



前端網絡開發人員證書

(一) 前端網絡開發

3. Introduction to CSS III

Presented by Krystal Educational Platform



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Learning outcomes

- In this lesson, you are going to learn:
 - ✓ What is DIV?
 - ✓ DIV properties
 - ✓ Margin and padding
 - ✓ Border & outline
 - ✓ Box model



3.1 What is DIV?



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3.1 What is DIV?

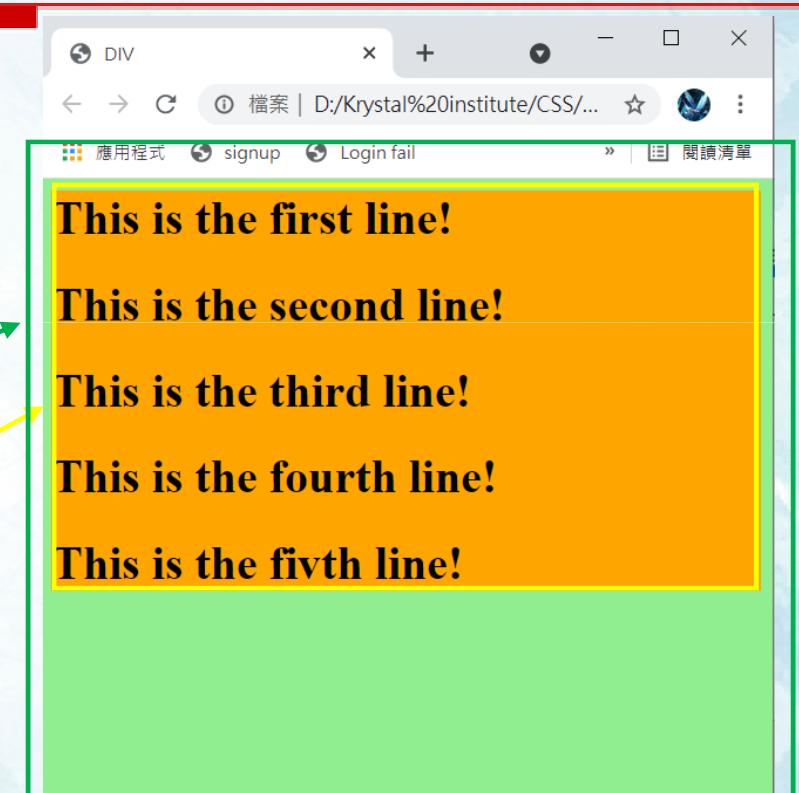


- Element to define a section
- It may be used for alignment
- Similar to text box
- You may put image/ text/ form inside for a better placement

3.1 What is DIV?



```
CSS_DIV.html
1 <html>
2 <head>
3 <style>
4     .orange{
5         background-color: orange;
6     }
7
8 </style>
9 <title>DIV</title>
10 </head>
11 <body style="background-color:lightgreen">
12     <div class="orange">
13         <H1>This is the first line!</H1>
14         <H1>This is the second line!</H1>
15         <H1>This is the third line!</H1>
16         <H1>This is the fourth line!</H1>
17         <H1>This is the fifth line!</H1>
18     </div>
19 </body>
20 </html>
```





• 3.2 DIV properties

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3.2 DIV properties



- Height & width
- Border

3.2 DIV properties(height & width)



- Can be measured in :
 - Pixels(PX)
 - Percentage(%)
- If using %, contents will adjust the typesetting automatically when the window size is changing

3.2 DIV properties(height & width)



- We can define the height and width of the DIV

```
<body>
  <div class="orange">
    <H1>This is the first line!</H1>
  </div>

  <div class="lightblue">
    <H1>This is the second line!</H1>
  </div>

  <H1>This is the third line!</H1>
</body>
```

Screenshot of a browser window showing three DIV elements with different background colors and heights:

- The first DIV (orange) contains the text "This is the first line!"
- The second DIV (lightblue) contains the text "This is the second line!"
- The third DIV (white) contains the text "This is the third line!"

