目　　錄

0 前言

0.1 jQuery 簡介

- jQuery 是一套跨瀏覽器的 JavaScript 函式庫(Function Library)，強化了 HTML 與 JavaScript 之間的操作，是目前最受歡迎的 JavaScript 函式庫。
- 依據 W3Techs 於 2023 年 1 月對全球人氣排名前一千萬大網站所作的統計報告：

  ✓ 最多網站所使用的用戶端(Client-Side)程式語言：

	程式語言	使用率
1.	JavaScript	98.3%
2.	Flash	1.5%

  ✓ 最多網站所使用的 JavaScript 函式庫：

	JavaScript 函式庫	使用率	市佔率
1.	jQuery	77.6%	94.3%
2.	Bootstrap	21.3%	25.9%
3.	Modernizr	9.2%	11.2%

- jQuery 的第一個版本是由 John Resig 在 2006 年 1 月的 BarCamp NYC 上所釋出的。 目前則由成立於 2009 年 9 月份的 「The jQuery Project」 (http://jquery.com/) 繼續研發，不定期推出更新版本。

0.2 網頁應用程式開發基礎知識複習

0.2.1 DOM 導論

- DOM(Document Object Model/文件物件模型)是一個表達、存取網頁中物件的介面 (API/Application Programming Interface)。
- DOM 是全球資訊網協會(World Wide Web Consortium，W3C)所制定的一套標準，大部分的瀏覽器開發廠商都會遵循並採用這套標準。
- 有了 DOM， JavaScript 就可以和網頁上的 HTML 進行互動，並修改 HTML 內容。
- DOM 將一個 HTML 網頁的資料結構以樹狀(tree)圖來表達，樹狀圖中的每一塊狀項目稱為節點(nodes)。
- HTML DOM 樹狀圖範例
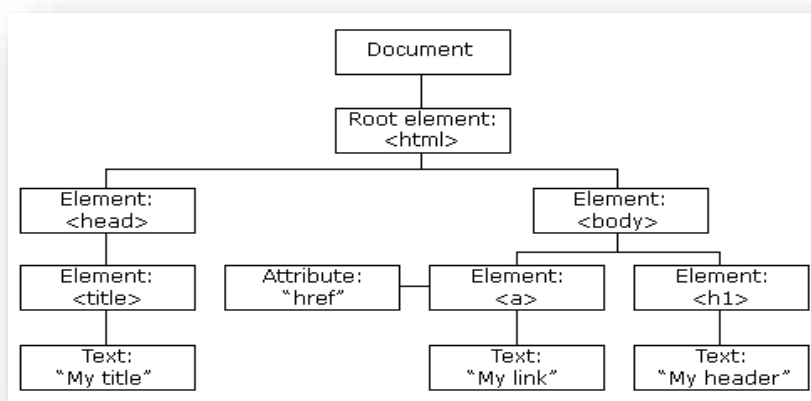

```
<html>
  <head>
     <title>My title</title>
  </head>
  <body>
     <a href="t1.html">My link</a>
     <h1>My header</h1>
  </body>
</html>
```

0.2.2 CSS 導論

- CSS(Cascading Style Sheet/串接樣式表/層疊樣式表)，是一種用於控制網頁樣式並允許樣式資訊與網頁內容分離的標記性語言。
- W3C 於 1996 年審核通過 CSS 規格(CSS Level 1)。它以 HTML 為基礎，提供了豐富的格式化功能。目前 W3C 公告的最新建議規格為 CSS Level 3 (2011 年)。

0.2.2.1 CSS 樣式表規則

A CSS ruleset (or rule):

```
div p, #id:first-line {
                           background-color : red  ;
                           background-style : none
}
```

Group of selectors   Declarations block
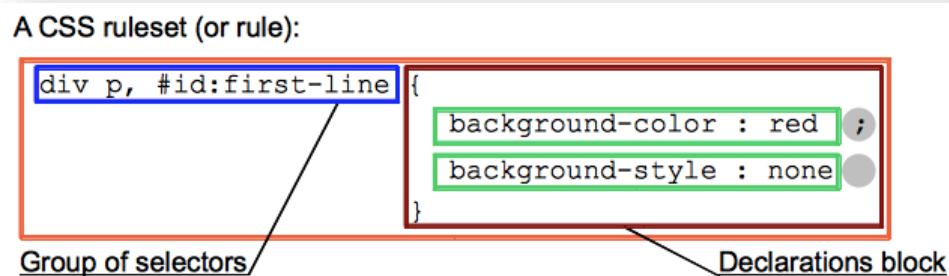
0.2.2.2 CSS 樣式表使用方法

- 行內樣式表(In-line Style Sheets)

  <h1 style="color:Red;font-size:2cm;">Hello Kitty</h1>

- 內嵌式樣式表(Embedded Style Sheets)

  ```
  <style type="text/css">
          h2 {color:Blue; font-size:2cm;}
  </style>
  ```

- 外部連結式樣式表(External Style Sheets)

  <link rel="Stylesheet" type="text/css" href="myStyle.css" />

0.2.3 HTTP Request Message 與 Response Message 之格式

0.2.3.1 HTTP Request Message


```
POST /doc/test.html HTTP/1.1          ──→ Request Line
Host: www.test101.com
Accept: image/gif, image/jpeg, */*
Accept-Language: en-us                ──→ Request Headers
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0
Content-Length: 35

bookId=12345&author=Tan+Ah+Teck
```
Request Message Header

A blank line separates header & body
Request Message Body
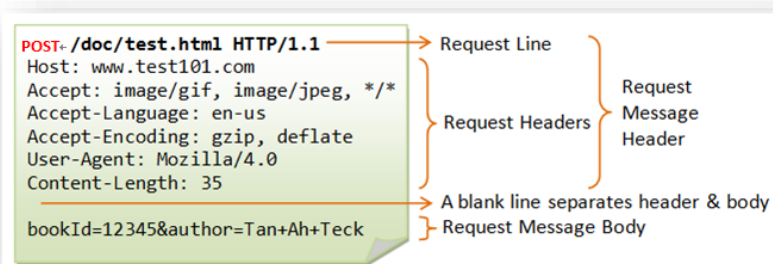
Request-Line = Method Request-URI HTTP-Version

0.2.3.2 Response Message

```
HTTP/1.1 200 OK                              Status Line
Date: Sun, 08 Feb xxxx 01:11:12 GMT
Server: Apache/1.3.29 (Win32)                            Response
Last-Modified: Sat, 07 Feb xxxx                          Message
ETag: "0-23-4024c3a5"                                     Header
Accept-Ranges: bytes                         Response Headers
Content-Length: 35
Connection: close
Content-Type: text/html

                                             A blank line separates header & body
<h1>My Home page</h1>                        Response Message Body
```
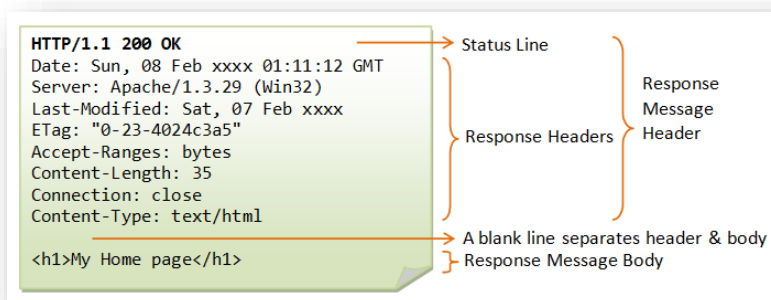
Status-Line = HTTP-Version　　Status-Code　　Reason-Phrase

0.2.4 表單資料(Form Data)進行 URL encoding (Percent-encoding)的規則

- The alphanumeric characters "a" through "z", "A" through "Z" and "0" through "9" remain the same.
- The special characters ".", "*", "_", and "-" remain the same.
- The space character " " is converted into a plus sign "+".　(註: %20 亦可)
- All other characters are unsafe and are first converted into one or more bytes using some encoding scheme. Then each byte is represented by the 3-character string "%xy", where xy is the two-digit hexadecimal representation of the byte.
- 例如：

  <input type='text' name='username' value='小甜甜　A9.*_-' />

  經過 URL encoding (字元編碼：utf-8)之後產生之表單資料如下：

  username=%E5%B0%8F%E7%94%9C%E7%94%9C+A9.*_-

1 樣式控制 I

1.1 CSS 樣式修改—基本方法

1.1.1 常用的「jQuery 函式」相關 API

1.1.1.1 jQuery()

jQuery(selector [, context])

- Accepts a string containing a CSS selector which is then used to match a set of elements.
- Parameters:
  - ✓ selector
    - ✧ Type: Selector
    - ✧ A string containing a selector expression
  - ✓ context
    - ✧ Type: Element or jQuery or Selector
    - ✧ A DOM Element, Document, jQuery or selector to use as context
- Returns: jQuery
- 使用範例
  - $("div.foo")

jQuery(html)

- Creates DOM elements on the fly from the provided string of raw HTML.
- Parameters:
  - ✓ html
    - ✧ Type: htmlString
    - ✧ A string of HTML to create on the fly. Note that this parses HTML, not XML.
- Returns: jQuery
- 使用範例
  - $("")

jQuery(callback)

- Binds a function to be executed when the DOM has finished loading.
- Parameters:
  - ✓ callback
    - ✧ Type: Function()
    - ✧ The function to execute when the DOM is ready.
- Returns: jQuery
- 使用範例
  ```
  $(function() {
     // Document is ready
  });
  ```

1.1.2 常用的「元素樣式」相關 API

1.1.2.1 jQuery 物件.css()

.css(propertyName)

- Get the computed style properties for the first element in the set of matched elements.
- Parameters:

- ✓ propertyName
  - ✧ Type: String
  - ✧ A CSS property.
- ■ Returns: String

.css(propertyName, value)

- ■ <mark>Set</mark> one or more CSS properties for the set of matched elements.
- ■ Parameters:
  - ✓ propertyName
    - ✧ Type: String
    - ✧ A CSS property name.
  - ✓ value
    - ✧ Type: String or Number (When a number is passed as the value, jQuery will convert it to a string and add <mark>px</mark> to the end of that string.)
    - ✧ A value to set for the property.
- ■ Returns: jQuery

1.1.3 範例程式：T01.html(第一頁)


```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>樣式控制  1</title>
    <link rel="icon" href="./favicon.ico" />
    <style type="text/css">
        .main-box {
            margin: 50px auto;
            width: 400px;
            height: 200px;
            padding: 20px;
```

```
                box-shadow: 5px 5px 10px #999;
                border: 1px solid #fff;
                text-align: center;
            }
        </style>
        <link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
        <script src="javascripts/jquery-3.6.1.min.js"></script>
        <script src="javascripts/jquery-ui.min.js"></script>
        <script type="text/javascript">
            $(function () {
                $("#tabs").tabs();
                $("#p1 #div1").hover(
                    function () { $(this).css('font-style', 'italic').css('color', 'blue')
                                        .css('font-size', '1cm').css('font-weight', 'bold'); },
                    function () { $(this).css('font-style', '').css('color', '').css('font-size', '')
                                        .css('font-weight', ''); }
                );
                (略)
            });
        </script>
    </head>
    <body>
        <div id="tabs">
            <ul>
                <li><a href="#p1">CSS樣式修改</a></li>
                <li><a href="#p2">設定CSS累進值</a></li>
                <li><a href="#p3">使用CSS物件修改樣式</a></li>
            </ul>
            <div id="p1">
                <div class="main-box">
                    <div id="div1">
                        歡迎來&quot;jQuery and jQuery UI&quot;的程式設計殿堂...
                    </div>
                </div>
            </div>
            (略)
        </div>
    </body>
</html>
```

1.2 CSS 樣式修改—使用累進值

1.2.1 常用的「元素樣式」相關 API

1.2.1.1 jQuery 物件.css(相對的屬性值)

.css(propertyName, value)

- Set one or more CSS properties for the set of matched elements.
- As of jQuery 1.6, .css() accepts relative values.
- Relative values are a string starting with += or -= to increment or decrement the current value.
- For example, if an element's padding-left was 10px, .css("padding-left", "+=15") would result in a total padding-left of 25px.

