



前端網絡開發人員證書

(一) 前端網絡開發

2. Introduction to CSS II

Presented by Krystal Educational Platform



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Learning outcomes

- In this lesson, you are going to learn:
 - ✓ Document structure and syntax
 - ✓ How to link CSS?
 - ✓ What color does CSS support?
 - ✓ Backgrounds



2.1 Install an open source tool



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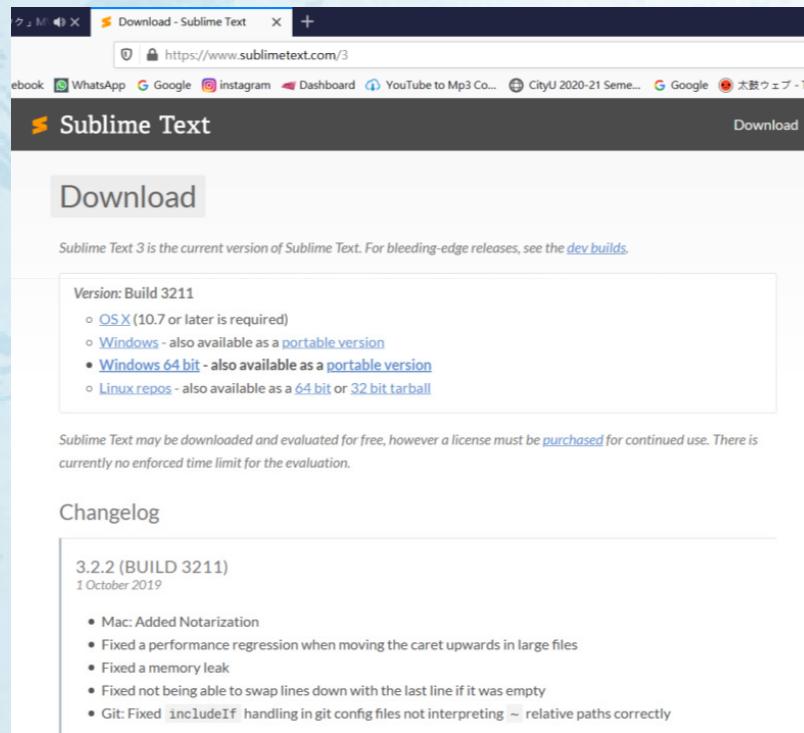
2.1 Install an open source tool



In order to have better understanding of CSS, we will use “Sublime Text” to demonstrate the examples.

1. Go to: <https://www.sublimetext.com/3> and choose the suitable version to download.

2.1 Install an open source tool



A screenshot of a web browser showing the Sublime Text download page. The URL is https://www.sublimetext.com/3. The page features a large "Download" button and a "Version: Build 3211" section with links for OSX, Windows, Windows 64 bit, and Linux repos. Below this is a note about the license requirement and a "Changelog" section for version 3.2.2 (Build 3211).

Sublime Text 3 is the current version of Sublime Text. For bleeding-edge releases, see the [dev builds](#).

Version: Build 3211

- [OSX](#) (10.7 or later is required)
- [Windows](#) - also available as a [portable version](#)
- [Windows 64 bit](#) - also available as a [portable version](#)
- [Linux repos](#) - also available as a [64 bit](#) or [32 bit tarball](#)

Sublime Text may be downloaded and evaluated for free, however a license must be [purchased](#) for continued use. There is currently no enforced time limit for the evaluation.

Changelog

3.2.2 (BUILD 3211)
1 October 2019

- Mac: Added Notarization
- Fixed a performance regression when moving the caret upwards in large files
- Fixed a memory leak
- Fixed not being able to swap lines down with the last line if it was empty
- Git: Fixed `includeIf` handling in git config files not interpreting ~ relative paths correctly

Version: Build 3211

- [OSX](#) (10.7 or later is required)
- [Windows](#) - also available as a [portable version](#)
- [Windows 64 bit](#) - also available as a [portable version](#)
- [Linux repos](#) - also available as a [64 bit](#) or [32 bit tarball](#)

開啟中: Sublime Text Build 3211 x64 Setup.exe

您已決定開啟:

 Sublime Text Build 3211 x64 Setup.exe

檔案類型: exe File (10.4 MB)