The second DIV has a red border and a red arrow points from its bottom-right corner to the corresponding CSS rule in the code editor.

```
<style>
  .orange{
    background-color: orange;
  }

  .lightblue{
    background-color: lightblue;
    height:70px;
    width:50%;
  }
```

3.2 DIV properties(height & width) Example 1(70px & 50%)



The screenshot shows two browser windows. The left window, titled 'DIV_height & width', has a purple border and displays three lines of text: 'This is the first line!', 'This is the second line!', and 'This is the third line!'. The right window, also titled 'DIV_height & width', has a green border and displays the same three lines of text. Below the browser windows is a code editor window showing the following CSS:

```
<style>
  .orange{
    background-color: orange;
  }
  .lightblue{
    background-color: lightblue;
    height: 70px;
    width: 50%;
  }
</style>
```

Annotations with arrows point from the CSS rules to their corresponding visual representations in the browser windows.

Bigger window size

Smaller window size

3.2 DIV properties(height & width) Example 2 (200px & 200px)



A screenshot of a web browser window titled "DIV_height & width". The page contains three DIV elements:

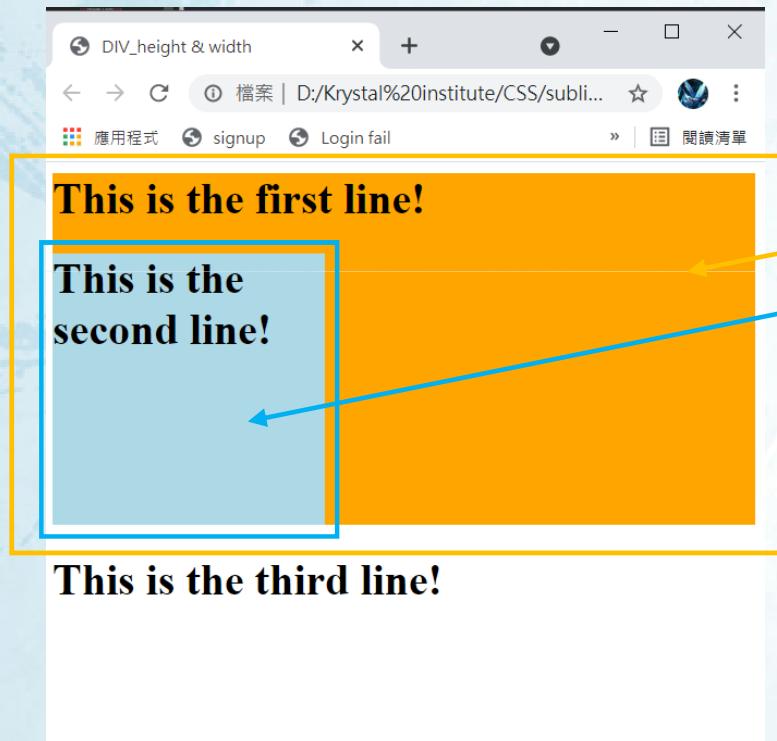
- The first DIV has a yellow background color and contains the text "This is the first line!".
- The second DIV has a light blue background color and contains the text "This is the second line!". A yellow arrow points from the text to the corresponding CSS rule in the code block below.
- The third DIV has a white background color and contains the text "This is the third line!".

```
<head>
<style>
    .orange{
        background-color: orange;
    }

    .lightblue{
        background-color: lightblue;
        height:200px;
        width:200px;
    }

</style>
```

3.2 DIV properties(height & width) Addition information



```
<body>
  <div class="orange">
    <H1>This is the first line!</H1>
  </div>
  <div class="lightblue">
    <H1>This is the second line!</H1>
  </div>
  <H1>This is the third line!</H1>
</body>
```

