br></h3>
13     <h3>This <small> is Line</small> 100006<br></h3>
14   </div>
15 </body>
16 </html>
```



# HyperText Markup Language (cont.)

- Trying to use ordered list tag in HTML

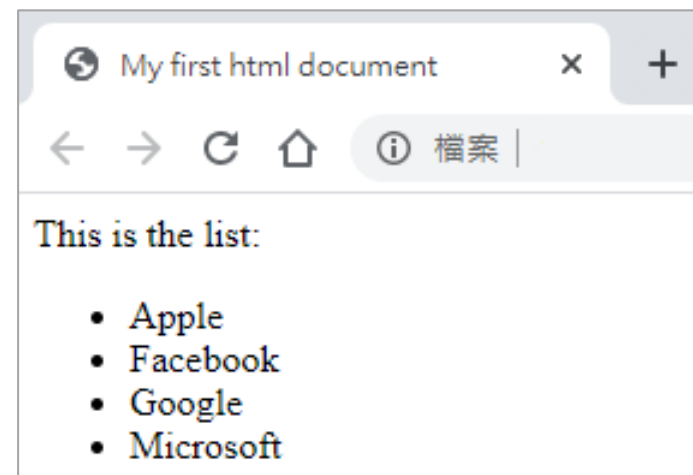
```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div>
8        This is the list:
9        <ol>
10         <li>Apple</li>
11         <li>Facebook</li>
12         <li>Google</li>
13         <li>Microsoft</li>
14       </ol>
15     </div>
16   </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Trying to use unordered list tag in HTML

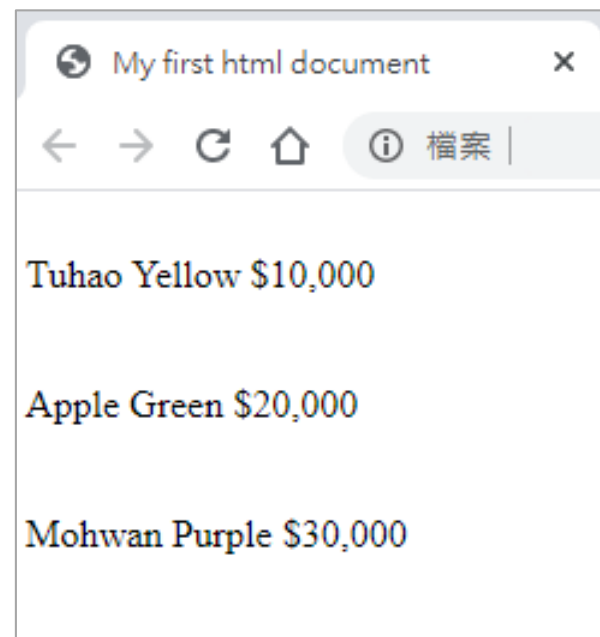
```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div>
8        This is the list:
9        <ul>
10         <li>Apple</li>
11         <li>Facebook</li>
12         <li>Google</li>
13         <li>Microsoft</li>
14       </ul>
15     </div>
16   </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Trying to use alternative div tag in HTML

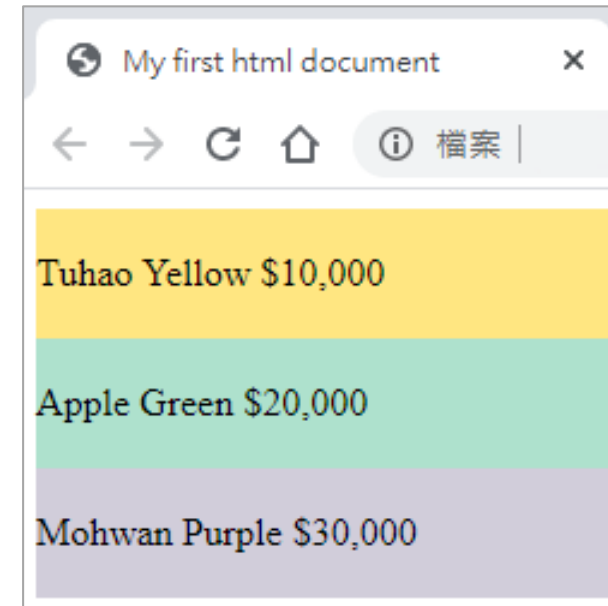
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <div>
8          <br>
9          Tuhao Yellow $10,000<br>
10         <br>
11     </div>
12     <div>
13         <br>
14         Apple Green $20,000<br>
15         <br>
16     </div>
17     <div>
18         <br>
19         Mohwan Purple $30,000<br>
20         <br>
21     </div>
22 </body>
23 </html>
```



# HyperText Markup Language (cont.)

- Trying to use alternative div tag in HTML (with background color)

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <div style="background-color:#FFE681">
8          <br>
9          Tuhao Yellow $10,000<br>
10         <br>
11     </div>
12     <div style="background-color:#AEE1CD">
13         <br>
14         Apple Green $20,000<br>
15         <br>
16     </div>
17     <div style="background-color:#D1CDDA">
18         <br>
19         Mohwan Purple $30,000<br>
20         <br>
21     </div>
22 </body>
23 </html>
```

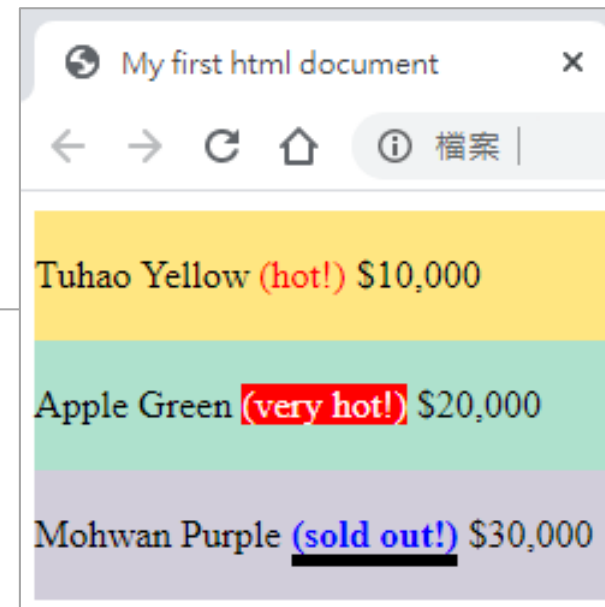


# HyperText Markup Language (cont.)

- Trying to use span tag in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div style="background-color:#FFE681">
8       <br>
9       Tuhao Yellow <span style="color:red">(hot!)</span> $10,000<br>
10      <br>
11    </div>
12    <div style="background-color:#AEE1CD">
13      <br>
14      Apple Green <span style="background-color:#FF0000;color:#FFFFFF">(very hot!)</span> $20,000<br>
15      <br>
16    </div>
17    <div style="background-color:#D1CDDA">
18      <br>
19      Mohwan Purple <span style="border-bottom:5px solid black;color:blue"><strong>(sold out!)</strong></span> $30,000<br>
20      <br>
21    </div>
22  </body>
23 </html>
```

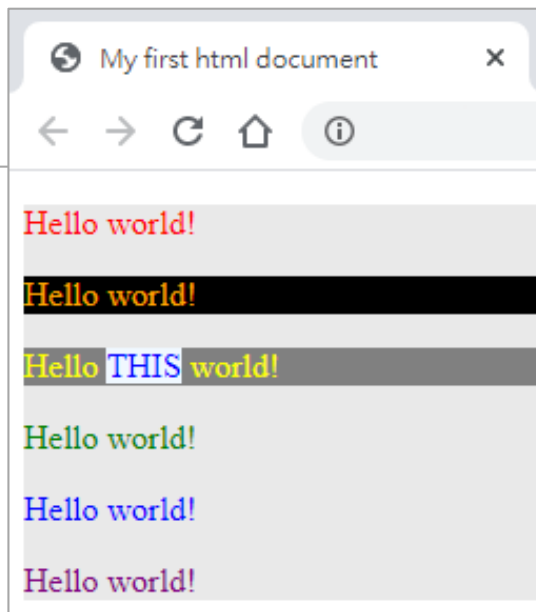
多個參數時中間會使用分號來分隔  
有些較為嚴謹的寫法會在最後面結尾加上分號 (範例中沒有)



# HyperText Markup Language (cont.)

- Trying to use alternative p tag in HTML (with background color!)