從: <https://download.sublimetext.com>

您確定要儲存此檔案？

儲存檔案

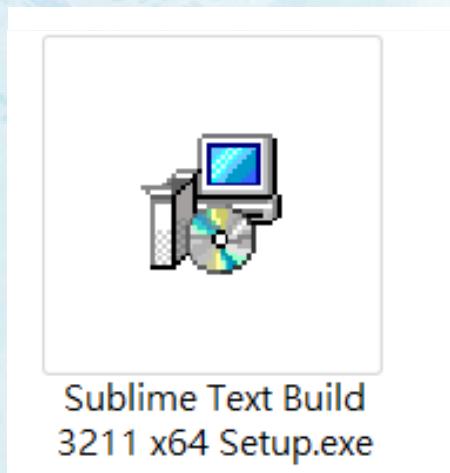
取消



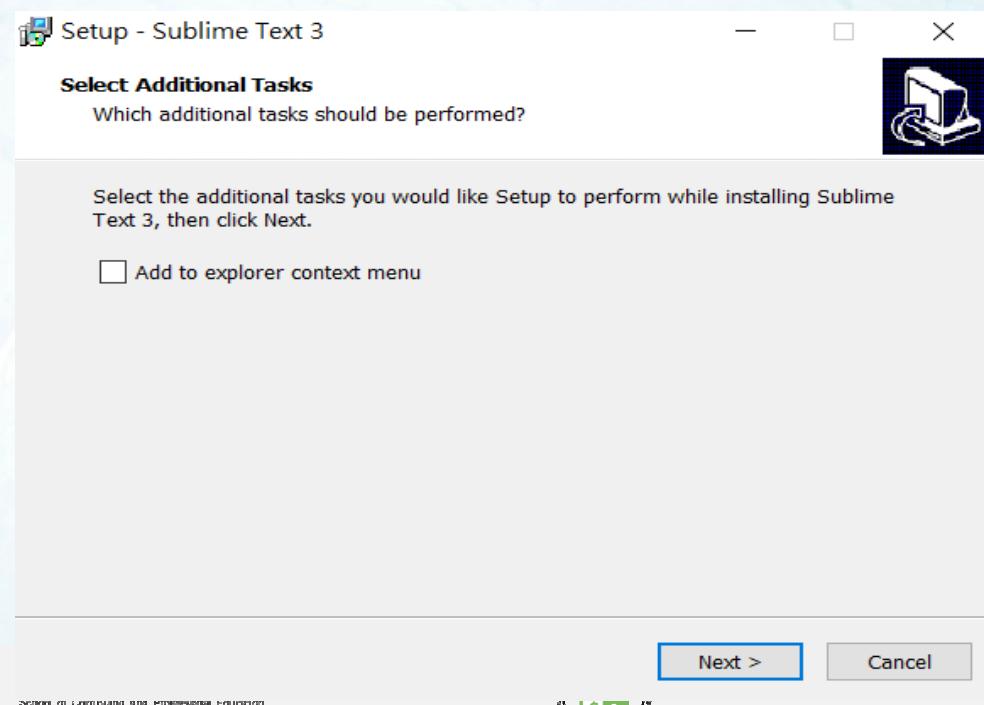
2.1 Install an open source tool



2. Find the file, and install it.



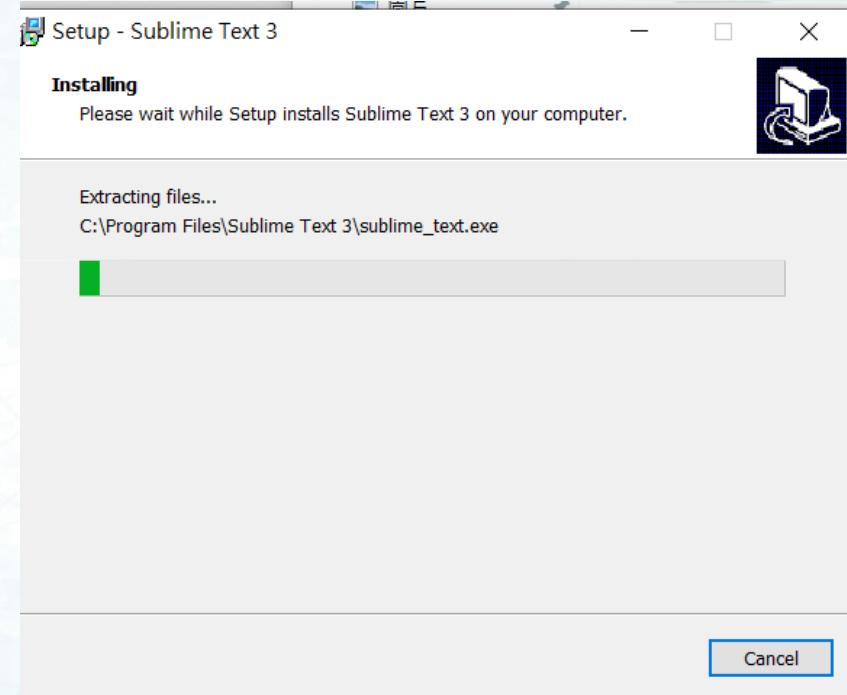
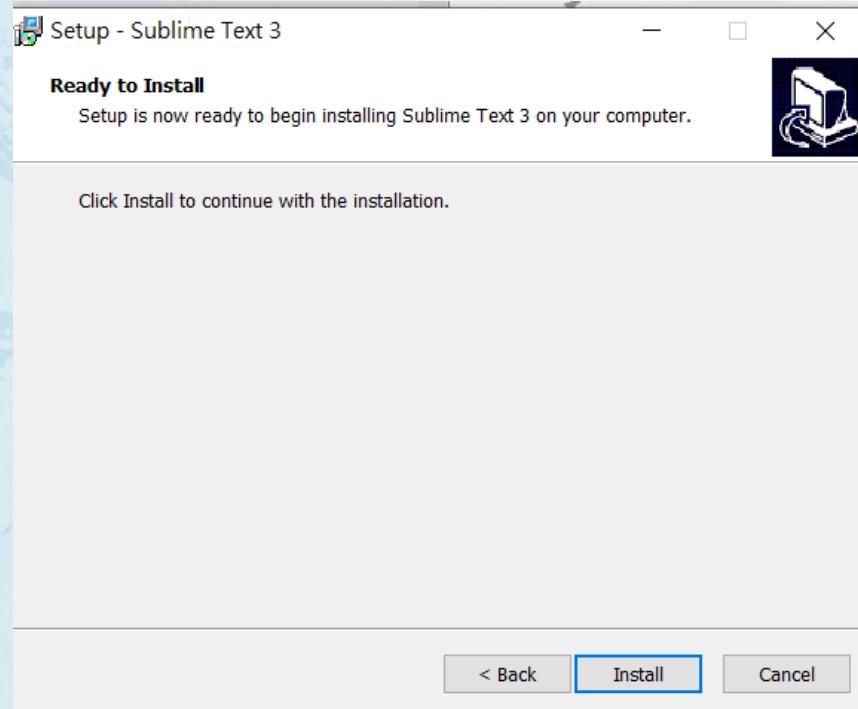
Sublime Text Build
3211 x64 Setup.exe