Different placement of DIV in the code, will affect the display

3.2 DIV properties(border)



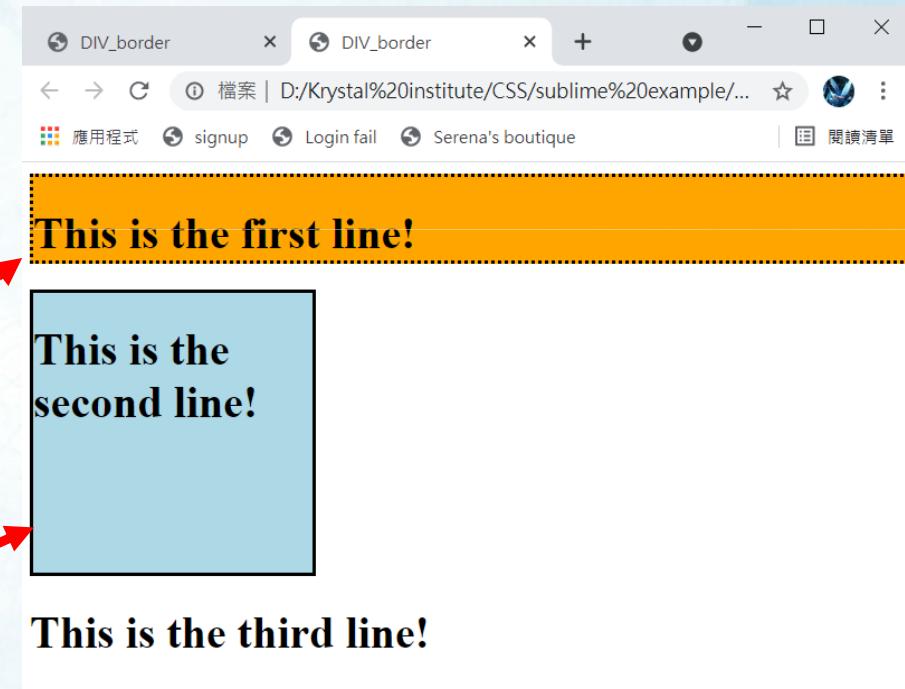
- Properties can be defined
 - Style
 - ✓ Line style
 - ✓ Sides
 - Color
 - Width

3.2 DIV properties(border _line style)



```
<body>
  <div class="orange">
    <H1>This is the first line!</H1>
  </div>
  <br>
  <div class="lightblue">
    <H1>This is the second line!</H1>
  </div>
  <H1>This is the third line!</H1>
</body>
</html>
```

```
<style>
  .orange{
    background-color: orange;
    height:60px;
    width:100%;
    border-style:dotted;
  }
  .lightblue{
    background-color:lightblue;
    height:200px;
    width:200px;
    border-style:solid;
  }
</style>
```



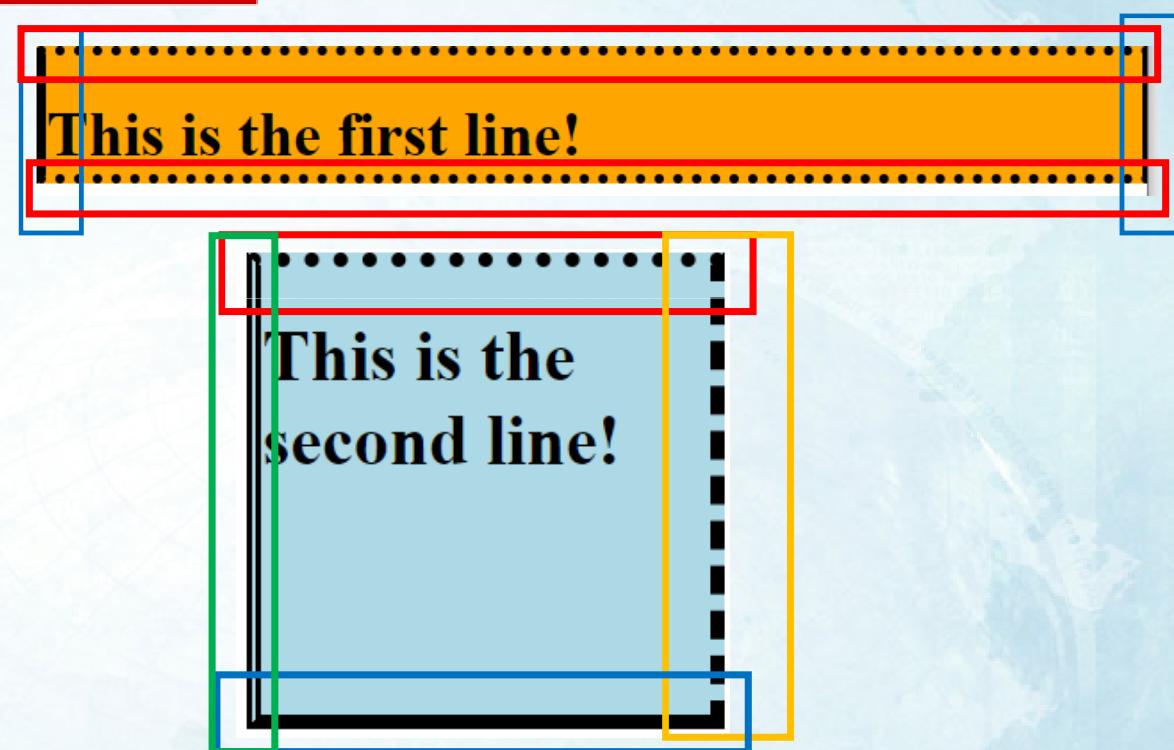
3.2 DIV properties(border _sides)



```
<style>
  .orange{
    background-color: orange;
    height:60px;
    width:100%;
    border-style: dotted solid;
    border-width:5px;
  }

  .lightblue{
    background-color:lightblue;
    height:200px;
    width:200px;
    border-style: dotted dashed solid double;
    border-width:7px;
  }

</style>
```