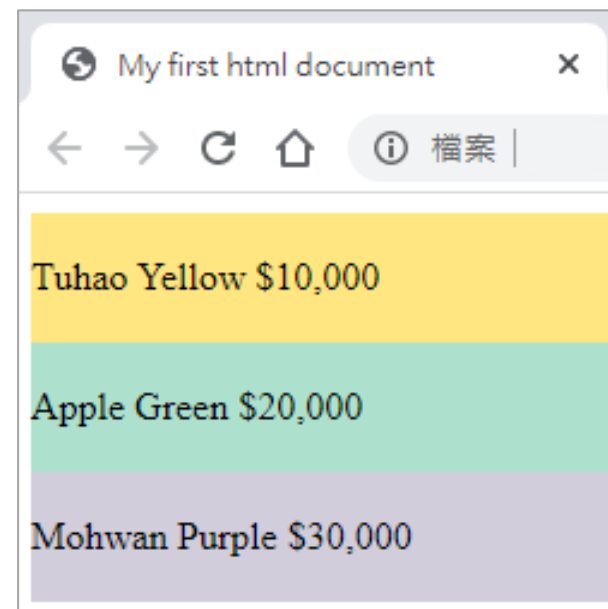
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>My first html document</title>
5  </head>
6  <body>
7    <div style="background-color:#E9E9E9">
8      <p style="color:red">Hello world!</p>
9      <p style="background-color:black;color:orange">Hello world!</p>
10     <p style="background-color:gray;color:yellow">Hello <span style="background-color:#F0F8FF;color:#0000FF">THIS</span> world!</p>
11     <p style="color:green">Hello world!</p>
12     <p style="color:blue">Hello world!</p>
13     <p style="color:purple">Hello world!</p>
14   </div>
15 </body>
16 </html>
```



# HyperText Markup Language (cont.)

- Trying to use comment tag in HTML – original

```
1  <!--DOCTYPE html-->
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div style="background-color:#FFE681">
8        <br>
9        Tuhao Yellow $10,000<br>
10       <br>
11      </div>
12      <div style="background-color:#AEE1CD">
13        <br>
14        Apple Green $20,000<br>
15        <br>
16      </div>
17      <div style="background-color:#D1CDDA">
18        <br>
19        Mohwan Purple $30,000<br>
20        <br>
21      </div>
22    </body>
23  </html>
```

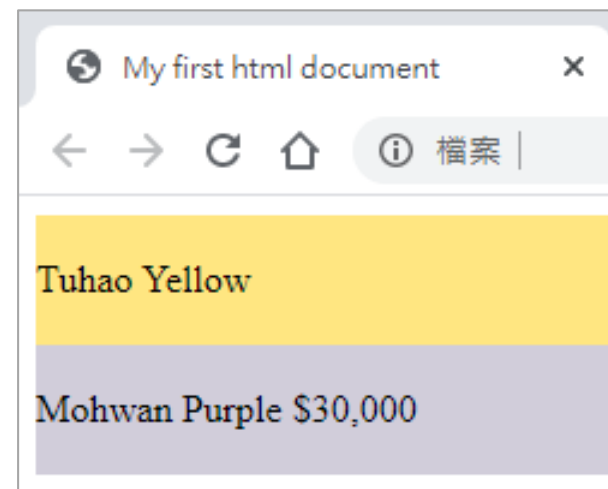




# HyperText Markup Language (cont.)

- Trying to use comment tag in HTML – with comment

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div style="background-color:#FFE681">
8        <br>
9        Tuhao Yellow <!--$10,000--><br>
10       <br>
11     </div>
12     <!--
13     <div style="background-color:#AEE1CD">
14       <br>
15       Apple Green $20,000<br>
16       <br>
17     </div>
18     -->
19     <div style="background-color:#D1CDDA">
20       <br>
21       Mohwan Purple $30,000<br>
22       <br>
23     </div>
24   </body>
25 </html>
```

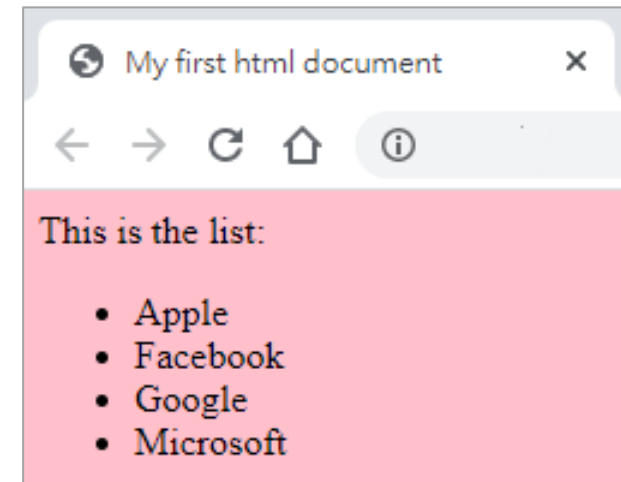


← 註解可以單行使用，也可以跨行使用

# HyperText Markup Language (cont.)

- Trying to change the background color in HTML (use color name)

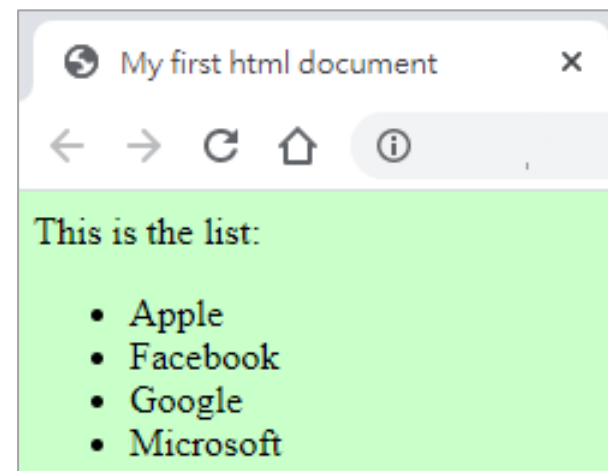
```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body bgcolor="pink">
7      <div>
8        This is the list:
9        <ul>
10         <li>Apple</li>
11         <li>Facebook</li>
12         <li>Google</li>
13         <li>Microsoft</li>
14       </ul>
15     </div>
16   </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Trying to change the background color in HTML (use RGB value)

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>My first html document</title>
5  </head>
6  <body bgcolor="#C9FFC9">
7    <div>
8      This is the list:
9      <ul>
10        <li>Apple</li>
11        <li>Facebook</li>
12        <li>Google</li>
13        <li>Microsoft</li>
14      </ul>
15    </div>
16  </body>
17 </html>
```



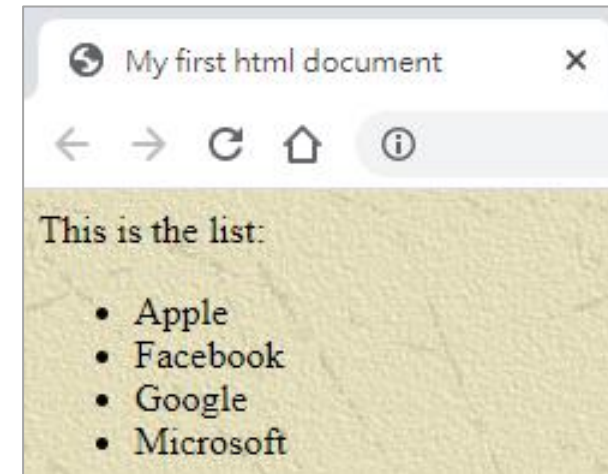
→ 可運用 RGB 色碼表來配置想要的顏色

- You may also assign color to the line text by using <style> tag
- [https://www.w3schools.com/html/html\\_colors.asp](https://www.w3schools.com/html/html_colors.asp)

# HyperText Markup Language (cont.)

- Trying to change the background in HTML (with an image)