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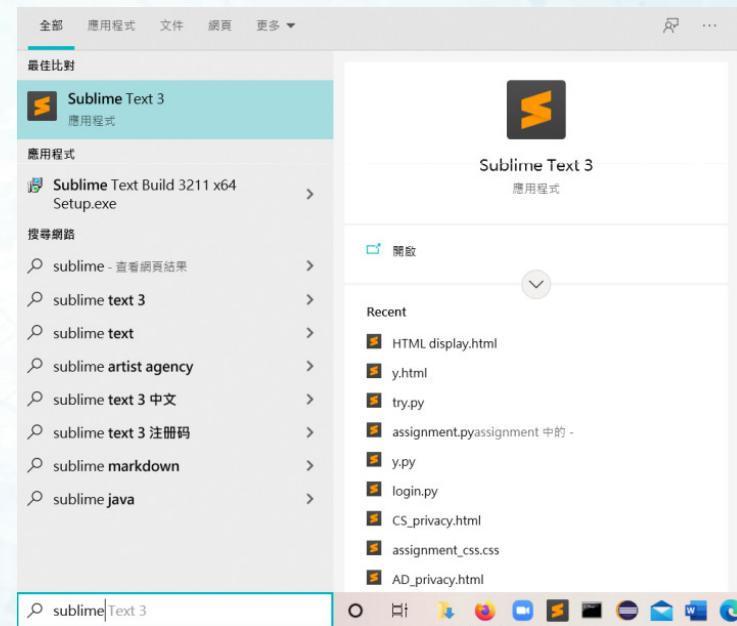
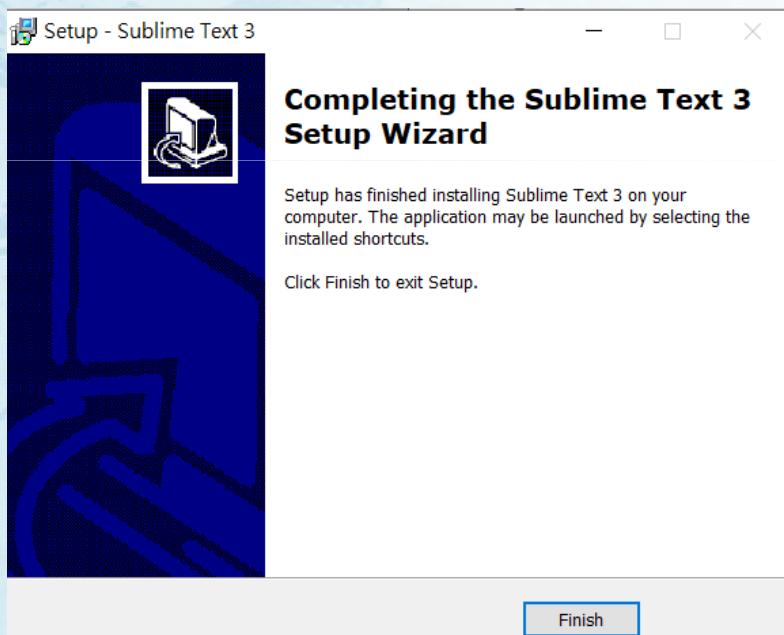
2.1 Install an open source tool



2.1 Install an open source tool



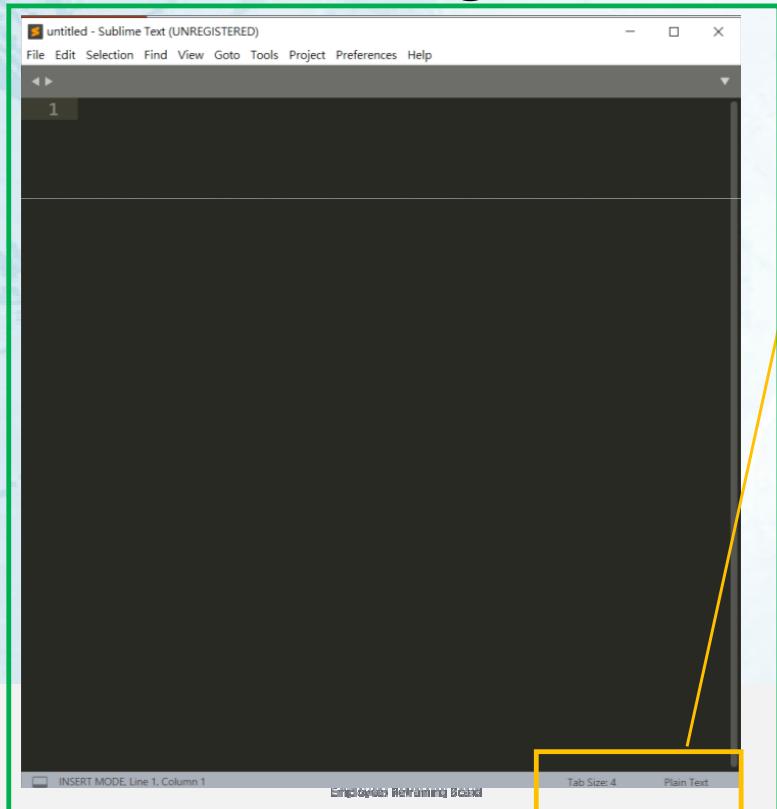
3. After successfully installed, open it.