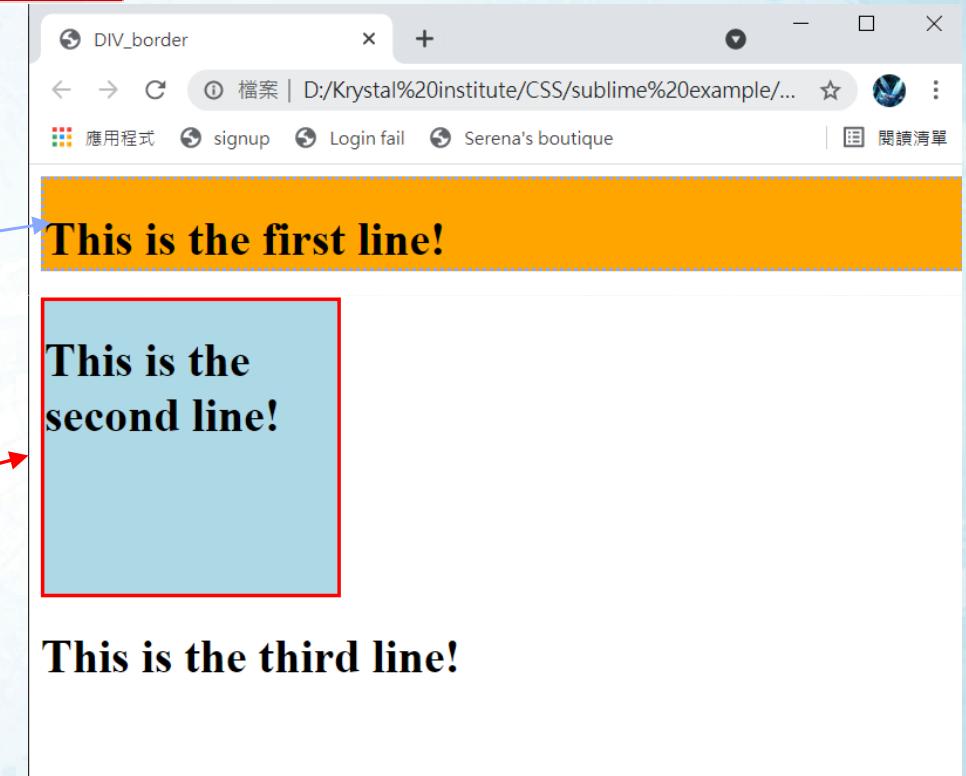
3.2 DIV properties(border_color)



```
<style>
    .orange{
        background-color: orange;
        height:60px;
        width:100%;
        border-style:dotted;
        border-color:rgb(137,169,255);
    }

    .lightblue{
        background-color:lightblue;
        height:200px;
        width:200px;
        border-style:solid;
        border-color:red;
    }

</style>
```