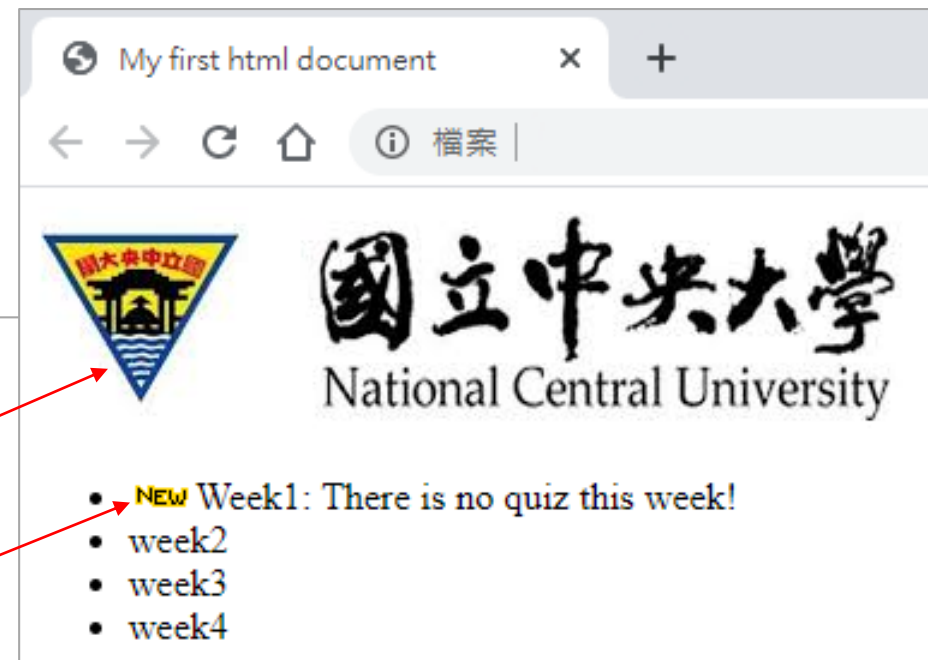
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body background="images/rock.jpg">
7      <div>
8          This is the list:
9          <ul>
10             <li>Apple</li>
11             <li>Facebook</li>
12             <li>Google</li>
13             <li>Microsoft</li>
14          </ul>
15      </div>
16  </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Trying to insert an image in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      
8      <div>
9        <ul>
10         <li>Week1: There is no quiz this week!</li>
11         <li>week2</li>
12         <li>week3</li>
13         <li>week4</li>
14       </ul>
15     </div>
16   </body>
17 </html>
```



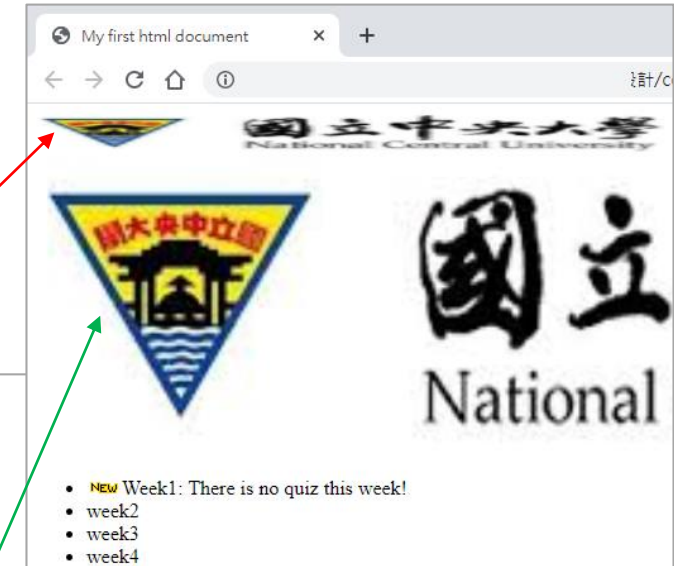
使用相對路徑描述檔案(資源)位置時  
範例中的 "images/new.gif" 也可以寫成 "./images/new.gif"

# HyperText Markup Language (cont.)

- Trying to insert an image in HTML

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      
8      <br>
9      
10     <div>
11         <ul>
12             <li>Week1: There is no quiz this week!</li>
13             <li>week2</li>
14             <li>week3</li>
15             <li>week4</li>
16         </ul>
17     </div>
18 </body>
19 </html>
```

For percentage, you can only set one or the other



- There are also some alternative values can be used in the <img src=...>

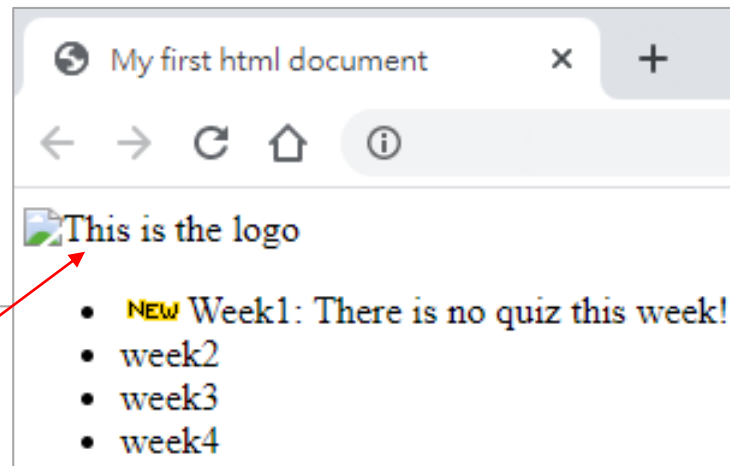
# HyperText Markup Language (cont.)

- Trying to insert an image in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      
8      <div>
9        <ul>
10         <li>Week1: There is no quiz this week!</li>
11         <li>week2</li>
12         <li>week3</li>
13         <li>week4</li>
14       </ul>
15     </div>
16   </body>
17 </html>
```

替代文字

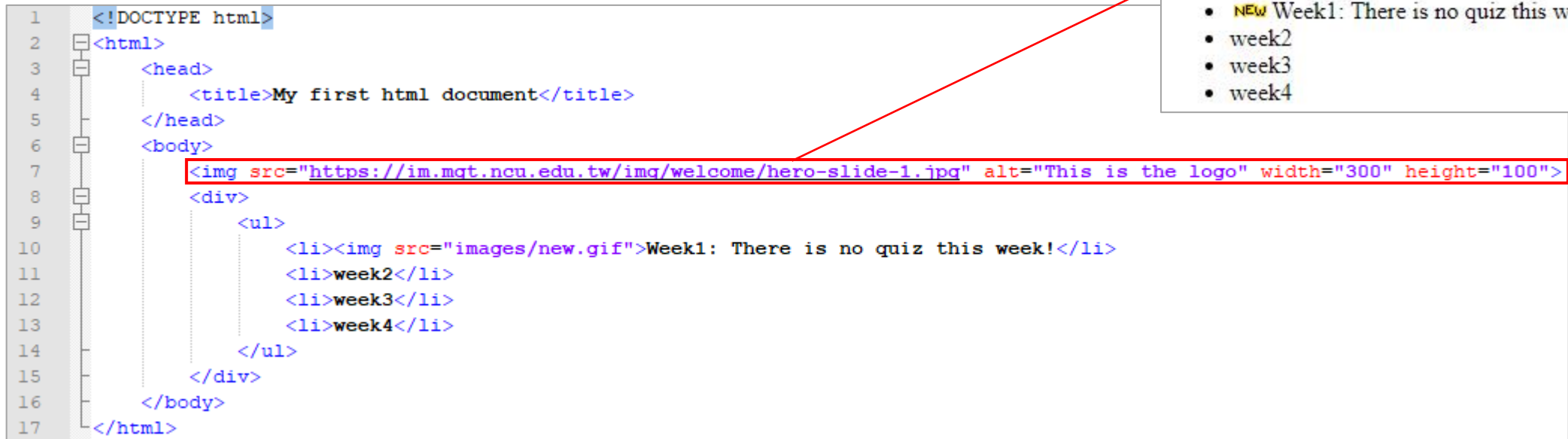
長寬設定



- Explanation in *alt*="..." will show on the browser when image resource is unavailable

# HyperText Markup Language (cont.)

- Trying to insert an image in HTML




- Using external image resource



# HyperText Markup Language (cont.)

- Trying to insert an image with <center> tag in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <center>
8        
9      </center>
10     <div>
11       <ul>
12         <li>week2</li>
14         <li>week3</li>
15         <li>week4</li>
16       </ul>
17     </div>
18   </body>
19 </html>
```