2.1 Install an open source tool



Default setting: Plain Text



Plain Text

You may change to
different format
according to your
needs

SCOPE
School of Continuing and Professional Education
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16/5/2021

- Go
- Graphviz (DOT)
- Groovy
- Haskell
- HTML**
- Java
- JavaScript
- LaTeX
- Lisp
- Lua
- Makefile
- Markdown
- MATLAB
- Objective-C
- OCaml
- Pascal
- Perl
- PHP
- Plain Text
- Python
- R
- Rails
- Regular Expression
- reStructuredText
- Ruby
- Rust
- Scala

2.1 Install an open source tool

A screenshot of the Sublime Text editor window titled "untitled - Sublime Text (UNREGISTERED)". The menu bar includes File, Edit, Selection, Find, View, Goto, Tools, Project, Preferences, Help. The status bar at the bottom shows "INSERT MODE, Line 1, Column 1", "Tab Size: 4", and "HTML". A yellow box highlights the "HTML" tab in the status bar.

HTML

After changing,
you may start
your edition.

A screenshot of the Sublime Text editor window titled "untitled". It contains two lines of code: "1 <html>" and "2 </html>". A blue box highlights the code area.

2.2

Document structure and syntax



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2.2 Document structure and syntax



Before learning the syntax of CSS, we have to understand different type of CSS which has a difference in syntax to display same result.

There are 3 ways to insert CSS:

- Inline CSS
- Internal CSS
- External CSS

2.2 Document structure and syntax(**Inline CSS**)



```

1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Inline CSS</title>
5 </head>
6 <body>
7 <p style="color: blue;">Hello World!!</p>
8 <p> Hi,Mary</p>
9
10
11 </body>
12 </html>

```

Inline CSS

← → ⌂ 檔案 | D:/Krystal%20institute/work... ☆ 🌐 :

應用程式 signup Login fail » 閱讀清單

Hello World!!

Hi,Mary

Inline CSS means the way
that specify an element with
an unique style

2.2 Document structure and syntax(**Internal CSS**)



```
CSS_internal CSS.html ×
1  <!DOCTYPE html>
2  <html>
3
4  <style>
5      p{
6          color:blue;
7      }
8  </style>
9
10 <head>
11 <title>Internal CSS</title>
12 </head>
13 <body>
14
15 <p>Hello World!!</p>
16 <p> HI, Mary</p>
17
18 </body>
19 </html>
```

Internal CSS

← → ⌂ 檔案 | D:/Krystal%20institute/work... ☆ 🎯 :

應用程式 signup Login fail » 閱讀清單

Hello World!!

HI, Mary

Internal CSS means the way
that specific all the format in
the top of the HTML file:

2.2 Document structure and syntax(External CSS)



D:\Krystal institute\work\sublime example\CSS_external CSS.html - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

CSS_external CSS.html x CSS_external CSS.css x

```

1 <!DOCTYPE html>
2 <html>
3   <link rel="stylesheet" href="CSS_external CSS.css">
4   <head>
5     <title>External CSS</title>
6   </head>
7   <body>
8
9     <p>Hello World!!</p>
10    <p> HI, Mary</p>
11
12  </body>
13 </html>
14

```

External CSS 檔案 | D:/Krystal%20insti
應用程式 signup Login fail

Hello World!!
HI, Mary

CSS_external CSS.html x CSS_external CSS.css x

```

1 p{
2   color:blue;
3 }

```

External CSS means the way that link an external CSS file to the HTML file

2.2 Document structure and syntax(summary)



Different type of CSS	HTML file(code)	CSS file required(Yes/No)
Inline CSS	<p style="color: blue;">	No
Internal CSS	<pre><style> P {color: blue;} </style></pre>	No
External CSS	<pre><html> <link rel="stylesheet" href="CSS_external CSS.css"> </html></pre>	Yes

2.2 Document structure and syntax



As shown in above slides, the coding method of inline CSS, internal CSS, and external CSS has a slightly difference. In general, CSS syntax is divided into parts:

Selector(elements
to be define style)

Properties to be defined

: to specify value of
properties

{} include all
properties of the
selector

`p{color:blue;}`

Value of specific properties

; to end the specification
of current properties



2.2 Document structure and syntax(class/id)



In order to specific elements, we can set a class/id to the elements which the CSS style will only affect those with same class(.)/id(#).

```
.Bye{
    color:lightgreen;
}
```

```
<a class="Bye"> Bye, Peter</a>
```