3.2 DIV properties(border_width)

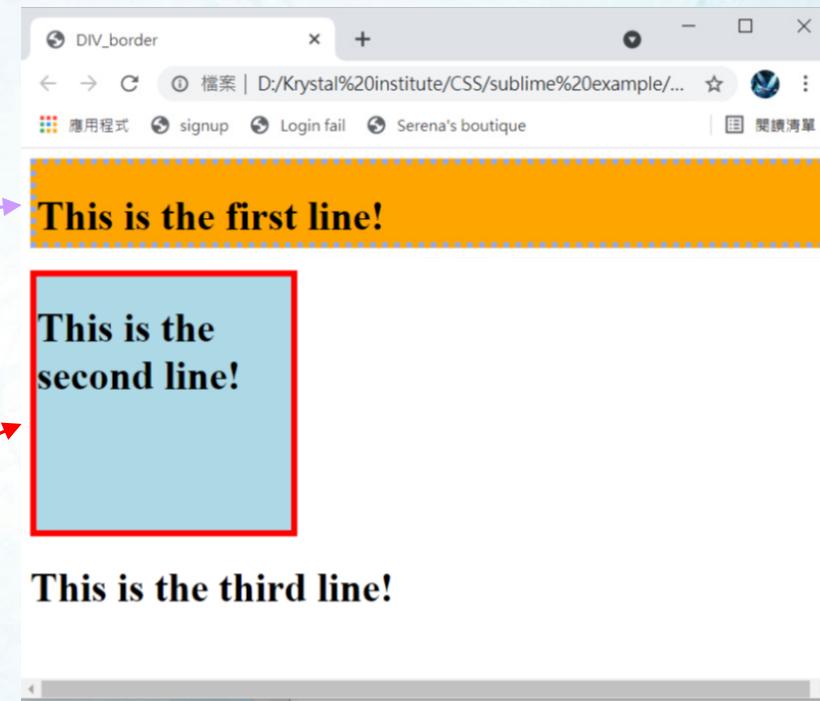


```

<style>
    .orange{
        background-color: orange;
        height:60px;
        width:100%;
        border-style:dotted;
        border-color:rgb(137,169,255);
        border-width:5px;
    }

    .lightblue{
        background-color:lightblue;
        height:200px;
        width:200px;
        border-style:solid;
        border-color:red;
        border-width:thick;
    }
</style>

```



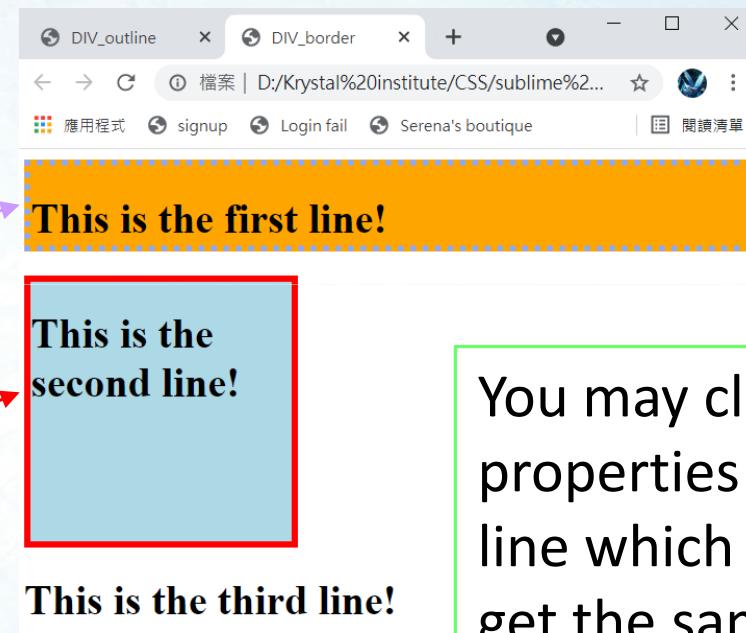
3.2 DIV properties(border) addition information(shorthand)



```
<style>
    .orange{
        background-color: orange;
        height:60px;
        width:100%;
        border: dotted rgb(137,169,255) 5px;
    }

    .lightblue{
        background-color:lightblue;
        height:200px;
        width:200px;
        border: solid red 5px;
    }

</style>
```



You may clarify all properties in same line which can also get the same result

3.2 DIV properties(border summary)



- Properties can be defined

Properties	Units/attribute to be define
style	Dotted ······ Dashed - - - - - Solid ————— Double ———— None hidden
color	Colors that CSS support
width	PX/medium/thick