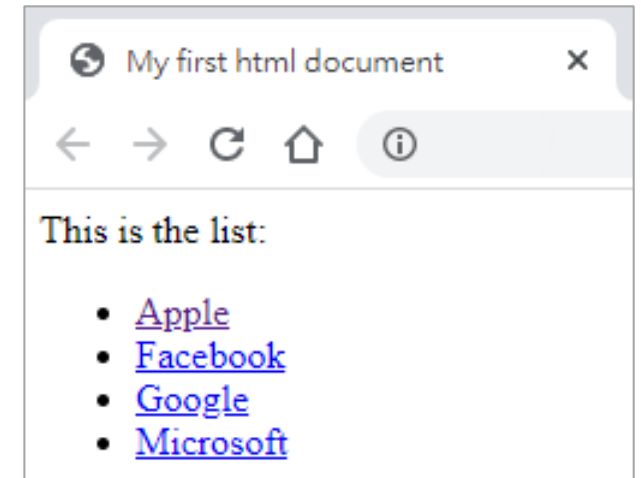


預設對齊方式是置左，可自行設定置中或置右

# HyperText Markup Language (cont.)

- Trying to insert a hyperlink in HTML

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>My first html document</title>
5    </head>
6    <body>
7      <div>
8        This is the list:
9        <ul>
10         <li><a href="https://www.apple.com">Apple</a></li>
11         <li><a href="https://www.facebook.com">Facebook</li>
12         <li><a href="https://www.google.com">Google</li>
13         <li><a href="https://www.microsoft.com">Microsoft</li>
14       </ul>
15     </div>
16   </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Trying to insert a hyperlink in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <a href="https://www.ncu.edu.tw" target="_blank"></a>
8   </body>
9 </html>
```

**\_blank** 會讓瀏覽器另外開啟新的分頁視窗

設定顯示在網頁上的鏈結描述  
(此範例為一張圖片)

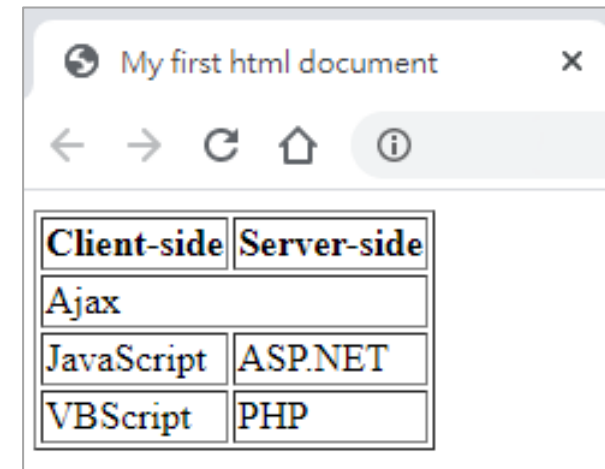


- The space between `<a href...>` and `</a>` can also add other tags (e.g., `<b>`, `<i>`, `<h1>`) to change the presented text format of hyperlink. This example is using `<img src...>`

# HyperText Markup Language (cont.)

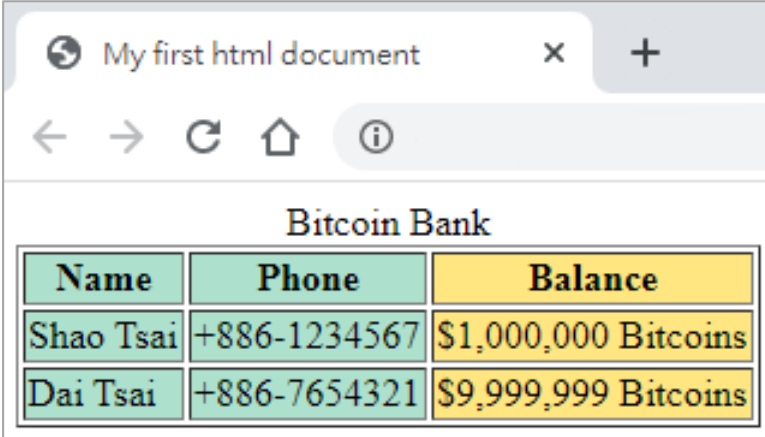
- Trying to create a table in HTML

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <table border="1">
8          <tr>
9              <th>Client-side</th>
10             <th>Server-side</th>
11          </tr>
12          <tr>
13              <td colspan="2">Ajax</td>
14          </tr>
15          <tr>
16              <td>JavaScript</td>
17              <td>ASP.NET</td>
18          </tr>
19          <tr>
20              <td>VBScript</td>
21              <td>PHP</td>
22          </tr>
23      </table>
24  </body>
25 </html>
```



# HyperText Markup Language (cont.)

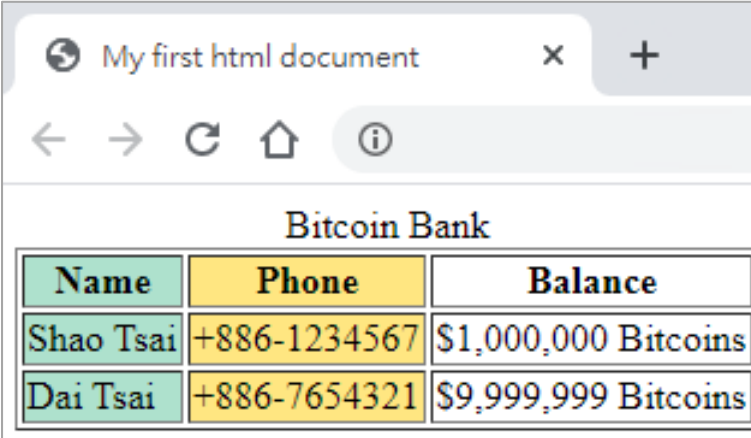
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>My first html document</title>
5  </head>
6  <body>
7    <table border="1">
8      <caption>Bitcoin Bank</caption>
9
10     <colgroup>
11       <col span="2" style="background-color:#AEE1CD">
12       <col style="background-color:#FFE681">
13     </colgroup>
14
15     <tr>
16       <th>Name</th>
17       <th>Phone</th>
18       <th>Balance</th>
19     </tr>
20
21     <tr>
22       <td>Shao Tsai</td>
23       <td>+886-1234567</td>
24       <td>$1,000,000 Bitcoins</td>
25     </tr>
26
27     <tr>
28       <td>Dai Tsai</td>
29       <td>+886-7654321</td>
30       <td>$9,999,999 Bitcoins</td>
31     </tr>
32   </table>
33 </body>
</html>
```



Name	Phone	Balance
Shao Tsai	+886-1234567	\$1,000,000 Bitcoins
Dai Tsai	+886-7654321	\$9,999,999 Bitcoins

# HyperText Markup Language (cont.)

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <table border="1">
8          <caption>Bitcoin Bank</caption>
9
10         <colgroup>
11             <col span="1" style="background-color:#AEE1CD">
12             <col style="background-color:#FFE681">
13         </colgroup>
14
15         <tr>
16             <th>Name</th>
17             <th>Phone</th>
18             <th>Balance</th>
19         </tr>
20         <tr>
21             <td>Shao Tsai</td>
22             <td>+886-1234567</td>
23             <td>$1,000,000 Bitcoins</td>
24         </tr>
25         <tr>
26             <td>Dai Tsai</td>
27             <td>+886-7654321</td>
28             <td>$9,999,999 Bitcoins</td>
29         </tr>
30     </table>
31 </body>
32 </html>
```



Name	Phone	Balance
Shao Tsai	+886-1234567	\$1,000,000 Bitcoins
Dai Tsai	+886-7654321	\$9,999,999 Bitcoins

# HyperText Markup Language (cont.)

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <table border="1">
8          <caption>每月存款金額</caption>
9
10         <thead>
11             <tr>
12                 <th>月份</th><th>存款金額</th>
13             </tr>
14         </thead>
15
16         <tbody>
17             <tr>
18                 <td>一月</td><td>NT$ 5,000</td>
19             </tr>
20             <tr>
21                 <td>二月</td><td>NT$ 1,000</td>
22             </tr>
23         </tbody>
24
25         <tfoot>
26             <tr>
27                 <td>存款總額</td><td>NT$ 6,000</td>
28             </tr>
29         </tfoot>
30     </table>
31 </body>
32 </html>
```

My first html document

每月存款金額

月份	存款金額
一月	NT\$ 5,000
二月	NT\$ 1,000
存款總額	NT\$ 6,000

# HyperText Markup Language (cont.)

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <table border="3">
8          <caption>每月存款金額</caption>
9
10         <thead style="background-color:#FFE681">
11             <tr>
12                 <th>月份</th><th>存款金額</th>
13             </tr>
14         </thead>
15
16         <tbody style="background-color:#AEE1CD">
17             <tr>
18                 <td>一月</td><td>NT$ 5,000</td>
19             </tr>
20             <tr>
21                 <td>二月</td><td>NT$ 1,000</td>
22             </tr>
23         </tbody>
24
25         <tfoot style="background-color:#D1CDDA">
26             <tr>
27                 <td>存款總額</td><td>NT$ 6,000</td>
28             </tr>
29         </tfoot>
30     </table>
31 </body>
32 </html>
```

My first html document

← → ↻ 🏠 ⓘ

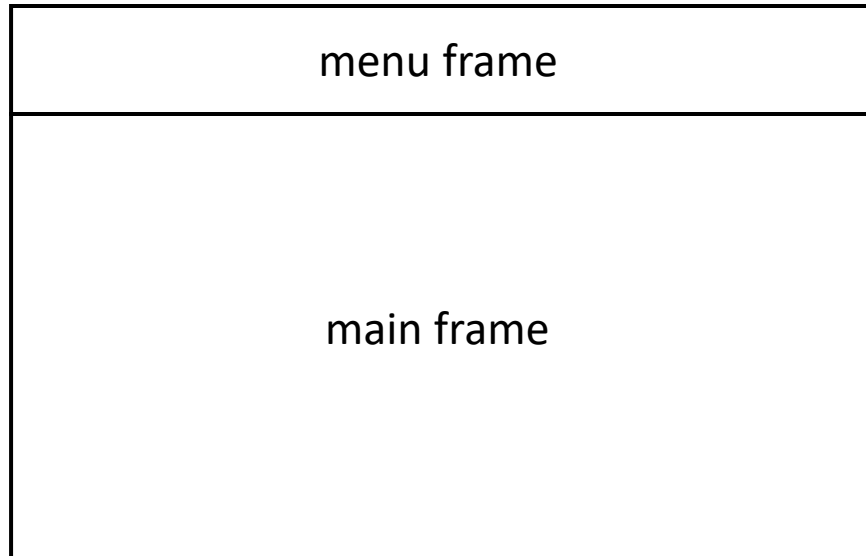
每月存款金額

月份	存款金額
一月	NT\$ 5,000
二月	NT\$ 1,000
存款總額	NT\$ 6,000

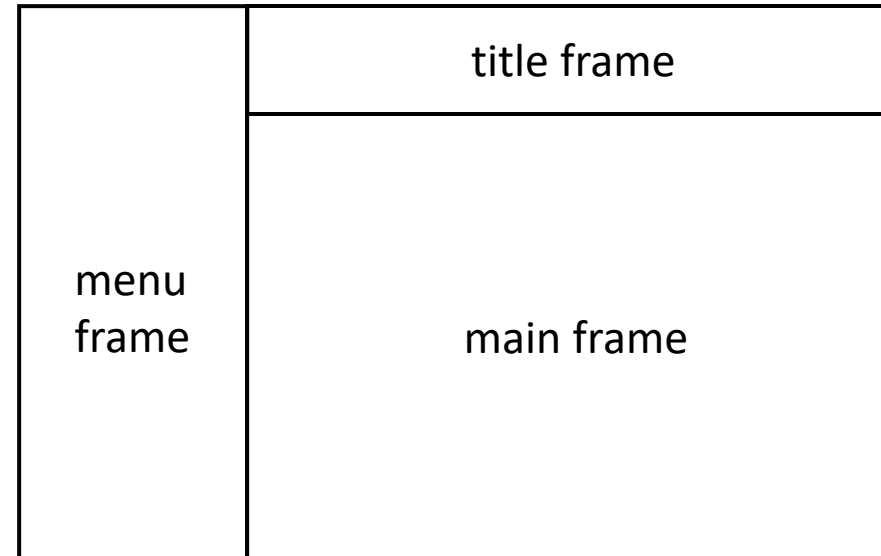


# HyperText Markup Language (cont.)

- In HTML4 (and before), tag <frame> was used to define one particular window (i.e., frame) within <frameset> and other configuration attributes



or



- While it is **not supported in HTML5** anymore
- It has been changed by using <iframe> tag now