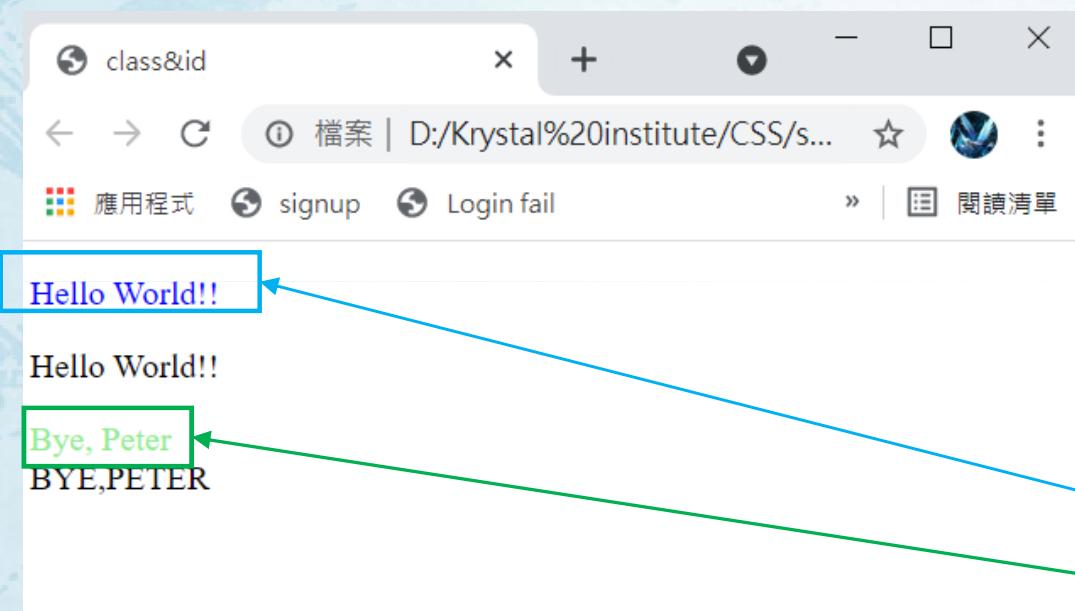
```
#Hello{
    color:blue;
}
```

```
<p id="Hello">Hello World!!</p>
```

Note: when you need to link a class/id to specific element, it is important to add the "" to quote the name



2.2 Document structure and syntax(class/id)



```

D:\Krystal institute\CSS\sublime example\Lecture 2\CMS_class&id.html
File Edit Selection Find View Goto Tools Project Preferences Help
CSS_class&id.html • CSS_color_RGB.html
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>class&id</title>
5 <style>
6 #Hello{
7   color:blue;
8 }
9
10 .Bye{
11   color:lightgreen;
12 }
13 </style>
14 </head>
15 <body>
16
17 <p id="Hello">Hello World!!</p>
18 <p>Hello World!!</p>
19 <a class="Bye"> Bye, Peter</a>
20 <br>
21 <a> BYE,PETER</a>
22
23 </body>
24 </html>
25

```

2.2 Document structure and syntax (comments)



For **inline CSS**, there will not have comments which the CSS code already apply for unique element only.

However, for **internal CSS** and **external CSS**, developer may insert some comments which to clarify different CSS related to which elements.

2.2 Document structure and syntax (comments)



It will not affect the displays in the browser, only programmer can see and it is for reference. For those inside the blanks(/*...*/) will become grey and it is comments.

```
D:\Krystal institute\work\sublime example\CSS_external CSS.css
File Edit Selection Find View Goto Tools Project Preferences
CSS_external CSS.html x CSS_external CSS.css
1 /*This is a comment*/
2 p{
3     color:blue;
4 }
```

```
<!DOCTYPE html>
<html>
<style>
/*This is a single comment
This another comment*/
p{color:blue;}
</style>
<head>
<title>Internal CSS</title>
</head>
<body>
<p>Hello World!!</p>
<p> HI, Mary</p>
</body>
</html>
```



• 2.3 How to Link CSS?



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2.3 How to link CSS?



Sometimes, when the website contain a lot of CSS, developer may create a CSS file for a better management. To apply, it needs to connect with the HTML in order to apply the style.

2.3 How to link CSS? (example)



D:\Krystal institute\work\sublime example\CSS_external CSS1.html - Sublime Text (UNREGISTERED)

```

File Edit Selection Find View Goto Tools Project Preferences Help
CSS_external CSS1.css x CSS_external CSS1.html x CSS_internal CSS.html x CSS_inline CSS.html
1 <!DOCTYPE html>
2 <html>
3 <link rel="stylesheet" href="CSS_external CSS1.css">
4 <head>
5 <title>External CSS1</title>
6 </head>
7 <body>
8
9 <p>Hello World!!</p>
10 <a> HI, Mary</a>
11
12 </body>
13 </html>

```

D:\Krystal institute\work\sublime example\CSS_ext

```

File Edit Selection Find View Goto Tools Projec
CSS_external CSS1.css x CSS_external CS
1 /*This is a comment*/
2 p{
3   color:blue;
4 }
5
6 a{
7   color:red;
8 }

```

2.3 How to link CSS? (result)



The screenshot shows a web browser window titled "External CSS1" displaying the text "Hello World!!" in blue and "HI, Mary" in red. To the right, a code editor window titled "CSS_external CSS1.css" shows the corresponding CSS code:

```
/*This is a comment*/
p{
    color:blue;
}
a{
    color:red;
}
```

Blue arrows point from the blue text in the browser to the "color:blue;" rule in the CSS file. A red arrow points from the red text in the browser to the "color:red;" rule in the CSS file.



• 2.4 What color does CSS support?



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2.4 What color does CSS support?