1.2.2 範例程式：T01.html(第二頁)


```html
<!DOCTYPE html>
<html>
<head>
    <title>樣式控制 1</title>
    (略)
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();
            (略)
            $("#p2 h3").click(
                function () {
                    $("#p2 #div2").css("font-size","+=2");
                }
            );
            (略)
        });
    </script>
```

```html
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">CSS樣式修改</a></li>
            <li><a href="#p2">設定CSS累進值</a></li>
            <li><a href="#p3">使用CSS物件修改樣式</a></li>
        </ul>
        (略)
        <div id="p2">
            <div class="main-box">
                <h3>click me, please.</h3>
                <div id="div2">
                    歡迎來&quot;jQuery and jQuery UI&quot;的程式設計殿堂...
                </div>
            </div>
        </div>
        (略)
    </div>
</body>
</html>
```

1.3 CSS 樣式修改—使用「簡單物件(Plain Object)」

1.3.1 常用的「元素樣式」相關 API

1.3.1.1 jQuery 物件.css(簡單物件)

.css(properties)

- ■ Set one or more CSS properties for the set of matched elements.
- ■ Parameters:
  - ✓ properties
    - ✧ Type: <mark>PlainObject</mark>
    - ✧ An object of property-value pairs to set.
- ■ Returns: jQuery

1.3.2 範例程式：T01.html(第三頁)


```
<!DOCTYPE html>
<html>
<head>
    (略)
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();
            (略)
            $("#p3 #div3").hover(
                function () {
                    $(this).css({
                        'font-style': 'italic',      'color': 'red',
                        'font-size': '1cm',      'font-weight': 'bold'
                    });
                },
```

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```
                    function () {
                        $(this).css({
                            'font-style': '',        'color': '',
                            'font-size': '',          'font-weight': ''
                        });
                    }
                );
            });
        </script>
    </head>
    <body>
        <div id="tabs">
            <ul>
                <li><a href="#p1">CSS樣式修改</a></li>
                <li><a href="#p2">設定CSS累進值</a></li>
                <li><a href="#p3">使用CSS物件修改樣式</a></li>
            </ul>
            (略)
            <div id="p3">
                <div class="main-box">
                    <div id="div3">
                        歡迎來&quot;jQuery and jQuery UI&quot;的程式設計殿堂...
                    </div>
                </div>
            </div>
        </div>
    </body>
</html>
```

2 選擇器 I

2.1 基礎(Basic)

2.1.1 選擇器摘要

選擇器	範例	說明
*	$("*")	All elements
#id	$("#lastname")	The element with id="lastname"
.class	$(".intro")	All elements with class="intro"
.class,.class	$(".intro,.demo")	All elements with the class "intro" or "demo"
element	$("p")	All <p> elements
el1,el2,el3	$("h1,div,p")	All <h1>, <div> and <p> elements

2.1.2 範例程式：T02.html(Part I)
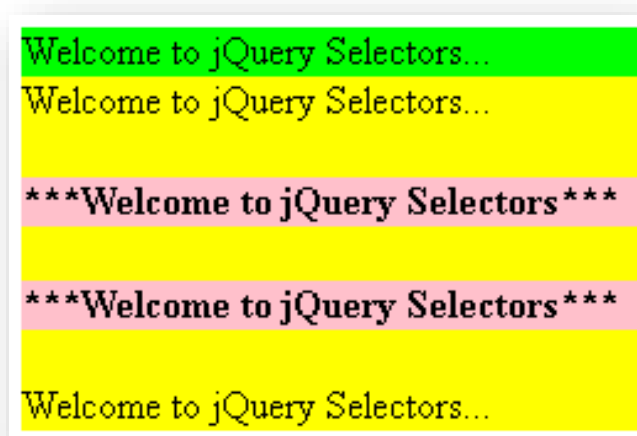

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c1").css({ backgroundColor: 'yellow' });
            $("#c1-1").css({ backgroundColor: 'lime' });
            $(".c1 h3, .c1 h4").css({ backgroundColor: 'pink' });
        });
    </script>
</head>
<body>
    <div class="c1">
        <div id="c1-1">Welcome to jQuery Selectors</div>
        <div>Welcome to jQuery Selectors</div>
        <h4>***Welcome to jQuery Selectors***</h4>
```

```
            <h4>***Welcome to jQuery Selectors***</h4>
            <div>Welcome to jQuery Selectors...</div>
        </div>
    </body>
</html>
```

2.2 表單(Form)

2.2.1 選擇器摘要

選擇器	範例	說明
:input * (*表示 jQuery 自訂)	$(":input")	All input elements (含<select>、<textarea>)
:text *	$(":text")	All input elements with type="text"
:password *	$(":password")	All input elements with type="password"
:radio *	$(":radio")	All input elements with type="radio"
:checkbox *	$(":checkbox")	All input elements with type="checkbox"
:submit *	$(":submit")	All input elements with type="submit" 或 <button type='submit'></button>
:reset *	$(":reset")	All input elements with type="reset" 或 <button type='reset'></button>
:button *	$(":button")	All input elements with type="button" 或 <button type= 'button | submit | reset'></button>
:enabled	$(":enabled")	All enabled input elements (含<select>、<textarea>、<fieldset>)
:disabled	$(":disabled")	All disabled input elements
:checked	$(":checked")	All checked input elements (含<input type='checkbox | radio'>、 <select><option></option></select>)
:selected *	$(":selected")	All selected <option> elements

2.2.2 範例程式：T02.html(Part II)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c2 :text").css({ color: 'red' });
            $("div.c2 :password").css({ color: 'blue' });
            $("div.c2 :checked").css({ width: '20px', height:'20px'});
            $("div.c2 :button:disabled").css({ border: '1px solid blue' });
        </script>
```

```html
</head>
<body>
    <div class="c2">
        <input type="text" size="15" value="Hello jQuery" />
        <input type="password" size="15" value="Hello jQuery" />
        <fieldset style="width:100px;">
            <legend>性別</legend>
            <label for="male">男</label><input type="radio" name="sex" id="male" />
            <label for="female">女</label>
            <input type="radio" name="sex" id="female"   checked="checked" />
        </fieldset>
        <button type="button" disabled>確定</button>
        <button type="button">取消</button>
    </div>
</body>
</html>
```

2.3 基本過濾器(Basic Filter)

2.3.1 選擇器摘要

選擇器	範例	說明
:first *	$("p:first")	The first \<p> element
:last *	$("p:last")	The last \<p> element
:even *	$("tr:even")	All even \<tr> elements
:odd *	$("tr:odd")	All odd \<tr> elements
:eq(*index*) *	$("ul li:eq(3)")	The fourth element in a list (index starts at 0)
:gt(*no*) *	$("ul li:gt(3)")	List elements with an index greater than 3
:lt(*no*) *	$("ul li:lt(3)")	List elements with an index less than 3
:not(*selector*)	$("input:not([type=checkbox])")	All input elements that are not checkbox
:header *	$(":header")	All header elements \<h1>, \<h2> ...

2.3.2 常用的「表單事件」相關 API

2.3.2.1 jQuery 物件.focus()

.focus()

- Bind an event handler to the"focus"JavaScript event, or trigger that event on an element.

2.3.3 範例程式：T02.html(Part III)
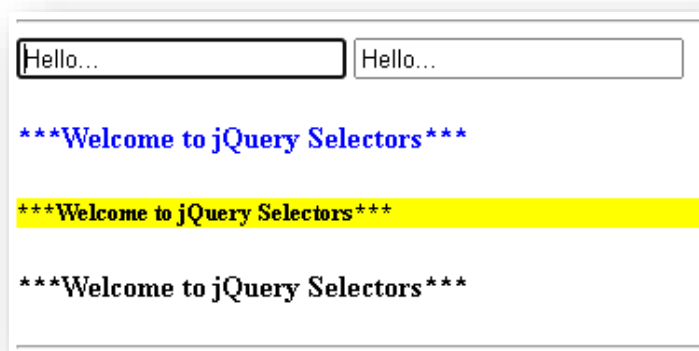

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c3 input:first").focus();
            $("div.c3 h4:even").css({ color: "blue" });
            $("div.c3 :header:not('h4')").css({ backgroundColor: "yellow" });
        </script>
</head>
<body>
```

```
        <div class="c3">
                <input type="text" value="Hello..." />
                <input type="text" value="Hello..." />
                <h4>***Welcome to jQuery Selectors***</h4>
                <h5>***Welcome to jQuery Selectors***</h5>
                <h4>***Welcome to jQuery Selectors***</h4>
        </div>
    <hr />
</body>
</html>
```

3 選擇器 II

3.1 孩子過濾器(Child filter)

3.1.1 選擇器摘要

選擇器	範例	說明
:first-child	$("p:first-child")	All <p> elements that are the first child of their parent
:first-of-type	$("p:first-of-type")	All <p> elements that are the first <p> element of their parent
:last-child	$("p:last-child")	All <p> elements that are the last child of their parent
:last-of-type	$("p:last-of-type")	All <p> elements that are the last <p> element of their parent
:nth-child(n)	$("p:nth-child(2)")	All <p> elements that are the 2nd child of their parent (index starts at 1)
:nth-of-type(n)	$("p:nth-of-type(2)")	All <p> elements that are the 2nd <p> element of their parent

3.1.2 範例程式：T03.html(Part I)

Welcome to jQuery Selectors...
Welcome to jQuery Selectors...

Welcome to jQuery Selectors

Welcome to jQuery Selectors

Welcome to jQuery Selectors...