# HyperText Markup Language (cont.)

- Trying to use iframe in HTML5

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first html document</title>
5  </head>
6  <body>
7      <div>
8          This is the list:
9          <ul>
10             <li><a href="https://im.mgt.ncu.edu.tw/" target="iframe_a">IM Dept (target: iframe_a)</a></li>
11             <li><a href="https://www.csie.ncu.edu.tw/" target="iframe_b">CSIE Dept (target: iframe_b)</a></li>
12             <li><a href="https://www.cc.ncu.edu.tw/" target="iframe_c">NCUCC (target: iframe_c)</a></li>
13          </ul>
14      </div>
15
16      <div>
17          <iframe src="./iframe_a.html" name="iframe_a" width="100%" height="250">
18          </iframe>
19      </div>
20
21      <div>
22          <iframe src="./iframe_b.html" name="iframe_b" width="100%" height="250" style="border:3px solid black;">
23          </iframe>
24      </div>
25
26      <div>
27          <iframe src="./iframe_c.html" name="iframe_c" width="100%" height="250" style="border:none;">
28          </iframe>
29      </div>
30  </body>
31 </html>
```

預設頁面      iframe 名稱      長寬設定      邊框設定

# HyperText Markup Language (cont.)

- Trying to use iframe in HTML5

The screenshot shows a web browser window titled "My first html document". The page content includes a list of links with `target` attributes pointing to `iframe_a`, `iframe_b`, and `iframe_c`. Below the list are three iframes, each with a red annotation:

- iframe\_a (with normal border)**: Annotated with "預設值" (Default value) in red.
- iframe\_b (with 3px border)**: Annotated with "設定 3px 的外框" (Set 3px border) in red.
- iframe\_c (without border)**: Annotated with "設定為無外框" (Set to no border) in red.

Red text annotations are also present: "超鏈結的 target 分別對應到下面的 iframe\_name" (The target of the hyperlinks correspond to the iframes below) and "設定 3px 的外框" (Set 3px border).

# HyperText Markup Language (cont.)

- Trying to use iframe in HTML5



有些網頁伺服器為了安全性會禁止外部 **iframe** 嵌入  
(避免被釣魚網站搭配製作成假的登入頁面)

# HTML 中的 <head>

- <head> 標籤的內容是標題元素，在 <head> 和 </head> 之間除了 <title> 以外還可以加入 <meta>、<script> 和 <style> 等標籤。
- <meta> 標籤可以指定網頁的編碼(讓瀏覽器配合呈現)
- 常用的指定編碼為 utf-8，語法為 <meta charset="utf-8">
- <meta> 標籤也可以增添網頁的說明或關鍵字，增加搜尋引擎索引權重
- 詳細關鍵字可參考 **Search Engine Optimization (SEO)**
- <script> 標籤常見的用法是搭配 JavaScript 語法來運用
- <style> 可以設定網頁內容 (文字/圖片) 樣式，通常會搭配 CSS 來運用

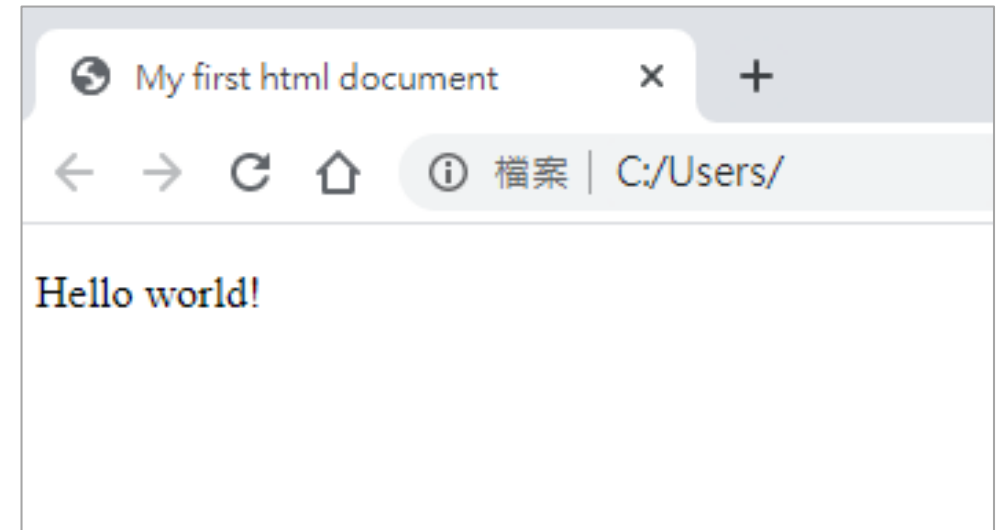
## <head> Tags

- <title> (網頁抬頭資訊)
- <meta> (網頁 metadata 資訊)
- <style> (CSS 樣式設定)
- <link> (CSS 樣式表/favicon更改)
- <base> (嵌入 base URL 資訊)
- <script> (嵌入 JavaScript 語法)
- <noscript> (當網頁不支援 JavaScript 時的 alternative message)

# HyperText Markup Language

- This is the classic "Hello World!" in HTML

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My first html document</title>
5   </head>
6   <body>
7     <div>
8       <p>Hello world!</p>
9     </div>
10  </body>
11 </html>
```

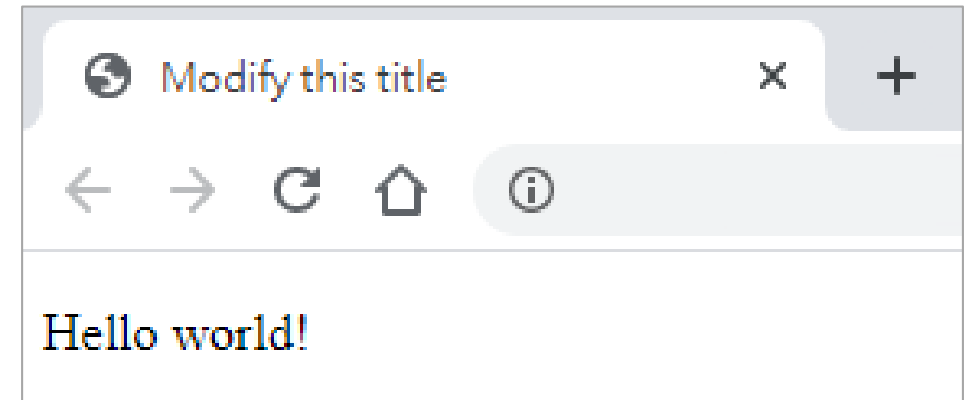


- All head tags should be put in this area.