There are different ways to specify colors in CSS:

- Color words
- RGB
- HEX
- HSL



2.4 What color does CSS support?(color words)

CSS can support 140 color words. It only give a brief color

Bisque #FFE4C4	Black #000000	BlanchedAlmond #FFEBCD	BurlyWood #DEB887	CadetBlue #5F9EA0	Chartreuse #7FFF00	DarkBlue #00008B	DarkCyan #008B8B	DarkGoldenRod #B8860B
Blue #0000FF	BlueViolet #8A2BE2	Brown #A52A2A	Chocolate #D2691E	Coral #FF7F50	CornflowerBlue #6495ED	DarkGray #A9A9A9	DarkGrey #A9A9A9	DarkGreen #006400
BurlyWood #DEB887	CadetBlue #5F9EA0	Chartreuse #7FFF00	Cornsilk #FFF8DC	Crimson #DC143C	Cyan #00FFFF	DarkKhaki #BDB76B	DarkMagenta #8B008B	DarkOliveGreen #556B2F

To have further information:

https://www.w3schools.com/colors/colors_names.asp

2.4 What color does CSS support?(RGB)



In CSS, we can use a RGB value to specify a color.

- **RGB** color value
 - **RGB(RED, GREEN, BLUE)**
 - Range of variables(**RED, GREEN, BLUE**) :0-255
 - represent the intensity of color
 - Similar to a color mixer
-
- For example, the RGB value of **RED** is **RGB(255,0,0)**
 - For example, the RGB value of **BLACK** is **RGB(0,0,0)**
 - For example, the RGB value of **WHITE** is **RGB(255,255,255)**
-
- FOR REFERENCE: https://www.w3schools.com/css/css_colors_rgb.asp

2.4 What color does CSS support?(RGB)



```
<body>
<p class="red">Hello World!!</p>

<p class="blue"> HI, Mary</p>

<p class="purple"> HI, Mary</p>

<p> HI, Mary</p>
</body>
```

A screenshot of a browser window titled "color RGB". The address bar shows "D:/Krys". Below the address bar are links for "應用程式", "signup", and "Login". The main content area displays the rendered HTML code from the left panel. Arrows point from the rendered text to the corresponding CSS styles in the right panel:

- A red arrow points from "Hello World!!" to the ".red" style definition.
- A blue arrow points from "HI, Mary" to the ".blue" style definition.
- A purple arrow points from "HI, Mary" to the ".purple" style definition.
- A black arrow points from "HI, Mary" to the final ".purple" style definition.

```
<style>
.red{
    color:rgb(255,51,25);
}

.blue{
    color:rgb(73,33,255);
}

.purple{
    color:rgb(192,43,164);
}
```

2.4 What color does CSS support?(HEX)



In CSS, we can use HEX code to define color

- Hexadecimal color code
 - **#RRGGBB**
 - **#RGB**(for same value of each components only: **R=R, G=G, B=B**)
 - Similar to RGB, but contain a more detailed clarification of the color
 - Range:00-ff(= decimal 0-255)
-
- For example, the HEX value of **RED** is **#ff0000** / **#f00**
 - For example, the HEX value of **BLACK** is **#000000** / **#000**
 - For example, the HEX value of **WHITE** is **#ffffff** / **#fff**

2.4 What color does CSS support?(HEX)



```
<body>
<p class="orange">Hello World!!</p>

<p class="yellow"> HI, Mary</p>

<p class="lightgreen"> HI, Mary</p>

<p> HI, Mary</p>
</body>
```



```
<style>
  .orange{
    color:#ffb800;
  }

  .yellow{
    color:#ffff1a;
  }

  .lightgreen{
    color:#4dff85;
  }
</style>
```

2.4 What color does CSS support?(HSL)



In CSS, we can use HSL code to define color

- HSL(Hue, Saturation, Lightness) color code
 - HUE= degree° on the color wheel from 0°-360°
 - 0°=red, 120°=green, 240°=blue
 - Saturation= % value
 - 0%=shade of gray, 100%= full color
 - Lightness= %value
 - 0%=black, 50%=<light/dark, 100% = white
-
- For example, the HSL value of RED is HSL(0,100%,50%)
 - For example, the HSL value of BLACK is HSL(0,0%,0%)
 - For example, the HSL value of WHITE is HSL(0,0%,100%)

2.4 What color does CSS support?(HSL)



```
<html>
<body>
<p class="red">Hello World!!</p>

<p class="pink"> HI, Mary</p>

<p class="darkred"> HI, Mary</p>

<p> HI, Mary</p>
```

```
<style>
.red{
    color:hsl(0,100%,50%);
}
.pink{
    color:hsl(327,100%,68%);
}
.darkred{
    color:hsl(0,100%,23%);
}
```

2.4 What color does CSS support?(summary)



	CODE	Benefits/Disadvantages
Color words	P{ color: blue ; }	<ul style="list-style-type: none"> ✓ Easy coding ✗ Only support 140 colors ✗ Brief description of color
RGB	P{ color: rgb(0,0,255) ; }	<ul style="list-style-type: none"> ✓ Can support more color ✓ Can specific more detail of color ✓ Can mix color ✗ Need to check the code for displaying the color
HEX	P{ color: #0000ff ; } / P{ color: #00f ; }	<ul style="list-style-type: none"> ✓ Can support more color with a detailed definition ✓ Support transparency ✗ It is hard to find out the color you need
HSL	P{color: hsl(240,100%,50%) ; }	<ul style="list-style-type: none"> ✓ Can support more color with a detailed definition ✓ Support transparency ✗ It is hard to find out the color you need