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器2</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c1 div:first-child").css({ color: "red" });
            $("div.c1 div:nth-child(2)").css({ color: "blue" });
            $("div.c1 h4:first-of-type").css({ color: "green" });
            $("div.c1 h4:nth-of-type(2)").css({ color: "purple" });
        });
    </script>
</head>
<body>
```

```html
    <div class="c1">
        <div>Welcome to jQuery Selectors...</div>
        <div>Welcome to jQuery Selectors...</div>
        <h4>***Welcome to jQuery Selectors***</h4>
        <h4>***Welcome to jQuery Selectors***</h4>
        <div>Welcome to jQuery Selectors...</div>
    </div>
</body>
</html>
```

3.2 內容過濾器(Content filter)

3.2.1 選擇器摘要

選擇器	範例	說明
:contains(*text*) *	$(":contains(Hello)") 1. 引號可省略。 2. 關鍵字(Hello)前後不可有多餘的空白	All elements which contains the text "Hello"
:has(*selector*) *	$("div:has(p)")	All <div> elements that have a <p> (子孫) element
:empty	$(":empty")	All elements that are empty

3.2.2 範例程式：T03.html(Part II)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器2</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c2:contains(Java)").css({ "text-decoration": "underline" });
            $("div.c2:has(span)").css({ "color": "red" });
            $("div.c2:empty").css({ width: "300px", height: "50px", border: "1px blue solid" });
        });
    </script>
</head>
</head>
<body>
    <div class="c2">
        <h4>
            <span>Java</span>
            <span>Programming</span>
        </h4>
    </div>
    <div class="c2">JSP</div>
    <div class="c2">JavaScript</div>
```

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```
        <div class="c2"></div>
</body>
</html>
```

```
</body>
</html>
```

3.3 其他

3.3.1 選擇器摘要

選擇器	範例	說明
parent > child	$("div > p")	All <p> elements that are a direct child of a <div> element
parent descendant	$("div p")	All <p> elements that are descendants of a <div> element
element + next	$("div + p")	The <p> element that are next to each <div> elements (Adjacent sibling)
:hidden *	$("p:hidden")	All hidden <p> elements (包含<head>區塊內)
:visible *	$("table:visible")	All visible tables
[*attribute*]	$("[href]")	All elements with a href attribute
[*attribute=value*]	$("[href='default.htm']")	All elements with a href attribute value equal to "default.htm"(value 如含特殊字元，如.或空白，須以引號括起來)
[*attribute!=value*]	$("[href!='default.htm']")	All elements with a href attribute value not equal to "default.htm"
[*attribute$=value*]	$("[href$='.jpg']")	All elements with a href attribute value ending with ".jpg"
[*attribute^=value*]	$("[name^='hello']")	All elements with a name attribute value starting with "hello"(以 hello 開頭指 hello 後面接任意字串)
[*attribute*=value*]	$("[name*='hello']")	All elements with a name attribute value containing the string "hello"

3.3.2 範例程式：T03.html(Part III)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>選擇器2</title>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script>
        $(function () {
            $("div.c3 .div-c3 > span:eq(0) + span").css({ color: "blue" });
            $("div.c3 h3:visible").css({ color: "red" });
            $("div.c3 [title='span 1']").css({ color: "green" });
            $("div.c3 [title^='-sp']").css({ "text-decoration": "underline" } );
```

```html
                });
            </script>
        </head>
    </head>
    <body>
        <div class="c3">
            <div class="div-c3">
                <div>
                    <span title="span 1">Welcome to jQuery Selectors1...</span>
                    <br />
                    <span title="+span 2">Welcome to jQuery Selectors2...</span>
                    <br />
                    <span title="-span 3">Welcome to jQuery Selectors3...</span>
                    <br />
                    <span title="*span 4">Welcome to jQuery Selectors4...</span>
                </div>
            </div>
            <div class="div-c3">
                <span>Welcome to jQuery Selectors5...</span>
                <span>Welcome to jQuery Selectors6...</span>
                <span>Welcome to jQuery Selectors7...</span>
            </div>
            <h3 style="display:none;">Welcome to jQuery Selectors8...</h3>
            <h3>Welcome to jQuery Selectors9...</h3>
        </div>
    </body>
</html>
```
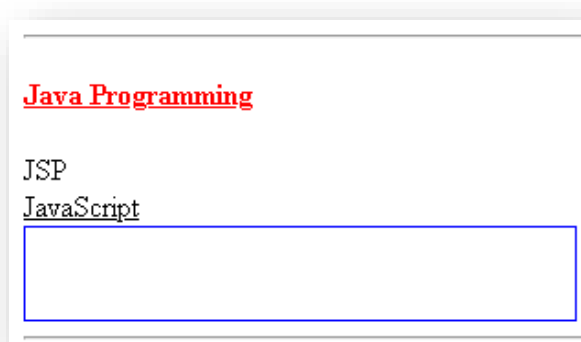
4 樣式控制 II

4.1 使用 HTML 元素之「類別(Class)」屬性

4.1.1 常用的「元素樣式」相關 API

4.1.1.1 jQuery 物件.addClass()

.addClass(className)

- Adds the specified class(es) to each element in the set of matched elements.
- Parameters:
  - ✓ className
    - ✧ Type: String
    - ✧ One or more <mark>space-separated classes</mark> to be added to the class attribute of each matched element.
- Returns: jQuery

4.1.1.2 jQuery 物件.removeClass()

.removeClass(className)

- Remove a single class or multiple classes from each element in the set of matched elements.
- Parameters:
  - ✓ className
    - ✧ Type: String
    - ✧ One or more <mark>space-separated classes</mark> to be removed from the class attribute of each matched element.
- Returns: jQuery

4.1.2 範例程式：T04.html(第一頁)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>樣式控制 2</title>
    <link rel="icon" href="./favicon.ico" />
```

```html
<style type="text/css">
    .main-box {
        margin: 50px auto;
        width: 600px;
        height: 300px;
        padding: 40px;
        box-shadow: 5px 5px 10px #999;
        border: 1px solid #fff;
        text-align: center;
        overflow:auto;
    }
    .my-style {
        font-style: italic;
        color: green;
        font-size: 1.5cm;
        font-weight: bold;
        transition: font-size 2s, color 5s;
        /*transition(轉場/過渡/漸變 動畫): transition-property transition-duration, ... ;
          CSS transitions allows you to change property values smoothly, over a given duration.
            To create a transition effect, you must specify two things:
            1. the CSS property you want to add an effect to
            2. the duration of the effect(預設0)
         */
    }
    (略)
</style>
<link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#tabs").tabs();
        $("#p1 #div1").hover(
            function () { $(this).addClass("my-style") },
            function () { $(this).removeClass("my-style") }
        );
        (略)
    });
</script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.addClass() .removeClass(</a></li>
            <li><a href="#p2">.hasClass()</a></li>
        </ul>
        <div id="p1">
            <div class="main-box">
                <div id="div1">
```

```
                    歡迎來&quot;jQuery &amp; jQuery UI&quot;的程式設計殿堂...
                </div>
            </div>
        </div>
        (略)
    </div>
</body>
</html>
```

4.2 判斷 HTML 元素之「類別(Class)」屬性

4.2.1 常用的「元素樣式」相關 API

4.2.1.1 jQuery 物件.hasClass()

.hasClass(className)

- Determine whether any of the matched elements are assigned the given class.
- Parameters:
  - ✓ className
    - ✧ Type: String
    - ✧ The class name to search for.
- Returns: Boolean

4.2.2 常用的「特效與動畫」相關 API

4.2.2.1 jQuery 物件.hide()

.hide( )

- The matched elements will be hidden immediately, with no animation.
- Returns: jQuery

.hide(duration [, easing] [, complete])

- Hide the matched elements with animation.
- Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- Returns: jQuery

4.2.2.2 jQuery 物件.show()

.show( )

- The matched elements will be revealed immediately, with no animation.
- Returns: jQuery

.show(duration [, easing] [, complete])

- Display the matched elements with animation.
- Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String

- ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.3 jQuery 物件.slideDown()

.slideDown([duration] [, easing] [, complete])

- ■ Display the matched elements with a sliding motion.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.4 jQuery 物件.slideUp()

.slideUp([duration] [, easing] [, complete])

- ■ Hide the matched elements with a sliding motion.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.5 jQuery 物件.slideToggle()

.slideToggle([duration] [, easing] [, complete])

- ■ Display or hide the matched elements with a sliding motion.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.

- ✓ complete
  - ✧ Type: Function()
  - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.6   jQuery 物件.fadeIn()

.fadeIn([duration] [, easing] [, complete])

- ■ Display the matched elements by fading them to opaque.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.7   jQuery 物件.fadeOut()

.fadeOut([duration] [, easing] [, complete])

- ■ Hide the matched elements by fading them to transparent.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete
    - ✧ Type: Function()
    - ✧ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

4.2.2.8   jQuery 物件.fadeToggle()

.fadeToggle([duration] [, easing] [, complete])

- ■ Display or hide the matched elements by animating their opacity.
- ■ Parameters:
  - ✓ duration (default: 400)
    - ✧ Type: Number or String
    - ✧ A string or number determining how long the animation will run.
  - ✓ easing (default: swing)
    - ✧ Type: String
    - ✧ A string indicating which easing function to use for the transition.
  - ✓ complete

♦ Type: Function()

♦ A function to call once the animation is complete, called once per matched element.

■ Returns: jQuery

4.2.3 常用的「DOM 元素的操作」相關 API

4.2.3.1 jQuery 物件.next()

.next([selector])

■ Get the <mark>immediately following sibling</mark> of each element in the set of matched elements. If a selector is provided, it retrieves the next sibling only if it matches that selector.

■ Parameters:

✓ selector

♦ Type: Selector

♦ A string containing a selector expression to match elements against.

■ Returns: jQuery

4.2.3.2 jQuery 物件.prev()

.prev([selector])

■ Get the <mark>immediately preceding sibling</mark> of each element in the set of matched elements. If a selector is provided, it retrieves the previous sibling only if it matches that selector.

■ Parameters:

✓ selector

♦ Type: Selector

♦ A string containing a selector expression to match elements against.

■ Returns: jQuery

4.2.4 CSS 選擇器的優先順序

■ 選擇器的優先順序是依其具體性(selector's specificity)的等級來計分。

■ 當兩個選擇器同時作用在一個元素時，具體性高的選擇器優先生效。

■ 選擇器的具體性等級的計分規則：

順序	規則	結果
1	<mark>style</mark>="樣式表"	a=1, b=0, c=0, d=0
2	<mark>Id</mark> 選擇器	a=0, b=1, c=0, d=0
3	其他**屬性或假類別**選擇器	a=0, b=0, c=1, d=0
4	<mark>**元素**或假元素</mark>選擇器	a=0, b=0, c=0, d=1

■ 選擇器的具體性等級的計分範例：

1	* {}	a=0 b=0 c=0 d=0
2	li {}	a=0 b=0 c=0 d=1
3	li:first-line {}	a=0 b=0 c=0 d=2

4	ul li {}	a=0 b=0 c=0 d=2
5	ul ol+li {}	a=0 b=0 c=0 d=3
6	h1 + *[rel=up] {}	a=0 b=0 c=1 d=1
7	ul ol li.red {}	a=0 b=0 c=1 d=3
8	li.red.level {}	a=0 b=0 c=2 d=1
9	#x34y {}	a=0 b=1 c=0 d=0
10	style=""	a=1 b=0 c=0 d=0

■　實例 1

```
<html>
<head>
      <title>CSS Specificity</title>
      <style type="text/css">
            li.red.level    {color:red;}
            ul   ol   li.red   { color:green;}
      </style>
</head>
<body style="font-size:1cm;">
            <ul>
                  <li>Programming Language
                        <ol>
                              <li class="red level">JavaScript</li>
                              <li>jQuery</li>
                        </ol>
                  </li>
                  <li>Database</li>
            </ul>
</body>
</html>
```

- Programming Language
  1. JavaScript
  2. jQuery
- Database

■　實例 2

```
<style type="text/css">
      ul    [class].red    { color:green;}

      li.red.level    {color:red;}
      優先權相同時，以位置在後者為準
</style>
```

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■   實例 3