• 3.3 Margin and padding



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3.3 Margin and padding

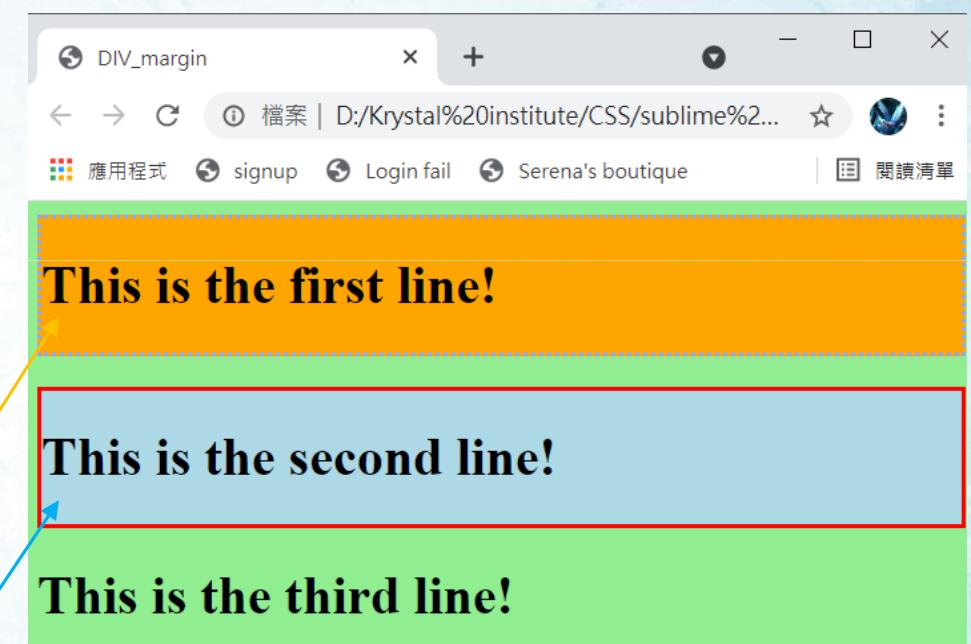


- Margin
 - Specific the space **OUTSIDE a DIV**
 - Define the position of a DIV
- Padding
 - Specific the space **INSIDE a DIV**
 - Define the spacing of content inside border/DIV

3.3 Margin example(original)



```
<body style="background-color:lightgreen">
  <div class="orange">
    <H1>This is the first line!</H1>
  </div>
  <br>
  <div class="lightblue">
    <H1>This is the second line! </H1>
  </div>
  <H1>This is the third line!</H1>
</body>
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
  }
  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
  }
</style>
```



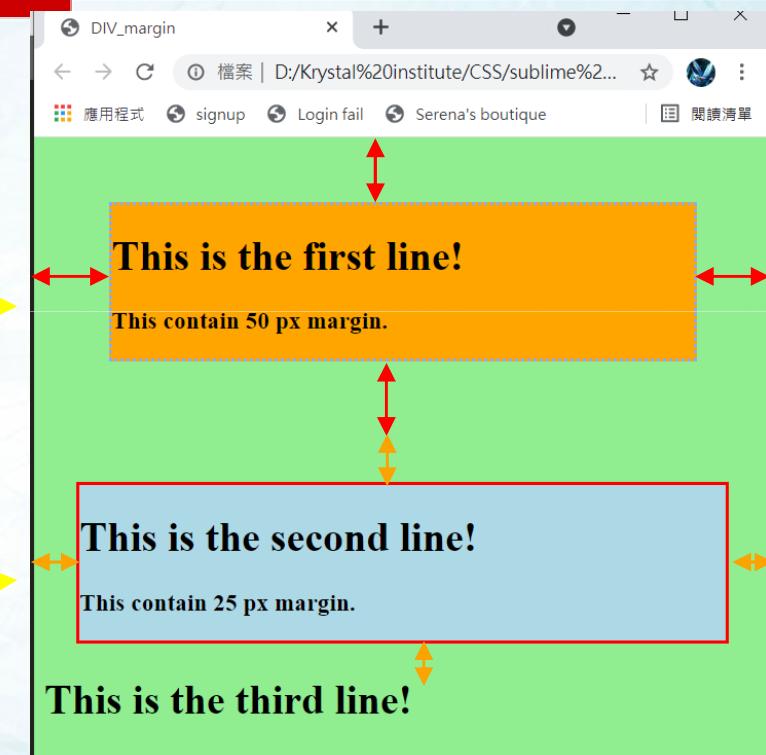
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3.3 Margin example(50px and 25px)



```
<style>
    .orange{
        background-color: orange;
        border-style:dotted;
        border-color:rgb(137,169,255);
        margin:50px;
    }

    .lightblue{
        background-color:lightblue;
        border-style:solid;
        border-color:red;
        margin:25px;
    }
}
```