# HyperText Markup Language (cont.)

- Use title tag to setup title information for webpage

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Modify this title</title>
5  </head>
6  <body>
7      <div>
8          <p>Hello world!</p>
9      </div>
10 </body>
11 </html>
```

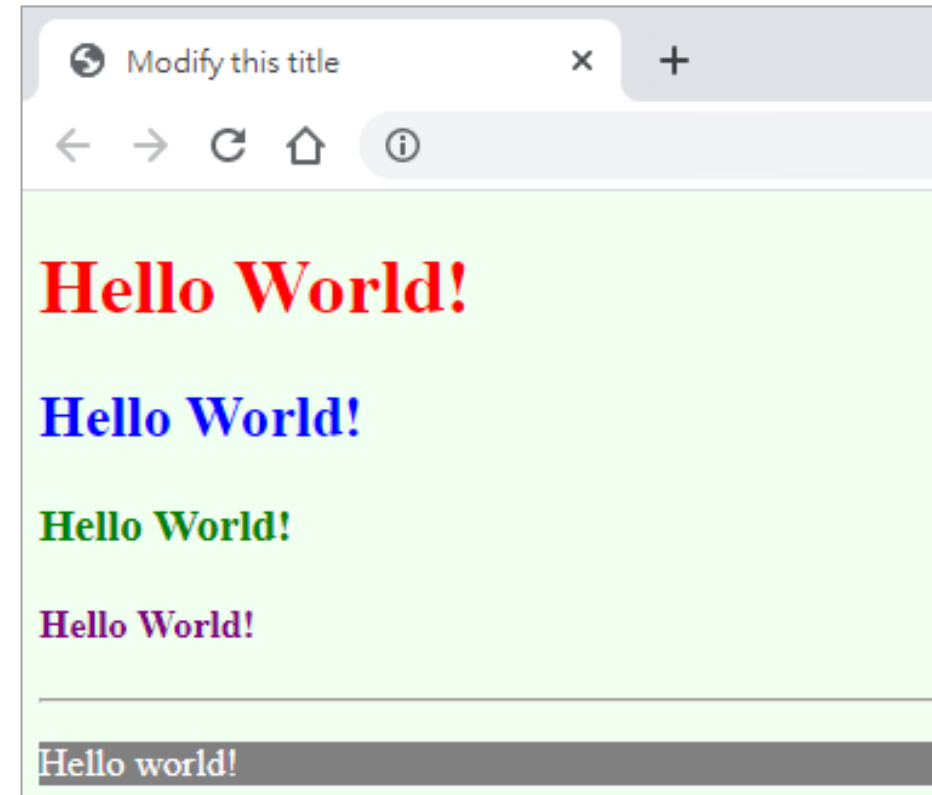




# HyperText Markup Language (cont.)

- Use style tag to make CSS configuration

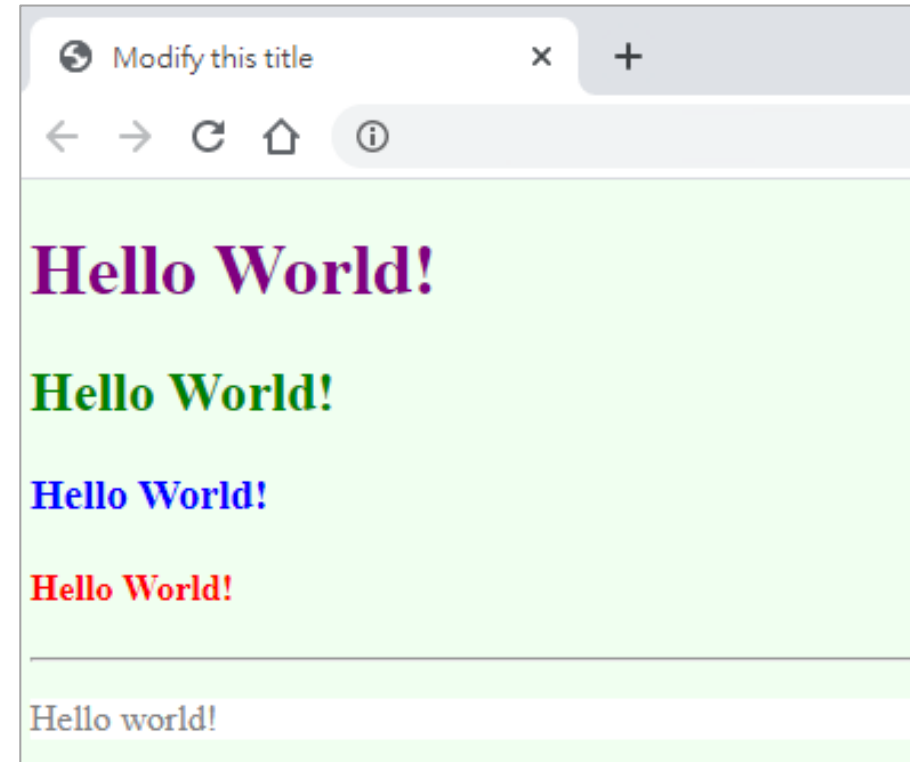
```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>Modify this title</title>
5      <style>
6        body {background-color: #F0FFF0;}
7        h1 {color: red;}
8        h2 {color: blue;}
9        h3 {color: green;}
10       h4 {color: purple;}
11       hr {color: #FFE681;}
12       p {background-color: gray;color: white}
13     </style>
14   </head>
15   <body>
16     <div>
17       <h1>Hello World!</h1>
18       <h2>Hello World!</h2>
19       <h3>Hello World!</h3>
20       <h4>Hello World!</h4>
21       <hr>
22       <p>Hello world!</p>
23     </div>
24   </body>
25 </html>
```



# HyperText Markup Language (cont.)

- Use link tag to include CSS configuration file

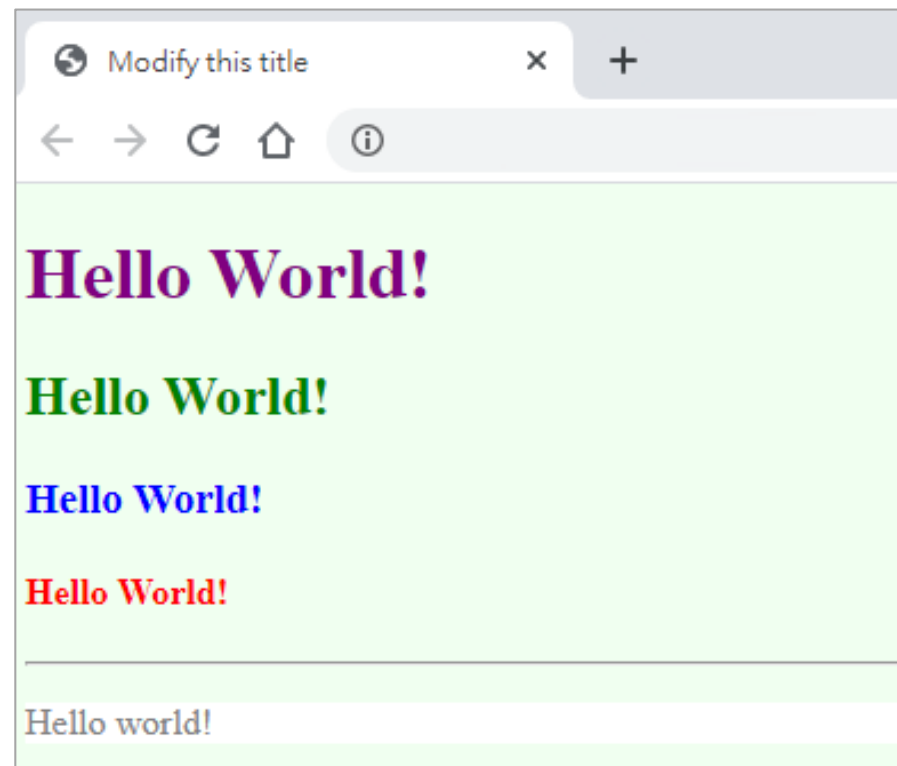
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Modify this title</title>
5      <link rel="stylesheet" href="mystyle.css">
6  </head>
7  <body>
8      <div>
9          <h1>Hello World!</h1>
10         <h2>Hello World!</h2>
11         <h3>Hello World!</h3>
12         <h4>Hello World!</h4>
13         <hr>
14         <p>Hello world!</p>
15     </div>
16 </body>
17 </html>
```



# HyperText Markup Language (cont.)

- Use link tag to include CSS configuration file

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Modify this title</title>
5     <link rel="stylesheet" href="mystyle.css">
6   </head>
7   <body>
8     <div>
9       <div>
10        <div>
11          <div>
12            <div>
13              <div>
14                <div>
15                  <div>
16                    <div>
17                      <div>
18                        <div>
19                          <div>
20                            <div>
21                              <div>
22                                <div>
```



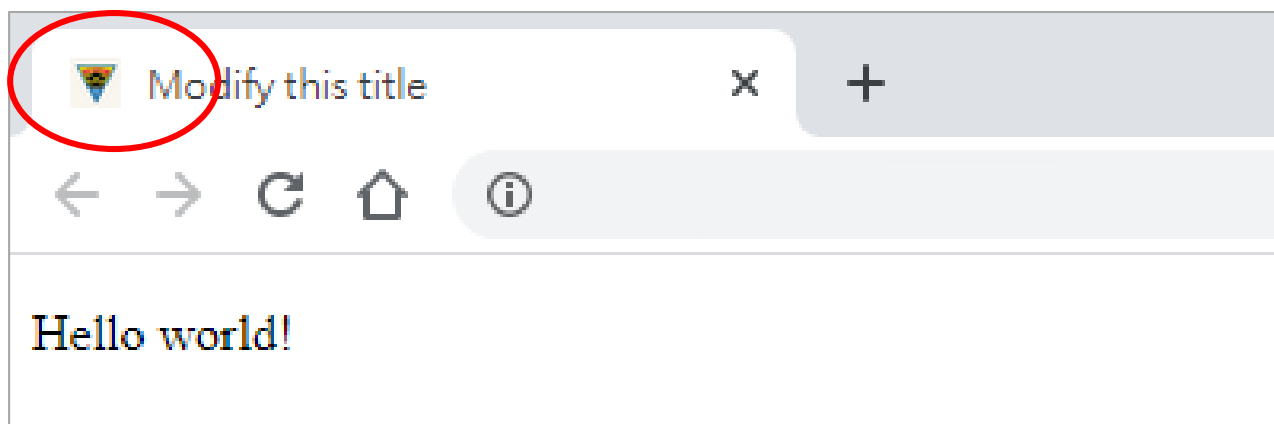
← 另外創建一個檔案名稱為 mystyle.css 並填入內容

# HyperText Markup Language (cont.)

- Use link tag to include customized **favicon.ico**

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>Modify this title</title>
5    <link rel="shortcut icon" href="favicon.ico" type="image/x-icon">
6  </head>
7  <body>
8    <div>
9      <p>Hello world!</p>
10   </div>
11 </body>
12 </html>
```