```
<style type="text/css">
        <style type="text/css">
                li.red.level    {color:red;}
                ul    ol    li.red    { color:green!important;}
        </style>
</style>
```


4.2.5 範例程式：T04.html(第二頁)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
```
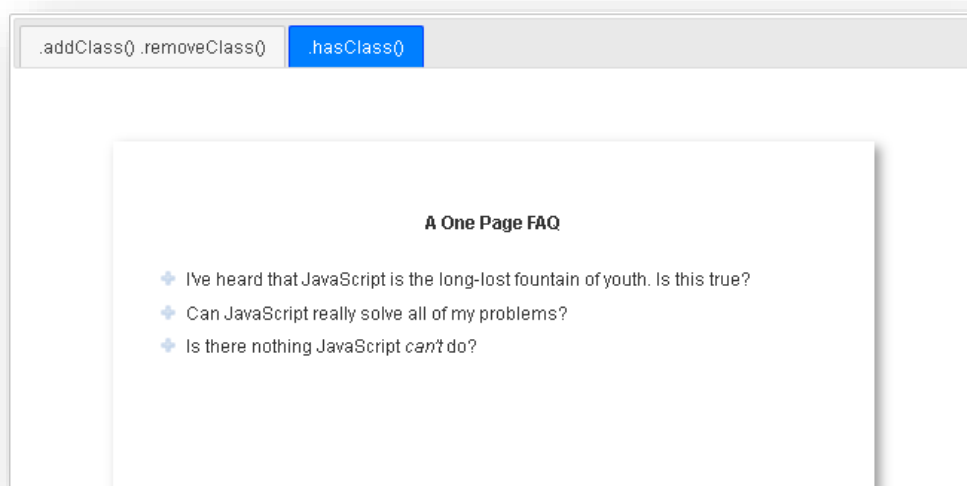
```
<title>樣式控制 2</title>
<link rel="icon" href="./favicon.ico" />
<style type="text/css">
    (略)
    #p2 div.question {
        text-align:left;
        background: url(images/open.png) no-repeat 0 11px;
        padding: 10px 0 0 25px;          cursor: pointer;
    }
    #p2 div.question.close {
        background-image: url(images/close.png);
    }
    #p2 div.answer {
        text-align:left;        margin-left: 25px;
    }
</style>
<link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#tabs").tabs();
        (略)
        $('#p2 .answer').hide();
        $('#p2 .question').click(
            function () {
                if ($(this).hasClass('close')) {
                    $(this).next().fadeOut();
                    $(this).removeClass('close');
                }
                else {
                    $(this).next().slideDown();
                    $(this).addClass('close');
                }
            }
        );
    });
</script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.addClass() .removeClass()</a></li>
            <li><a href="#p2">.hasClass()</a></li>
        </ul>
        (略)
        <div id="p2">
            <div class="main-box">
                <h4>A One Page FAQ</h4>
```

```
<div class="question">I've heard that JavaScript is the long-lost fountain of youth. Is this true?</div>
<div class="answer">
    <p>Why, yes it is! Studies prove that learning JavaScript freshens the mind and extends life span
        by several hundred years. (Note: some scientists disagree with these claims.)</p>
</div>
<div class="question">Can JavaScript really solve all of my problems?</div>
<div class="answer">
    <p>Why, yes it can! It's the most versatile programming language ever created and is trained to
    provide financial management advice, life-saving CPR, and even to take care of household pets.</p>
</div>
<div class="question">Is there nothing JavaScript <em>can&#8217;t</em> do?</div>
<div class="answer">
    <p>Why, no there isn&#8217;t! It&#8217;s even able to write its own public relations-oriented
    Frequently Asked Questions pages. Now that&#8217;s one smart programming language!</p>
</div>
</div>
</div>
</body>
</html>
```

5 事件處理─滑鼠事件

5.1 jQuery 支援的常用滑鼠事件

- .click()
  - Bind an event handler to the "click" JavaScript event, or trigger that event on an element.
- .dblclick()：
  - Bind an event handler to the "dblclick" JavaScript event, or trigger that event on an element.
- .contextmenu()：
  - Bind an event handler to the "contextmenu" JavaScript event, or trigger that event on an element.
- .mousedown()
  - Bind an event handler to the "mousedown" JavaScript event, or trigger that event on an element.
- .mouseup()
  - Bind an event handler to the "mouseup" JavaScript event, or trigger that event on an element.
- .mouseenter()
  - Bind an event handler to be fired when the mouse enters an element, or trigger that handler on an element.
- .mouseleave()
  - Bind an event handler to be fired when the mouse leaves an element, or trigger that handler on an element.
- .hover()
  - Bind one or two handlers to the matched elements, to be executed when the mouse pointer enters and leaves the elements.
- .mouseout()
  - Bind an event handler to the "mouseout" JavaScript event, or trigger that event on an element.
- .mouseover()
  - Bind an event handler to the "mouseover" JavaScript event, or trigger that event on an element.

5.2 Click 事件使用範例

5.2.1 常用的「滑鼠事件」相關 API

5.2.1.1 jQuery 物件.click()

.click(handler)

- Bind an event handler to the "click" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute each time the event is triggered.
- Returns: jQuery

5.2.2 常用的「表單輸入」相關 API

5.2.2.1 jQuery 物件.val()

.val()

- Get the current value of the first element(<input>) in the set of matched elements.
- Returns: String or Number or Array

.val(value)

- Set the value of each element (<input>) in the set of matched elements.
- Parameters:
  - ✓ value
    - ✧ Type: String or Number or Array
    - ✧ A string of text, a number, or an array of strings corresponding to the value of each matched element to set as selected/checked.
- Returns: jQuery

5.2.3 範例程式：T05.html(第一頁)

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>使用滑鼠事件範例1</title>
    <link rel="icon" href="./favicon.ico" />
    <link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
    <style>
        .main-box {
            margin: 50px auto;              width: 400px;
            height: 200px;                  padding: 50px;
            box-shadow: 5px 5px 10px #999;  border: 1px solid #fff;
            text-align: center;              overflow: auto;
        }
        (略)
    </style>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();
            $("#p1 #button1").click(
                function () { alert("歡迎" + $("#text1").val() + "光臨!"); }
            );
            (略)
        });
    </script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.click()</a></li>
            <li><a href="#p2">.dblclick()</a></li>
            <li><a href="#p3">.hover()</a></li>
        </ul>
        <div id="p1">
            <div class="main-box">
                <label>
                    姓名
                    <input type="text" id="text1" size="20" value="Hello小倩" />
                </label>
                <input type="button" id="button1" value="Click" />
            </div>
        </div>
            (略)
    </div>
</body>
</html>
```

5.3 Dblclick 事件使用範例

5.3.1 常用的「滑鼠事件」相關 API

5.3.1.1 jQuery 物件.dblclick()

.dblclick(handler)

- Bind an event handler to the "dblclick" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute each time the event is triggered.
- Returns: jQuery

5.3.2 常用的「元素屬性值」相關 API

5.3.2.1 jQuery 物件.attr()

.attr(attributeName, value)

- Set one or more attributes for the set of matched elements.
- Parameters:
  - ✓ attributeName
    - ✧ Type: String
    - ✧ The name of the attribute to set.
  - ✓ value
    - ✧ Type: String or Number or Null
    - ✧ A value to set for the attribute. If null, the specified attribute will be removed (as in .removeAttr()).
- Returns: jQuery

.attr(attributes)

- Set one or more attributes for the set of matched elements.
- Parameters:
  - ✓ attributes
    - ✧ Type: PlainObject
    - ✧ An object of attribute-value pairs to set.
- Returns: jQuery

.attr(attributeName)

- Get the value of an attribute for the first element in the set of matched elements.
- Parameters:
  - ✓ attributeName
    - ✧ Type: String
    - ✧ The name of the attribute to get.
- Returns: String

.attr() 與 .prop() 函式用法比較
```html
<input type="text" disabled data-xxx="custom-attribute" id="my-text"/>
<script>
```

```
        console.log($("#my-text").attr("disabled")); //disabled (String型別)
        console.log($("#my-text").prop("disabled")); //true (Boolean型別)
        console.log($("#my-text").attr("data-xxx")); //custom-attribute (String型別)
        console.log($("#my-text").prop("data-xxx")); //undefined (Undefined型別)
    </script>
```

5.3.2.1 jQuery 物件.prop()

.prop(propertyName, value)

- Set one or more properties for the set of matched elements.
- Parameters:
    - ✓ propertyName
        - ✧ Type: String
        - ✧ The name of the property to set.
    - ✓ value
        - ✧ Type: Anything
        - ✧ A value to set for the property.
- Returns: jQuery

.prop(properties)

- Set one or more properties for the set of matched elements.
- Parameters:
    - ✓ properties
        - ✧ Type: PlainObject
        - ✧ An object of property-value pairs to set.
- Returns: jQuery

.prop(propertyName)

- Get the value of a property for the first element in the set of matched elements.
- Parameters:
    - ✓ propertyName
        - ✧ Type: String
        - ✧ The name of the property to get.
- Returns: Anything

5.3.3 常用的「特效與動畫」相關 API

5.3.3.1 jQuery 物件.animate()

.animate(properties [, duration] [, easing] [, complete])

- Perform a custom animation of a set of CSS properties.
- Parameters:
    - ✓ properties
        - ✧ Type: PlainObject
        - ✧ An object of CSS properties and values that the animation will move toward.
    - ✓ duration (default: 400)
        - ✧ Type: Number or String
        - ✧ A string or number determining how long the animation will run.

- ✓ easing (default: swing)
    - ✦ Type: String
    - ✦ A string indicating which easing function to use for the transition.
        - ◆ Easing functions specify the speed at which an animation progresses at different points within the animation.
        - ◆ jQuery core ships with two easings: linear, which progresses at a constant pace throughout the animation, and swing (jQuery core's default easing), which progresses slightly slower at the beginning and end of the animation than it does in the middle of the animation.
        - ◆ jQuery UI provides several additional easing functions, ranging from variations on the swing behavior to customized effects such as bouncing.

參考資料來源：https://easings.net/

- ✓ complete
    - ✦ Type: Function()
    - ✦ A function to call once the animation is complete, called once per matched element.
- ■ Returns: jQuery

5.3.4 範例程式：T05.html(第二頁)

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>使用滑鼠事件範例1</title>
    <link rel="icon" href="./favicon.ico" />
    <link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
    <style>
        (略)
    </style>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();
            (略)
            $("#p2 #button2").dblclick(function () {
                $(this).attr("disabled", true).css("color", "rgba(0,0,255,0.3) ") ;

                //註：jq.attr("disabled", true)==jq.attr("disabled", "disabled")
                //                ==jq.prop("disabled", true)==jq.prop("disabled", "disabled")
                //      console.log($(this).attr("disabled"));//disabled(字串值)
                //      console.log($(this).prop("disabled"));//true(布林值)

                var btnWidth = $(this).css("width");
                var btnHeight = $(this).css("height");
                $(this).animate({ width: "100px", height: "100px" }, 1000, function () {
                    $(this).animate({ width: btnWidth, height: btnHeight }, 2000, function () {
                        $(this).attr("disabled", false).css("color", "");
                    })
                });
```

```
            });
            (略)
        });
    </script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.click()</a></li>
            <li><a href="#p2">.dblclick()</a></li>
            <li><a href="#p3">.hover()</a></li>
        </ul>
        (略)
        <div id="p2">
            <div class="main-box">
                <label>
                    姓名
                    <input type="text" id="text2" size="20" value="Hello采臣" />
                </label>
                <input type="button" id="button2" value="Click" />
            </div>
        </div>
        (略)
    </div>
</body>
</html>
```

5.4 Hover 事件使用範例

5.4.1 常用的「滑鼠事件」相關 API

5.4.1.1 jQuery 物件.hover()