• 2.5 Backgrounds

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2.5 Backgrounds



Backgrounds of a website can be:

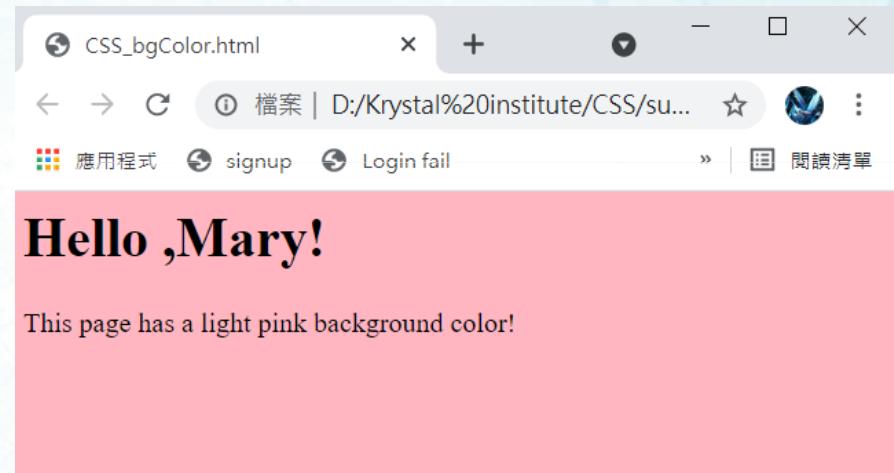
- Color
- Images

2.5 Backgrounds (color)



We can create a website with a colored background.

```
CSS_bgColor.html
1 <html>
2   <head>
3     <style>
4       body {
5         background-color: lightpink;
6       }
7     </style>
8   </head>
9   <body>
10
11   <h1>Hello ,Mary!</h1>
12
13   <p>This page has a light pink background color!</p>
14
15 </body>
16 </html>
```



2.5 Backgrounds (color)

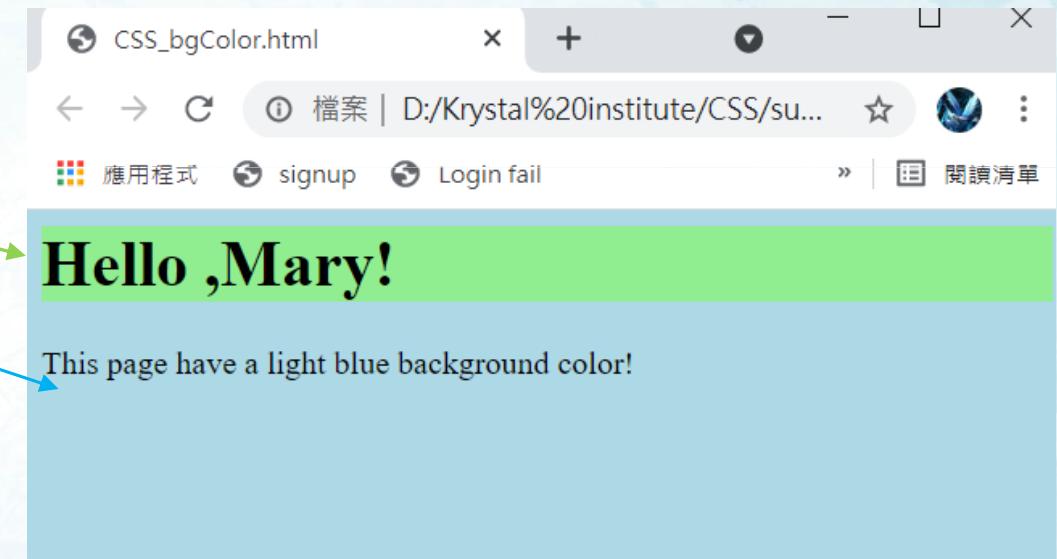


If we clarify for specific elements, the result will be different.

```

1 <html>
2 <head>
3 <style>
4   h1 {
5     background-color: lightgreen;
6   }
7   body{
8     background-color: lightblue;
9   }
10 </style>
11 </head>
12 <body>
13
14 <h1>Hello ,Mary!</h1>
15
16 <p>This page have a light blue background color!</p>
17
18 </body>
19 </html>

```



2.5 Backgrounds (Images)



We can create a website with an image as a background.