← 在 href 後面配置要當作 favicon 的圖檔 (注意副檔名)



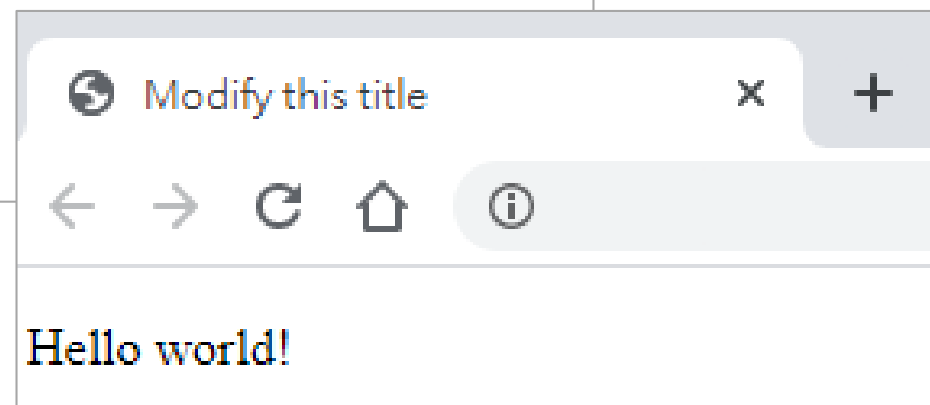
# HyperText Markup Language (cont.)

- Use style tag to make configuration

meta data 提供搜尋引擎索引時的參考資料  
refresh 可以設定讓網頁多久重新整理

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Modify this title</title>
5      <meta charset="UTF-8">
6      <meta name="keywords" content="NCU, HTML5, web">
7      <meta name="author" content="John Smith">
8      <meta name="description" content="This course is about web programming...">
9      <meta http-equiv="refresh" content="5">
10     <meta name="viewport" content="width=device-width, initial-scale=1.0">
11 </head>
12 <body>
13     <div>
14         <p>Hello world!</p>
15     </div>
16 </body>
17 </html>
```

viewport 可以調整畫面的 scale, 方便在不同尺寸的螢幕上等比例呈現網頁內容



# Open Graph

- Open Graph 是由 Facebook 所推出的 meta tag 語法設計
  - 與原本 html 的 meta tag 使用方式類似，但裡面的 property 值有進一步擴充
  - 使用 Open Graph 時可以讓網頁資源**被分享**的時候能控制其內容 (例如被顯示的標題、文章內容資訊、圖片大小等)
- 
- `<meta property="og:title" content="My new website">`
  - `<meta property="og:description" content="This website is about...">`
  - `<meta property="og:type" content="article">`
  - `<meta property="og:locale:alternate" content="zh_TW">`
  - `<meta property="og:image" content="facebook.gif">`
  - `<meta property="fb:app_id" content="YOUR_APP_ID">`

REF: <https://developers.facebook.com/docs/sharing/webmasters>

# HyperText Markup Language (cont.)

- Use base tag to setup fundamental prefix for URI

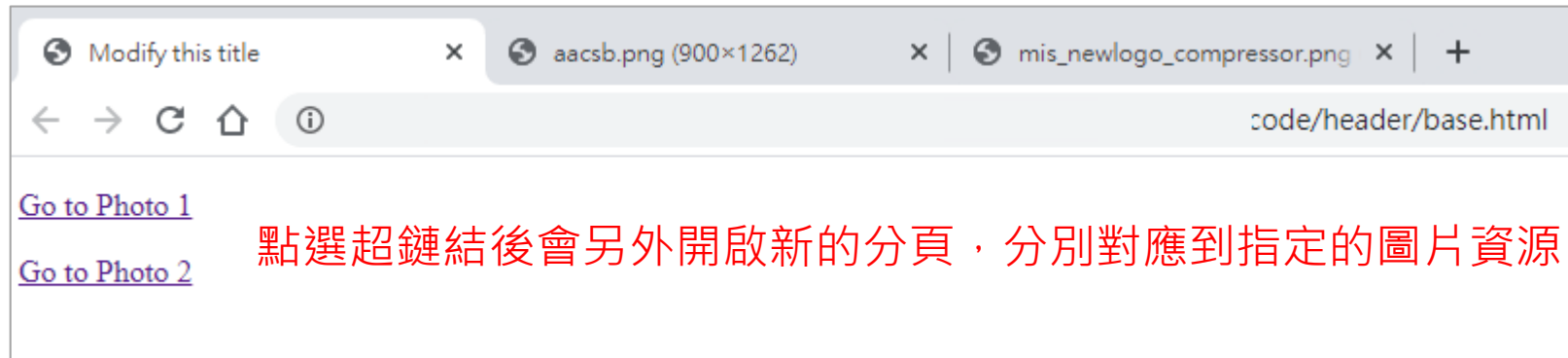
```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Modify this title</title>
5      <base href="https://im.mgt.ncu.edu.tw/img/" target="_blank">
6  </head>
7  <body>
8      <div>
9          <p><a href="aacsb.png">Go to Photo 1</a></p>
10         <p><a href="mis_newlogo_compressor.png">Go to Photo 2</p>
11      </div>
12  </body>
13 </html>
```

基本的 URL (網站網址)

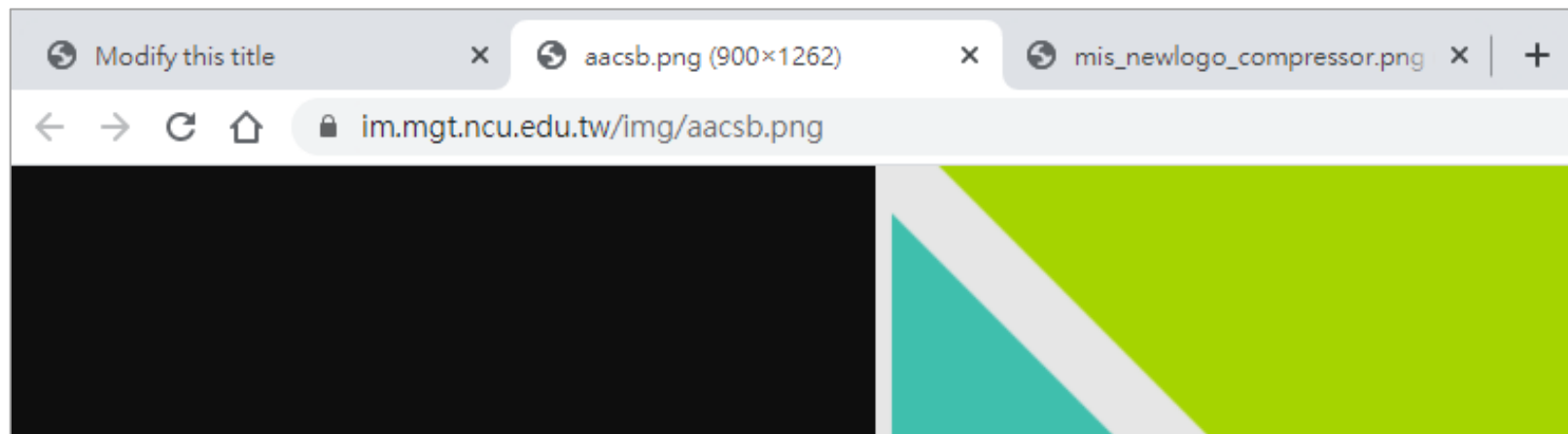
對應的 URI (圖片檔)

# HyperText Markup Language (cont.)

- Use base tag to setup fundamental prefix for URI



點選超鏈結後會另外開啟新的分頁，分別對應到指定的圖片資源

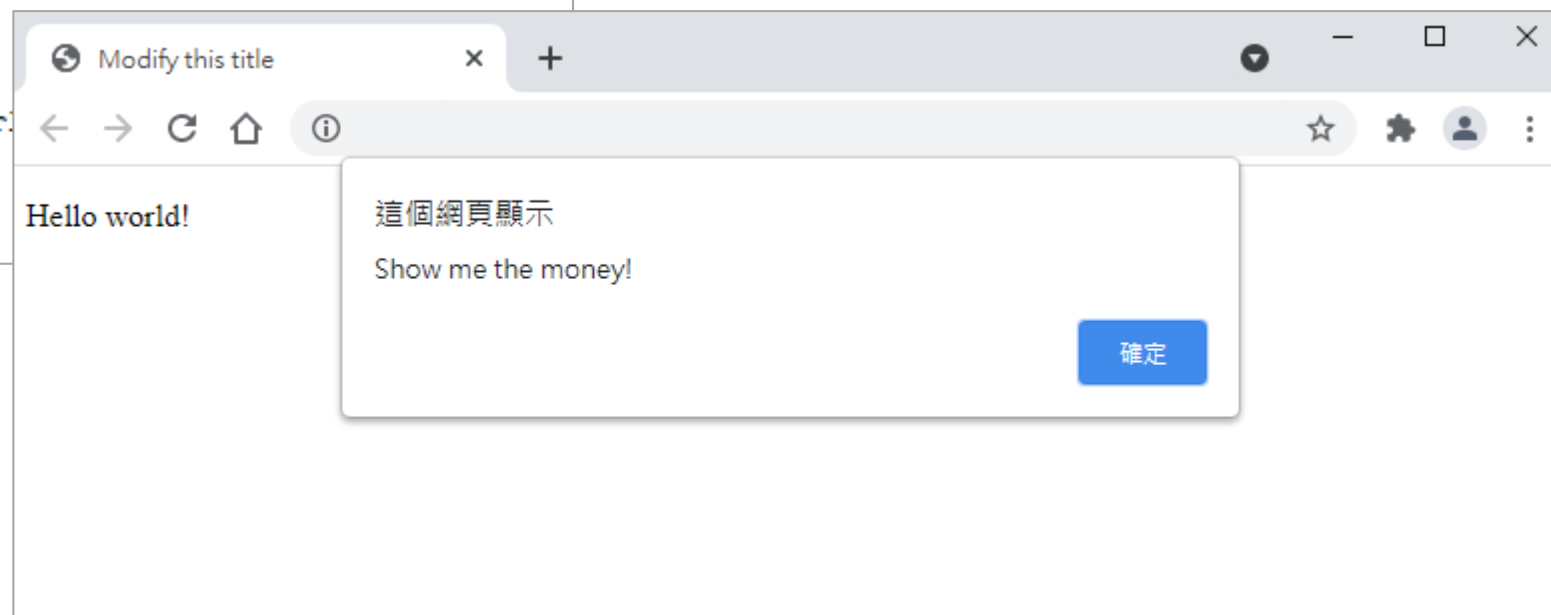




# HyperText Markup Language (cont.)

- Use script tag to show alert message

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>Modify this title</title>
5      <script>alert("Show me the money!")</script>
6  </head>
7  <body>
8      <div>
9          <p>Hello world!</p>
10     </div>
11 </body>
12 </html>
```