.hover(handlerIn, handlerOut)

- Bind two handlers to the matched elements, to be executed when the mouse pointer enters and leaves the elements.
- Parameters:
  - ✓ handlerIn
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute when the mouse pointer enters the element.
  - ✓ handlerOut
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute when the mouse pointer leaves the element.
- Returns: jQuery

5.4.2 常用的「特效與動畫」相關 API

5.4.2.1 jQuery 物件.stop()

.stop( )

- Stop the currently-running animation on the matched elements.
- Returns: jQuery

5.4.3 範例程式：T05.html(第三頁)
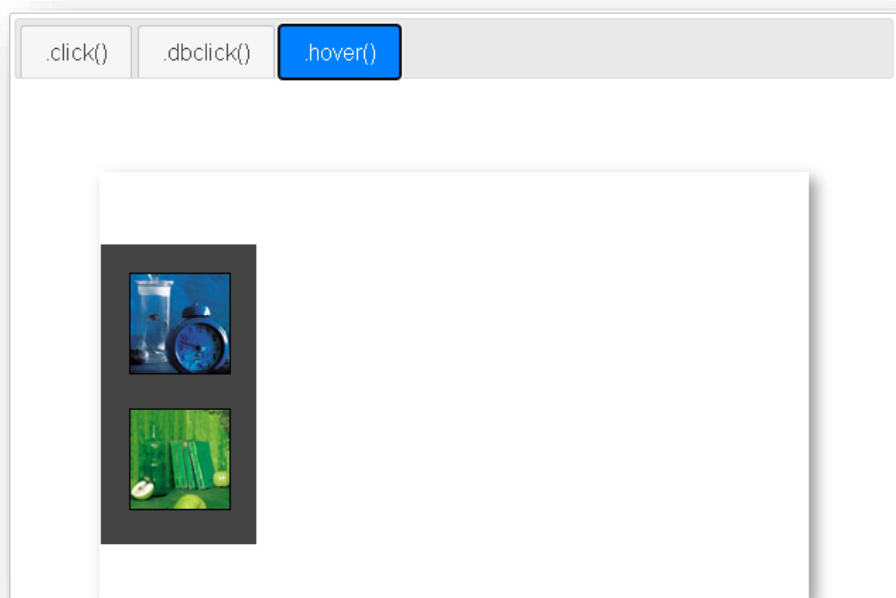

```
<!DOCTYPE html>
<html>
<head>
```

```html
<meta charset="utf-8" />
<title>使用滑鼠事件範例1</title>
<link rel="icon" href="./favicon.ico" />
<link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
<style>
    .main-box {
        margin: 50px auto;              width: 400px;
        height: 200px;                  padding: 50px;
        box-shadow: 5px 5px 10px #999;  border: 1px solid #fff;
        text-align: center;              overflow: auto;
    }
    .dashboard {
        width: 70px;
        background-color: rgb(110,138,195);
        padding: 20px 20px 0 20px;
        position: absolute;
        left: -92px;
        z-index: 100;
    }
        .dashboard img {
            margin-bottom: 20px;
            border: 1px solid rgb(0,0,0);
        }
</style>
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#tabs").tabs();
        (略)
        $('#p3 .dashboard').hover(
            function () {
                $(this).stop().animate(
                    {
                        left: '0px',
                        backgroundColor: '#444'
                    },
                    500,
                    'easeInSine'
                ); // end animate
            },
            function () {
                $(this).stop().animate(
                    {
                        left: '-92px',
                        backgroundColor: 'rgb(110,138,195)'
                    },
                    1500,
                    'easeOutBounce'
```

```
                          ); // end animate
                      }
                  ); // end hover
              });
          </script>
      </head>
      <body>
          <div id="tabs">
              <ul>
                  <li><a href="#p1">.click()</a></li>
                  <li><a href="#p2">.dblclick()</a></li>
                  <li><a href="#p3">.hover()</a></li>
              </ul>
              (略)
              <div id="p3">
                  <div class="main-box" style="position:relative">
                      <div class="dashboard">
                          <img src="images/small/blue_h.jpg" width="70" height="70" alt="blue">
                          <img src="images/small/green_h.jpg" width="70" height="70" alt="green">
                      </div>
                  </div>
              </div>
          </div>
      </body>
      </html>
```

6 事件處理—表單事件

6.1 jQuery 支援的常用表單事件

- .submit()
  - Bind an event handler to the "submit" <mark>JavaScript</mark> event, or trigger that event on an element.
- .focus()
  - Bind an event handler to the "focus" <mark>JavaScript</mark> event, or trigger that event on an element.
- .blur()
  - Bind an event handler to the "blur" <mark>JavaScript</mark> event, or trigger that event on an element.
- .change()
  - Bind an event handler to the "change" <mark>JavaScript</mark> event, or trigger that event on an element.

6.2 Submit、Blur 事件使用範例

6.2.1 常用的「表單事件」相關 API

6.2.1.1 jQuery 物件.submit()

.submit([handler])

- Bind an event handler to the "submit" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute each time the event is triggered.
- Returns: jQuery

6.2.1.2 jQuery 物件.blur()

.blur([handler])

- Bind an event handler to the "blur" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute each time the event is triggered.
- Returns: jQuery

6.2.1.3 jQuery 物件.focus()

.focus([handler])

- Bind an event handler to the "focus" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute each time the event is triggered.
- Returns: jQuery

6.2.2 常用的「工具函式」相關 API

6.2.2.1 jQuery 物件.each()

.each(function)

- Iterate over a jQuery object, executing a function for each matched element.
- Parameters:
  - ✓ function
    - ✧ Type: Function(Integer index, Element element)
    - ✧ A function to execute for each matched element.
- Returns: jQuery

6.2.2.2 jQuery 物件.position()

.position(options) (jQueryUI API)

- Position an element relative to another.

- ■ Parameters:
  - ✓ options (Type: Object)
    - ✧ my 屬性 (default: "center") (Type: String)
      - ◆ Defines which position on the element being positioned to align with the target element: "horizontal vertical" alignment.
      - ◆ A single value such as "right" will be normalized to "right center", "top" will be normalized to "center top" (following CSS convention).
      - ◆ Acceptable horizontal values: "left", "center", "right". Acceptable vertical values: "top", "center", "bottom". Example: "left top" or "center center". Each dimension can also contain offsets, in pixels or percent, e.g., "right+10 top-25%". Percentage offsets are relative to the element being positioned.
    - ✧ at 屬性(default: "center")(Type: String)
      - ◆ Defines which position on **the target element** to align the positioned element against: "horizontal vertical" alignment.
    - ✧ of 屬性(default: null)(Type: Selector or Element or jQuery)
      - ◆ Which element to position against. If you provide a selector or jQuery object, the first matching element will be used. Example: "#top-menu"
- ■ Returns: jQuery

6.2.3 常用的「DOM 元素的操作」相關 API

6.2.3.1 jQuery 物件.append() 附加么子

.append(content)

- ■ Insert content, specified by the parameter, to the end of each element in the set of matched elements.
- ■ Parameters:
  - ✓ content
    - ✧ Type: htmlString or Element or Text or Array or jQuery
    - ✧ DOM element, text node, array of elements and text nodes, HTML string, or jQuery object to insert at the end of each element in the set of matched elements.
- ■ Returns: jQuery

6.2.3.2 jQuery 物件.prepend() 附加長子

.prepend(content)

- ■ Insert content, specified by the parameter, to the beginning of each element in the set of matched elements.
- ■ Parameters:
  - ✓ content
    - ✧ Type: htmlString or Element or Text or Array or jQuery
    - ✧ DOM element, text node, array of elements and text nodes, HTML string, or jQuery object to insert at the beginning of each element in the set of matched elements.
- ■ Returns: jQuery

6.2.3.3 jQuery 物件.after() 使…在後

.after(content)

- ■ Insert content, specified by the parameter, after each element in the set of matched elements.
- ■ Parameters:

✓ content
  ✧ Type: htmlString or Element or Text or Array or jQuery
  ✧ HTML string, DOM element, text node, array of elements and text nodes, or jQuery object to insert after each element in the set of matched elements.
  ✧
■ Returns: jQuery
■ 例如：

```html
<!DOCTYPE html>
<html>
<head>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("h1").after("<div style='color:red;'>歡迎光臨</div>");
        });
    </script>
</head>
<body>
    <div>
        <h1>Hello World 1</h1>
        <h2>Hello World</h2>
        <h1>Hello World 2</h1>
    </div>
</body>
</html>
```

Hello World 1

歡迎光臨

Hello World

Hello World 2

歡迎光臨

6.2.3.4　jQuery 物件.before() 使…在前

.before(content)

■ Insert content, specified by the parameter, before each element in the set of matched elements.
■ Parameters:
  ✓ content
    ✧ Type: htmlString or Element or Text or Array or jQuery
    ✧ HTML string, DOM element, text node, array of elements and text nodes, or jQuery

object to insert before each element in the set of matched elements.
- Returns: jQuery
- 例如：

```
<!DOCTYPE html>
<html>
<head>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("h1").before("<div style='color:red;'>歡迎光臨</div>");
        });
    </script>
</head>
<body>
    <div>
        <h1>Hello World 1</h1>
        <h2>Hello World</h2>
        <h1>Hello World 2</h1>
    </div>
</body>
</html>
```


6.2.3.5 jQuery 物件.insertAfter()

.insertAfter(target)

- Insert every element in the set of matched elements after the target.
- Parameters:
    - ✓ target
        - ✦ Type: Selector or htmlString or Element or Array or jQuery
        - ✦ A selector, element, array of elements, HTML string, or jQuery object; the matched set of elements will be inserted after the element(s) specified by this parameter.
- Returns: jQuery
- 例如：

```
<!DOCTYPE html>
```

```
<html>
<head>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("<div style='color:red;'>歡迎光臨</div>").insertAfter("h1");
        });
    </script>
</head>
<body>
    <div>
        <h1>Hello World 1</h1>
        <h2>Hello World</h2>
        <h1>Hello World 2</h1>
    </div>
</body>
</html>
```

Hello World 1

歡迎光臨

Hello World

Hello World 2

歡迎光臨

6.2.3.6   jQuery 物件.insertBefore()

.insertBefore(target)

- Insert every element in the set of matched elements before the target.
- Parameters:
  - ✓ target
    - ✧ Type: Selector or htmlString or Element or Array or jQuery
    - ✧ A selector, element, array of elements, HTML string, or jQuery object; the matched set of elements will be inserted before the element(s) specified by this parameter.
- Returns: jQuery
- 例如：
```
<!DOCTYPE html>
<html>
<head>
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script type="text/javascript">
        $(function () {
```

```
            $("<div style='color:red;'>歡迎光臨</div>").insertBefore("h1");
        });
    </script>
</head>
<body>
    <div>
        <h1>Hello World 1</h1>
        <h2>Hello World</h2>
        <h1>Hello World 2</h1>
    </div>
</body>
</html>
```

歡迎光臨

Hello World 1

Hello World 1

歡迎光臨

Hello World 2

6.2.3.7 jQuery 物件.remove()

.remove([selector])

- Remove the set of matched elements from the DOM.
- Parameters:
  - ✓ selector
    - ✧ Type: String
    - ✧ A selector expression that filters the set of matched elements to be removed.
- Returns: jQuery