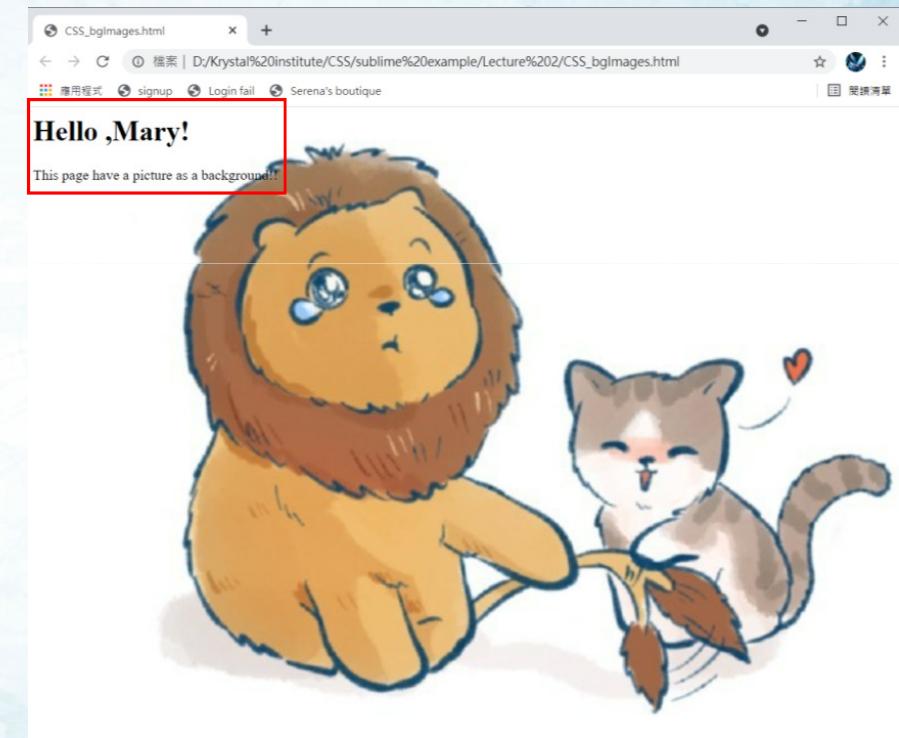


In the coming example, we are going to use this picture(Lion.jpg) to be the background of the website.

2.5 Backgrounds (Images)



```
CSS_bgImages.html
1 <html>
2 <head>
3 <style>
4   body{
5     background-image:url("Lion.jpg");
6   }
7 </style>
8 </head>
9 <body>
10
11 <h1>Hello ,Mary!</h1>
12
13 <p>This page have a picture as a background!!</p>
14
15 </body>
16 </html>
```



2.5 Backgrounds (code)



For backgrounds, we can use:

- Color
 - **Background-color: blue;**
- Images
 - **Background-image: url(" your image.jpg ");**



Any questions?



Activity



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Activity 1



Create a website with the following interface:

A screenshot of a web browser window titled "exercise 1". The address bar shows the URL "D:/Krystal%20institute/CSS/sublime%20example/Lecture%202/CSS_exercise.html". Below the address bar, there are several tabs: "應用程式", "signup", "Login fail", and "Serena's boutique". The main content area displays seven horizontal bars, each containing the text "This is [color]". The colors of the bars are red, orange, yellow, green, blue, and purple, corresponding to the text color of the text inside them.

This is red

This is orange

This is yellow

This is green

This is blue

This is purple

Hints:

Red/Orange: color words

Yellow/Green: RGB

Blue/Purple: HEX

Every row is using <h1>

For reference:

[https://www.w3schools.com/css/css_colors_rg
b.asp](https://www.w3schools.com/css/css_colors_rgb.asp)

[https://www.w3schools.com/css/css_colors_h
ex.asp](https://www.w3schools.com/css/css_colors_hex.asp)

Suggested answer



```

CSS_exercise.html
1 <html>
2 <head>
3 <style>
4   .red{
5     background-color: red;
6   }
7   .orange{
8     background-color: orange;
9   }
10  .yellow{
11    background-color: rgb(255,255,0);
12  }
13  .green{
14    background-color: rgb(30,255,0);
15  }
16  .blue{
17    background-color: #0000ff;
18  }
19  .purple{
20    background-color: #af00ae;
21  }
22 </style>
23 <title>exercise 1</title>
24 </head>

```

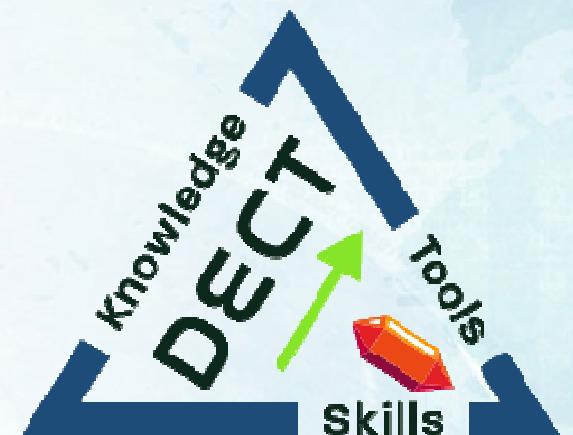
```

25 <body>
26
27 <H1 class="red">This is red</H1>
28 <H1 class="orange">This is orange</H1>
29 <H1 class="yellow">This is yellow</H1>
30 <H1 class="green">This is green</H1>
31 <H1 class="blue">This is blue</H1>
32 <H1 class="purple">This is purple</H1>
33
34 </body>
35 </html>

```



Reference



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Reference



There are the useful websites for reference:

1. <https://www.sublimetext.com/3>
2. [https://www.w3schools.com/css/css syntax.asp](https://www.w3schools.com/css/css_syntax.asp)
3. [https://www.w3schools.com/css/css colors.asp](https://www.w3schools.com/css/css_colors.asp)
4. [https://www.w3schools.com/css/css colors rgb.asp](https://www.w3schools.com/css/css_colors_rgb.asp)
5. [https://www.w3schools.com/css/css colors hex.asp](https://www.w3schools.com/css/css_colors_hex.asp)
6. [https://www.w3schools.com/css/css colors hsl.asp](https://www.w3schools.com/css/css_colors_hsl.asp)
7. [https://www.w3schools.com/css/css background.asp](https://www.w3schools.com/css/css_background.asp)