# HyperText Markup Language (cont.)

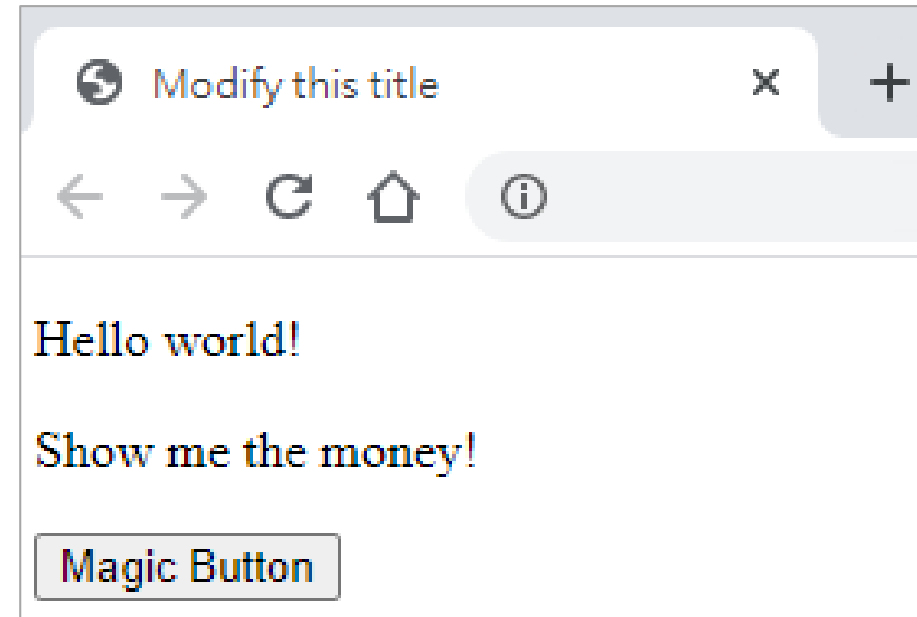
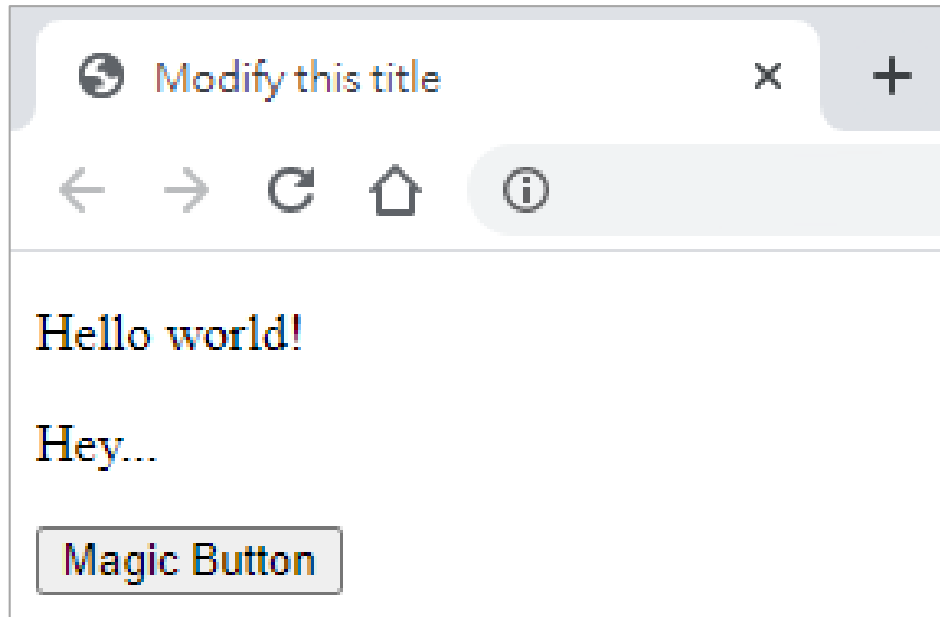
- Use script tag to change content information

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <title>Modify this title</title>
5    <script>
6      function myFunction() {
7        document.getElementById("magic").innerHTML = "Show me the money!";
8      }
9    </script>
10 </head>
11 <body>
12   <div>
13     <p>Hello world!</p>
14     <p id="magic">Hey...</p>
15     <button type="button" onclick="myFunction()">Magic Button</button>
16   </div>
17 </body>
18 </html>
```

注意 ID 的部分

# HyperText Markup Language (cont.)

- Use script tag to change content information



# HyperText Markup Language (cont.)

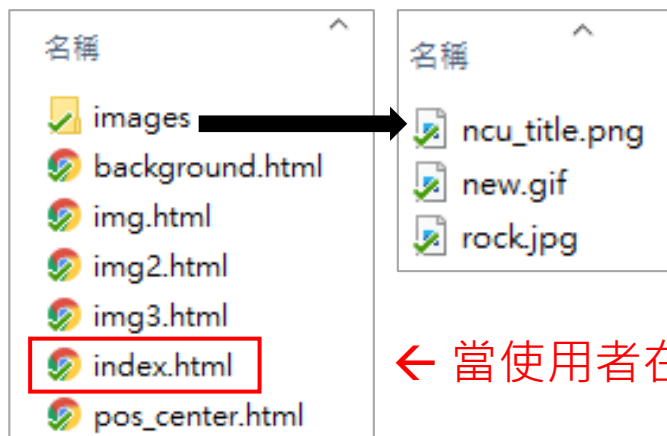
- Use noscript tag to provide alternative message

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>Modify this title</title>
5      <script>
6        function myFunction() {
7          document.getElementById("magic").innerHTML = "Show me the money!";
8        }
9      </script>
10     <noscript>
11       <p>您的網頁瀏覽器不支援 JavaScript </p>
12     </noscript>
13   </head>
14   <body>
15     <div>
16       <p>Hello world!</p>
17       <p id="magic">Hey...</p>
18       <button type="button" onclick="myFunction()">Magic Button</button>
19     </div>
20   </body>
21 </html>
```

← 當使用者的瀏覽器有設定禁止 script 語法時會觸發告警

# 於網頁伺服器上配置 homepage (首頁)

- 一般網頁伺服器會將 index.{html htm php ...} 當作預設要讀取的首頁



“練習架站”的時候應指定一個網頁作為首頁 (俗稱 homepage)  
要記得將該網頁命名為 index.html 或者 index.htm  
若使用 php 撰寫則命名為 index.php  
其他的網頁只要符合作業系統的檔名/副檔名命名規則即可

← 當使用者在瀏覽器輸入網址時 (未指定資源) 會優先讀取這個網頁檔

- 與該網頁同一層的檔案，參照時可以直接在 html 語法中使用檔名鏈結
- 但要鏈結其他資料夾裡面的檔案 (例如 images 資料夾裡的 rock.jpg)，此時語法中就必須要加上**伺服器端的目錄路徑**，否則會無法正確呈現圖片

# 其他常見的 HTML Element Reference

- 可以到 w3schools 找到各種 HTML Tag 的說明
- <https://www.w3schools.com/tags/>
- 試著自己用不同的 tag 組合來練習調整文字輸出格式吧！
- 照著說明直接在教學網頁上即時練習
- <https://www.w3schools.com/html/default.asp>

# Q & A

Thanks for your time and attention.