6.2.4 Client/Server 範例程式

6.2.4.1 用戶端範例程式：T06.html(第一頁)

```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>表單事件(Form Event)</title>
    <link rel="icon" href="./favicon.ico" />
    <style type="text/css">
        .main-box {
            margin: 50px auto;
            width: 500px;
            height: 250px;
            padding: 20px;
            box-shadow: 5px 5px 10px #999;
            border: 1px solid #fff;
            text-align: center;
        }
        #p1 form, #p2 form {
            padding: 10px 10px 10px 10px;
            text-align: left;
        }
        #p1 label, #p2 label {
            display: inline-block;
            width: 100px;
            text-align: right;
            margin: 0 15px 0 0;
            color: black;
        }
        #p1 #button1 {
            margin-left: 120px;
        }
```

```css
    #p1 #fail{
        color: red;
    }
    #p1 .success {
        color: blue;
    }
    #p1 .errMsg {
        position: absolute;
        color: red;
    }
    (略)
</style>
```

```html
<link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#tabs").tabs();
        function createErrMsgElement(input) {
            var errMsgId = `err-${$(input).attr('id')}`; //例如: err-username
            var errMsg = $(`<div id='${errMsgId}' class='errMsg'>不可空白!</div>`);
            $("#p1").append(errMsg);
            errMsg.position({
                of: input, //定位被對準的元素
                my: "left+5px center", //定位時本身元素的  x y  位置
                at: "right center" //定位時被對準的元素的  x y  位置
            });
        }
        //<input>失去焦點時，檢查其值不可空白
        $("#p1 :text").blur(function () {
            var errMsgId = `#err-${$(this).attr('id')}`; //例如: #err-username
            if ($(this).val() != '') {
                if ($(errMsgId).length > 0)
                    $(errMsgId).remove();
            }
            else {
                if ($(errMsgId).length <= 0)
                    createErrMsgElement(this);
            }
        });
        //<form>提交時
        $('#p1 #login-form').submit(
            function () {
                //重新從頭檢查每個<input>不可空白
                $(".errMsg").remove();
                var errs = [];
                $("#p1 input").each(function () {
                    if ($(this).val() == '') {
                        createErrMsgElement(this);
                        errs.push(this);
```

```
                    }
                });
                if (errs.length > 0) {
                    $(errs[0]).focus();
                    return false;//阻止submit事件預設行為
                }
            }
        ); // end submit
        (略)
    });
</script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.submit() 與 .blur()</a></li>
            <li><a href="#p2">.change()</a></li>
        </ul>
        <div id="p1">
            <div class="main-box">
                <h2>Login</h2>
                <div id="formwrapper">
                    <form method="get" action="processLogin.aspx" id="login-form">
                        <p>
                            <label for="username">使用者名稱:</label>
                            <input type="text" name="username" id="username"
                                autocomplete="off" >
                        </p>
                        <p>
                            <label for="password">密碼: </label>
                            <input type="text" name="password" id="password"
                                autocomplete="off">
                        </p>
                        <p>
                            <button id="button1">送出</button>
                        </p>
                    </form>
                </div>
            </div>
        </div>
        (略)
    </div>
</body>
</html>
```

6.2.4.2　伺服端範例程式：JqController.cs、Login.cshtml

WebApplication1\Controllers\JqController.cs

```
using Microsoft.AspNetCore.Mvc;
namespace WebApplication1.Controllers
{
    public class JqController : Controller
    {
        [HttpGet]
        public IActionResult Index()
```

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```
        {
            return View();
        }
    [HttpGet, HttpPost]
    public IActionResult Login(string username, string password)
        {
            if (username == "hello" && password == "kitty")
                ViewData["LoginStatus"] = "pass";
            else
                ViewData["LoginStatus"] = "fail";
            return View();
        }
    }
}
```

WebApplication1\Views\Jq\Login.cshtml


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title></title>
    <link rel="icon" href="./favicon.ico" />
    <style type="text/css">
        .main-box {
            margin: 50px auto;
            width: 400px;
            height: 200px;
            padding: 20px;
            box-shadow: 5px 5px 10px #999;
            border: 1px solid #fff;
            text-align: center;
        }
```

```
        .success {
            color: blue;
        }
        .fail {
            color: red;
        }
    </style>
</head>
<body>
    <div class="main-box">
        @if( (ViewData["LoginStatus"] as string)=="pass"){
            <h2 class='success'>恭喜！您已通過身分驗證。</h2>
        }
        else{
            <h2 class='fail'>糟糕！您未通過身分驗證。</h2>
        }
        <div style="text-align: center; margin-top:50px;">
            <button onclick="history.back()">返回登入表單</button>
        </div>
    </div>
</body>
</html>
```

6.3 Change 事件使用範例

6.3.1 常用的「表單事件」相關 API

6.3.1.1 jQuery 物件.change()

.change(handler)

- Bind an event handler to the "change" JavaScript event, or trigger that event on an element.
- Parameters:
  - ✓ handler
    - ◇ Type: Function(Event eventObject)
    - ◇ A function to execute each time the event is triggered.
- Returns: jQuery

6.3.2 常用的「元素內容」相關 API

6.3.2.1 jQuery 物件.html()

.html()

- Get the HTML contents of the first element in the set of matched elements.
- Returns: String

.html(htmlString)

- Set the HTML contents of each element in the set of matched elements.
- Parameters:
  - ✓ htmlString
    - ◇ Type: htmlString
    - ◇ A string of HTML to set as the content of each matched element.
- Returns: jQuery

6.3.2.2 jQuery 物件.text()

.text()

- Get the combined text contents of each element in the set of matched elements, including their descendants.
- Returns: String

.text(text)

- Set the content of each element in the set of matched elements to the specified text.
- Parameters:
  - ✓ text
    - ◇ Type: String or Number or Boolean
    - ◇ The text to set as the content of each matched element. When Number or Boolean is supplied, it will be converted to a String representation.
- Returns: jQuery

6.3.3 範例程式：T06.html(第二頁)
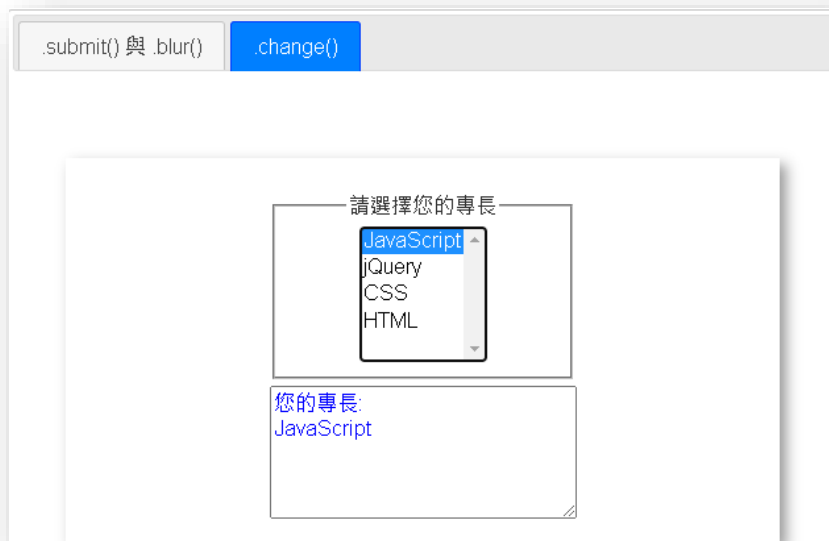
```html
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>表單事件(Form Event)</title>
    <link rel="icon" href="./favicon.ico" />
    <style type="text/css">
        (略)
        #p3 fieldset {
            width: 40%;
            margin: 5px auto;
        }
    </style>
    <link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();
            (略)
            $("#p2 #select1").change(function () {
                var s = "";
                $(":selected", this).each(function () {
                    s += $(this).html() + "\n";
                    //s += $(this).text() + "\n"; //.html() vs .text()
                });
                $("#p2 textarea").val(`您的專長:\n${s}`);//例如: 您的專長:JavaScript
            });
        });
    </script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.submit() 與 .blur()</a></li>
            <li><a href="#p2">.change()</a></li>
```

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```html
        </ul>
        (略)
        <div id="p2">
            <div class="main-box">
                <fieldset>
                    <legend>請選擇您的專長</legend>
                    <select id="select1" name="specialty" size="5" multiple> <!--若使用multiple屬性，
                                                                                    則size屬性的預設值為4-->
                        <option value="JS">JavaScript</option>
                        <option value="jQ">jQuery</option>
                        <option value="CS">CSS</option>
                        <option value="HTML">HTML</option>
                    </select>
                </fieldset>
                <textarea rows="5" cols="30" style="color:blue;"></textarea>
            </div>
        </div>
    </div>
</body>
</html>
```

7 註冊「事件監聽器」的進階方法

7.1 將一個「事件監聽器」綁定至多個事件

7.1.1 常用的「事件」相關 API

7.1.1.1 jQuery 物件.on()

.on(events [, selector] [, data], handler)

- Attach an event handler function for one or more events to the selected elements.
- Parameters:
  - ✓ events
    - ✧ Type: String
    - ✧ One or more space-separated event types , such as "click dblclick".
  - ✓ selector
    - ✧ Type: String
    - ✧ A selector string to filter the descendants(可以是未來才建立的後代元素) of the selected elements that trigger the event. If the selector is null or omitted, the event is always triggered when it reaches the selected element.
  - ✓ data
    - ✧ Type: Anything
    - ✧ Data to be passed to the handler in event.data when an event is triggered.
  - ✓ handler
    - ✧ Type: Function(Event eventObject [, Anything extraParameter] [, ...])
    - ✧ A function to execute when the event is triggered.
- Returns: jQuery

7.1.2 常用的「工具函式」相關 API

7.1.2.1 jQuery.each()

jQuery.each(array, callback)

- A generic iterator function, which can be used to seamlessly iterate over both objects and arrays.
- Arrays and array-like objects with a length property are iterated by numeric index, from 0 to length-1. Other objects are iterated via their named properties.
- Parameters:
  - ✓ array
    - ✧ Type: ArrayLikeObject
    - ✧ The array or array-like object to iterate over.
  - ✓ callback
    - ✧ Type: Function(Integer indexInArray, Object value)
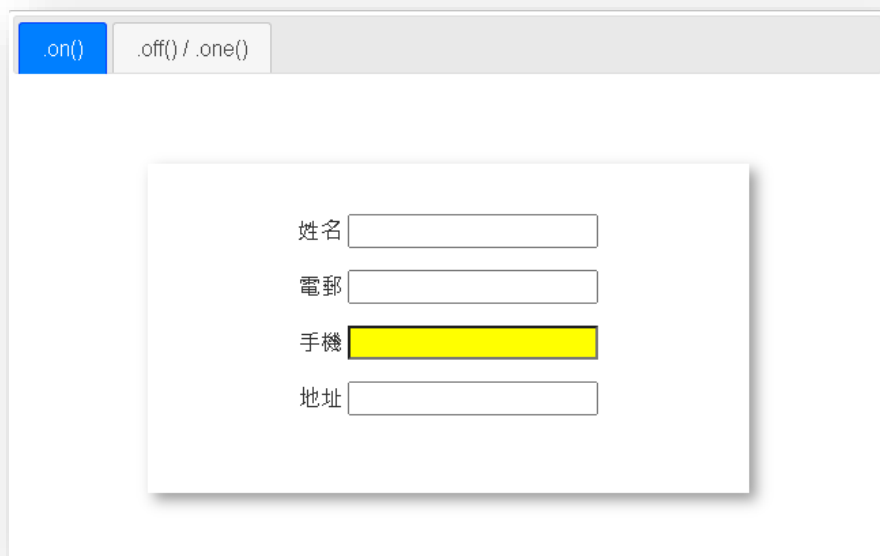   - ✧ The function that will be executed on every value.
- Returns: Object

jQuery.each(object, callback)

- Parameters:
  - ✓ object
    - ✧ Type: Object
    - ✧ The object to iterate over.
  - ✓ callback

✧ Type: Function(String propertyName, Object valueOfProperty)
✧ The function that will be executed on every value.
■ Returns: Object

7.1.3 範例程式：T07.html(第一頁)


```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>註冊「事件監聽器」進階方法</title>
    <link rel="icon" href="./favicon.ico" />
    <style type="text/css">
        .main-box {
            margin: 50px auto;
            width: 400px;
            height: 200px;
            padding: 20px;
            box-shadow: 5px 5px 10px #999;
            border: 1px solid #fff;
            text-align: center;
        }
    </style>
    <link href="stylesheets/jquery-ui/base/jquery-ui.min.css" rel="stylesheet" />
    <script src="javascripts/jquery-3.6.1.min.js"></script>
    <script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();

            //.on( events [, selector ] , handler )
            //   參數selector: 指定您欲對那些後代元素(可以是未來建立的後代元素)
```

註冊事件處理器。(如果省略selector，則註冊的對象為<mark>原本的父元素</mark>)

```javascript
$("#p1 .main-box").on("mouseenter mouseleave", ":text", function (event) {
    if (event.type == "mouseenter") {//event.type :傳回事件類型(字串)
        $(this).css({ 'background-color': 'yellow' });
    }
    else {
        $(this).css({ 'background-color': '' });
    }
});
var inputLabels = ['姓名', '電郵', '手機', '地址'];
//動態新增<input>元素
$.each(inputLabels, function (index, value) {
    var s = `<p><label>${value} <input type="text" size="20" /></label></p>`;
    $("#p1 .main-box").append(s);
});

(略)
        });
    </script>
</head>
<body>
    <div id="tabs">
        <ul>
            <li><a href="#p1">.on()</a></li>
            <li><a href="#p2">.off() / .one()</a></li>
        </ul>
        <div id="p1">
            <div class="main-box"></div>
        </div>
        <div id="p2">
            (略)
        </div>
    </div>
</body>
</html>
```

7.2 將一個「事件監聽器」從多個事件解綁

7.2.1 常用的「事件」相關 API

7.2.1.1 jQuery 物件.off()

<mark>.off(events [, selector] [, handler])</mark>

- Remove an event handler.
- Parameters:
  - ✓ events
    - ✧ Type: String
    - ✧ One or more space-separated event types , such as "click".
  - ✓ selector
    - ✧ Type: String

♢ A selector which should match the one originally passed to .on() when attaching event handlers.

✓ handler

♢ Type: Function(Event eventObject)

♢ A handler function previously attached for the event(s).

■ Returns: jQuery

7.2.2 範例程式：T07.html(第二頁)


```
<!DOCTYPE html>
<html>
<head>
    (略)
    <script type="text/javascript">
        $(function () {
            $("#tabs").tabs();

            (略)

            $("#p2 :text").one("mouseenter mouseleave", function (event) {
                if (event.type == "mouseenter") {//event.type :傳回事件類型(字串)
                    $(this).css({ 'background-color': 'lime' });
                }
                else {
                    $(this).css({ 'background-color': '' });
                }
            });
            $("#p2 :text").off("mouseleave");//取消.on()或.one()註冊的事件處理器
        });
    </script>
</head>
<body>
    <div id="tabs">
        <ul>
```

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```html
          <li><a href="#p1">.on()</a></li>
          <li><a href="#p3">.off() / .one()</a></li>
      </ul>
      <div id="p1">
          (略)
      </div>
      <div id="p2">
          <div class="main-box">
              <p>
                  <label>姓名 <input type="text" size="20" /></label>
              </p>
              <p>
                  <label>電郵 <input type="text" size="20" /></label>
              </p>
              <p>
                  <label>手機 <input type="text" size="20" /></label>
              </p>
              <p>
                  <label>地址 <input type="text" size="20" /></label>
              </p>
          </div>
      </div>
  </div>
</body>
</html>
```
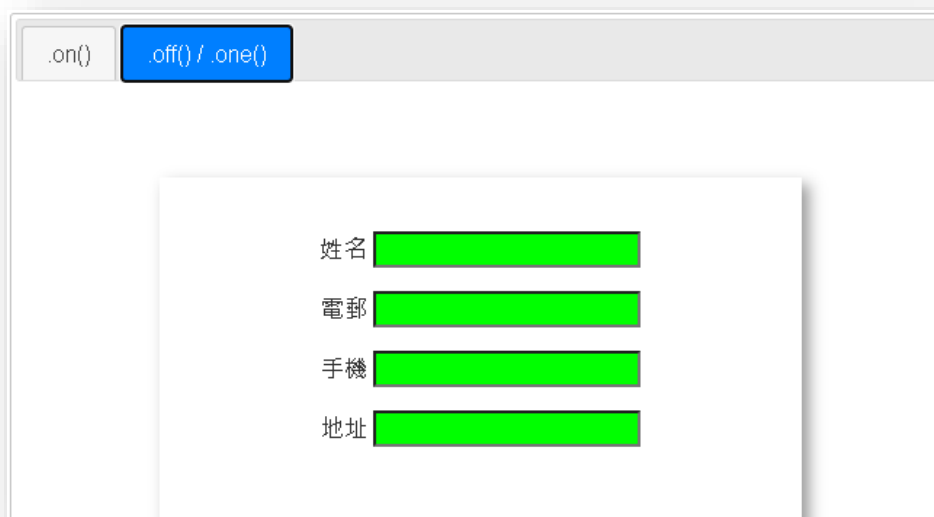
7.3 將一個「事件監聽器」一次性地綁定至多個事件

7.3.1 常用的「事件」相關 API

7.3.1.1 jQuery 物件.one()

.one(events [, data], handler)

- Attach a handler to an event for the elements. The handler is executed at most once per element per event type.
- Parameters:
  - ✓ events
    - ✧ Type: String
    - ✧ A string containing one or more JavaScript event types, such as "click" or "submit," or custom event names.
  - ✓ data
    - ✧ Type: PlainObject
    - ✧ Data to be passed to the handler in event.data when an event is triggered.
  - ✓ handler
    - ✧ Type: Function(Event eventObject)
    - ✧ A function to execute at the time the event is triggered.
- Returns: jQuery

7.3.2 範例程式：T07.html(第二頁)

(請參考 7.2.2)

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8 jQuery UI

8.1 jQuery UI 介紹

- jQuery UI 是建構在 jQuery 函式庫上的一組使用者介面互動、特效、UI 元件及佈景主題(user interface interactions, effects, widgets, and themes)。
- 無論您是開發高度互動的 Web 應用程式，還是僅僅需要在瀏覽器視窗上添加一個日期選擇器，jQuery UI 都是一個不錯的選擇。
- jQuery UI 官方網址：https://jqueryui.com/

8.2 Datepicker

- Select a date from a popup or inline calendar.

8.2.1 使用要點

$(" input[type=text]").datepicker({options });
- dateFormat: 設定日期格式
  - ✓ 日期格式設定參數參考下面說明
  - ✓ 常用設定實例: 'yy/mm/dd'
- defaultDate: 設定預設日期
  - ✓ 預設: 當日
- numberOfMonths: 設定顯示之月數
  - ✓ 常用設定方式: [rows,cols]
- showOn: 設定顯示之時機
  - ✓ 設定值: "focus"(預設)、"button"、"both"
- buttonImage: 設定按鈕之圖示
  - ✓ 例如: 'images/calendar.jpg'
- buttonText: 設定按鈕之文字
  - ✓ 若 buttonImage 同時設定，則本選項變成 tooltip
- changeYear: 設定年度是否可使用下拉選單點選
  - ✓ 預設: false
  - ✓ 通常搭配 yearRange，以設定可點選的年度區間值
- yearRange: 設定年度下拉選單之選項的範圍值
  - ✓ 設定方式
    - ✧ "2002:2012"
    - ✧ "-1:+2" (當日 前一年~後兩年)
    - ✧ "c-1:c+2" (目前所點選日期之年度 前一年~後兩年)
  - ✓ 預設: "c-10:c+10"
- minDate: 設定可點選之最小日期
  - ✓ 預設 null (即不限)
- maxDate: 設定可點選之最大日期
  - ✓ 預設 null(即不限)
- 日期格式(dateFormat)設定參數
  - d - day of month (no leading zero)
  - dd - day of month (two digit)
  - o - day of the year (no leading zeros)
  - oo - day of the year (three digit)
  - D - day name short
  - DD - day name long
  - m - month of year (no leading zero)

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mm - month of year (two digit)

M - month name short

MM - month name long

y - year (two digit)

yy - year (four digit)

- 日期選擇器中文化
  - ✓ 引入: jquery.ui.datepicker-zh-TW.js 或
  - ✓ 網頁 ready 時執行：

```
$.datepicker.regional['zh-TW'] = {
closeText: '關閉',
prevText: '&#x3c;上月',
nextText: '下月&#x3e;',
currentText: '今天',
monthNames: ['一月','二月','三月','四月','五月','六月', '七月','八月','九月','十月','十一月','十二月'],
monthNamesShort: ['一','二','三','四','五','六', '七','八','九','十','十一','十二'],
dayNames: ['星期日','星期一','星期二','星期三','星期四','星期五','星期六'],
dayNamesShort: ['周日','周一','周二','周三','周四','周五','周六'],
dayNamesMin: ['日','一','二','三','四','五','六'],
weekHeader: '周',
dateFormat: 'yy/mm/dd',
firstDay: 1,
isRTL: false,
showMonthAfterYear: true,
yearSuffix: '年'};
$.datepicker.setDefaults ( $.datepicker.regional['zh-TW'] );
```

8.2.2 使用範例：T08.html

8.2.2.1 樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
<style type="text/css">
    /* 下列覆寫datepicker原始CSS設定  */
```

```
button.ui-datepicker-trigger {padding:0px 3px; height:22px;}
</style>
```

8.2.2.2   JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script src="javascripts/jquery.ui.datepicker-zh-TW.js"></script>
<script type="text/javascript">
     $(function () {
           $("input[name=date]").datepicker(
               {
                     dateFormat: 'yy/mm/dd',
                     showOn: "both",
                     buttonImage: "images/calendar.png",
                     buttonText:"挑選日期"
               });
     });
</script>
```

8.2.2.3   HTML

```
<div id="contact_form"">
   (略)
   <input style="display: inline" type="text" name="date" class="contact_input" />
   (略)
</div>
```

8.3 Accordion

■ Convert a pair of headers and content panels into an accordion.

8.3.1 使用要點

$("#right_nav").accordion();

■ #right_nav 選擇器對應之 HTML 元素結構：

```
<div>
    <div>群組標題1</div>
    <ul>
        <li><a href="#">option1</a></li>
        <li><a href="#">option2</a></li>
    </ul>
    <div>群組標題2</div>
    <ul>
        <li><a href="#">option1</a></li>
        <li><a href="#">option2</a></li>
    </ul>
</div>
```

8.3.2 使用範例：T08.html

8.3.2.1 樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.3.2.2 JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#right_nav").accordion();
```

```
        });
    </script>
```

8.3.2.3   HTML

```
<div id="right_nav">
    <div>課程總覽</div>
    <ul>
        <li><a href="#">程式開發</a></li>
        <li><a href="#">資訊安全</a></li>
        <li><a href="#">網路通訊</a></li>
        <li><a href="#">雲端運算</a></li>
    </ul>
    <div>近期課程</div>
    <ul>
        <li><a href="#" >PHP+MySQL動態網站開發實務</a></li>
        <li><a href="#">JavaScript+jQuery  動態網頁設計</a></li>
        <li><a href="#">Android行動應用開發SOHO養成班</a></li>
        <li><a href="#">CSS網頁精修班</a></li>
    </ul>
    <div>客戶服務</div>
    <ul>
        <li><a href="#">官方網站</a></li>
        <li><a href="#">電子郵件</a></li>
        <li><a href="#">行動App</a></li>
        <li><a href="#">客服電話</a></li>
    </ul>
</div>
```

8.4 Autocomplete

- Autocomplete enables users to quickly find and select from a pre-populated list of values as they type, leveraging searching and filtering.

8.4.1 使用要點

$("input[type=text]").autocomplete({ source:[   ] }   );
- source: 設定自動完成的資料來源，例如: ["Java","JavaScript"]

8.4.2 使用範例：T08.html

8.4.2.1 樣式表

```html
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.4.2.2 JavaScript

```html
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        keywords = ['hello', 'mary', 'may','michael','macro', 'hellen','pink','peter','peach' ];
        $("#p1 #contact_form input[name='name']").
            autocomplete({ source: keywords });
    });
</script>
```

8.4.2.3 HTML

```html
<div id="contact_form"">
        (略)
    <input    type="text" name="name" class="contact_input" />
        (略)
```

8.5　Dialog

■　Open content in an interactive overlay.

8.5.1　使用要點

$("div").dialog({options});
■　width: 設定對話框之寬度
- ✓　單位: pixel
- ✓　預設: 300

■　modal: 設定對話框是否具 modal 模式
- ✓　預設: false

■　autoOpen: 設定對話框是否自動開啟
- ✓　預設: true

■　title: 設定對話框標題列之標題
- ✓　預設: null

■　buttons: 設定對話框欲顯示之按鈕
- ✓　預設: []
- ✓　常用設定如:

```
[ { /* #1 按鈕  */
    text: '確定',
    icons: { primary: "ui-icon-check" }, /*設定按鈕圖示;primary:對應按鈕左側之圖示*/
    click: function () { } /*註冊 click 事件處理器*/
  },
  { /* #2 按鈕  */ (略) }
]
```

8.5.2　使用範例：T08.html

8.5.2.1 樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.5.2.2 JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
    $(function () {
        var dialog1=$("<div></div>").load('BiologicalClock.html   #div1')
            .dialog(
                {
                    width: 800,
                    modal: true,
                    autoOpen: false,
                    title: 'Biological Clock ',
                  buttons:
                   [{
                     text:'確定',
                     icons: { primary: "ui-icon-check" },
                     click:function(){ $(this).dialog('close') }
                    }
                   ]
                }
            );
        $(".green_box   .read_more   a").click(function () {
            $(this).blur();//左式解決dialog與tooltip同時存在之問題
```

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```
                    dialog1.dialog('open');
                    return false;
             });
         });
</script>
```

8.5.2.3   HTML

```
<div class="green_box">
    (略)
    <div class="read_more">
            <a href="#" title="查看詳細內容">read more</a>
    </div>
    (略)
</div>
```

8.6　Draggable

■　Allow elements to be moved using the mouse.

8.6.1 使用要點

$(".tel").draggable({ helper: 'clone', opacity: 0.5 });

■　helper: 設定元素被拖曳的模式
- ✓　"original"(預設)
- ✓　"clone"

■　opacity: 設定被拖曳元素的不透明度
- ✓　0~1

8.6.2 使用範例：T08.html

8.6.2.1　樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.6.2.2　JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $(".tel").draggable({ helper: 'clone', opacity: 0.5 });
        $("#contact_form    input[name='contacted_phone']")
            .droppable(
                {
                    drop: function (event, ui) {
```

```
                            $(this).val(ui.draggable.text());
                        }
                    }
                );
            });
        </script>
```

8.6.2.3   HTML

```
<div id="right_content"">
        (略)
    <span class="tel">07-9699885#123</span><br />
        <span class="tel">07-9699885#456</span>
    (略)
        <div id="contact_form">
            (略)
         <div class="form_row">
            <label>曾洽電話:</label>
                    <input type="text" name="contacted_phone" class="contact_input" />
         </div>
            (略)
        </div>
</div>
```

8.7   Droppable

■   Create targets for draggable elements.

8.7.1 使用要點

```
$("#contact_form input[name='contacted_phone']").droppable({
    drop: function (event, ui) {
        $(this).val(ui.draggable.text());
    }
});
```

■   drop: 設定 drop 事件處理器
✓   function(event,ui){   }

8.7.2 使用範例：T08.html

(參考8.6.2)

8.8   Tooltip

■   Customizable, themeable tooltips, replacing native tooltips.

8.8.1 使用要點

```
$(document).tooltip( {options } );
```

■   items: 設定網頁中欲提供工具提示框功能之元素
✓   設定值: 選擇器字串
✓   預設值: "[title] "
■   content: 設定工具示框顯示的內容

✓ 設定值: function 或 string

✓ 預設值: function (回傳元素之 title 屬性值)

■ show|hide: 設定工具提示框顯示|隱藏之特效

✓ 預設值: { effect: 'fadeIn|fadeOut', duration: 'normal', delay: 0, easing: 'swing' }

✓ effect 可設定

✧ jQuery: show|hide、fadeIn|fadeOut、slideDown|slideUp

✧ jQuery UI: bounce、drop、explode、fade、hightlight 等 (詳細項目參考 jQuery UI→Effects→Effect)
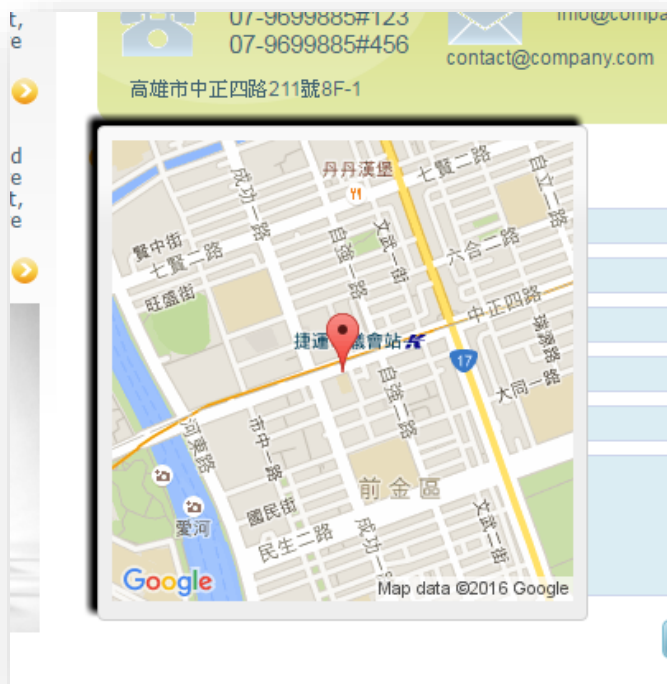
8.8.2 常用的「工具函式」相關 API

8.8.2.1 jQuery.is()

.is(selector)

■ Check the current matched set of elements against a selector, element, or jQuery object and return true if at least one of these elements matches the given arguments.

■ Parameters:

✓ selector

✧ Type: Selector

✧ A string containing a selector expression to match elements against.

8.8.3 使用範例：T08.html

8.8.3.1 樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.8.3.2 JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
    $(function () {
        $(document).tooltip(
        {
            items: "[title],[data-geo]", //預設[title]
            content: function () {
                var element = $(this);
                if (element.is("[title]"))
                    return element.attr('title');
                else if (element.is("[data-geo]")) {
                    var addr = element.text();
                    return "<img src='https://maps.googleapis.com/maps/api/staticmap
                            ?zoom=15&size=280x280&maptype=roadmap
                            &key=[Google's API key]&markers=" +addr + "'/>";
                        //Google Maps Static API
                }
            },
            show: { effect: 'fadeIn', duration: 'normal', delay: 0, easing: 'swing' },//左列為特效預設值
            hide: { effect: 'explode', delay: 250 }
```

```
            });
        </script>
```

8.8.3.3 HTML

```
<div id="contact_form"">
        (略)
    <a href="#" title="查看詳細內容">read more</a>
        (略)
        <div class="adress" data-geo="" style="width: 200px;">
            高雄市中正四路211號8F-1
        </div>
        (略)
</div>
```

申請Google's「API金鑰」的步驟

1   登入 Google Cloud Platform   (https://cloud.google.com/)
2   在「導覽選單」點選「API 和服務」
　　2.1   點選「憑證」 > 建立憑證 > API 金鑰
　　2.2   點選「資訊主頁」 > 啟用 API 和服務 > Maps Static API
　　　◆   每日免費: 25,000 次請求
　　　◆   超額者: US$ 0.5/1,000 次請求
　　　◆   每天要求上限: 100,000 次

8.9   Spinner

■   Enhance a text input for entering numeric values, with up/down buttons and arrow key handling.

8.9.1 使用要點

$(input).spinner({options });
■   max: 設定可允許的最大值
　✓   預設值: null (即不限)
■   min: 設定可允許的最小值
　✓   預設值: null (即不限)
■   page: 設定按下 pageUp/pageDown 按鍵一次所增加/減少之數值
　✓   預設值: 10
■   step: 設定點擊按鈕一次所增加/減少之數值
　✓   預設值: 1

8.9.2 使用範例：T08.html

8.9.2.1 樣式表

```
<link href="stylesheets/greefies/style.css" rel="stylesheet" />
<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />
```

8.9.2.2 JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
    <script type="text/javascript">
    $(function () {
            $("input[name=sat_degree]").spinner({
                    max: 10,   min: 1
            });
    });
    </script>
```

8.9.2.3 HTML

```
<div id="contact_form">
    (略)
    <div class="form_row">
            <label>滿意度:</label><input type="text" name="sat_degree"
                    class="contact_input" style="height:14px;width:190px" />
        </div>
    (略)
```

8.10 Tabs

- A single content area with multiple panels, each associated with a header in a list.

8.10.1 使用要點

```
$("div").tabs( );
```

8.10.2 使用範例：T01.html

8.10.2.1 樣式表

<link href="stylesheets/jquery-ui/ui-lightness/jquery-ui.css" rel="stylesheet" />

8.10.2.2 JavaScript

```
<script src="javascripts/jquery-3.6.1.min.js"></script>
<script src="javascripts/jquery-ui.min.js"></script>
<script type="text/javascript">
    $(function () {
        $("#tabs").tabs();
    })
</script>
```

8.10.2.3 HTML

```
<div id="tabs">
    <ul>
        <li><a href="#p1">CSS樣式修改</a></li>
        <li><a href="#p2">設定CSS累進值</a></li>
        <li><a href="#p3">使用CSS物件修改樣式</a></li>
    </ul>
    <div id="p1"> (略) </div>
    <div id="p2"> (略) </div>
    <div id="p3">(略) </div>
</div>
```