3.3 Margin addition (shorthand)



- You may define different margins for different sides, there are 2 methods:
 - { margin-top: 50px;
margin-right:30px;
margin-bottom:25px;
margin-left:20px; }
 - {margin: 50px 30px 25px 20px; }

3.3 Margin

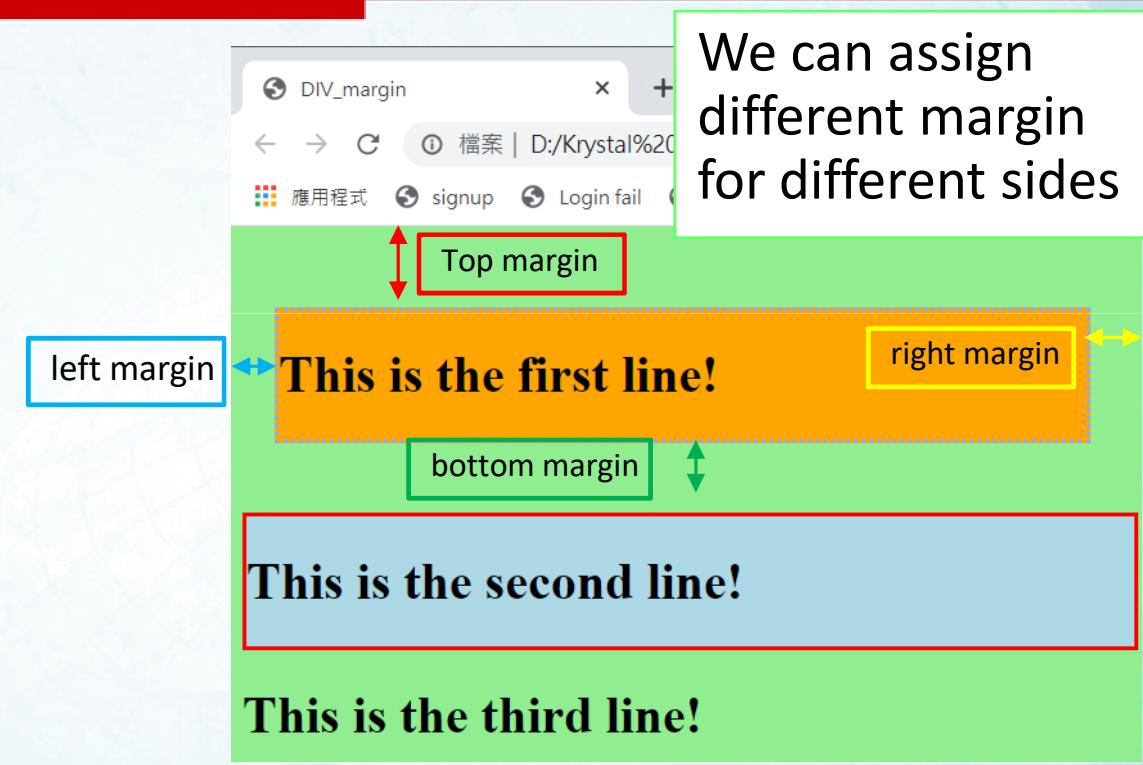
addition(`margin-top`/`margin-right`/`margin-left`/`margin-bottom`)



```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
    margin-top: 50px;
    margin-right: 30px;
    margin-bottom: 25px;
    margin-left: 20px;
  }

  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
  }

</style>
```

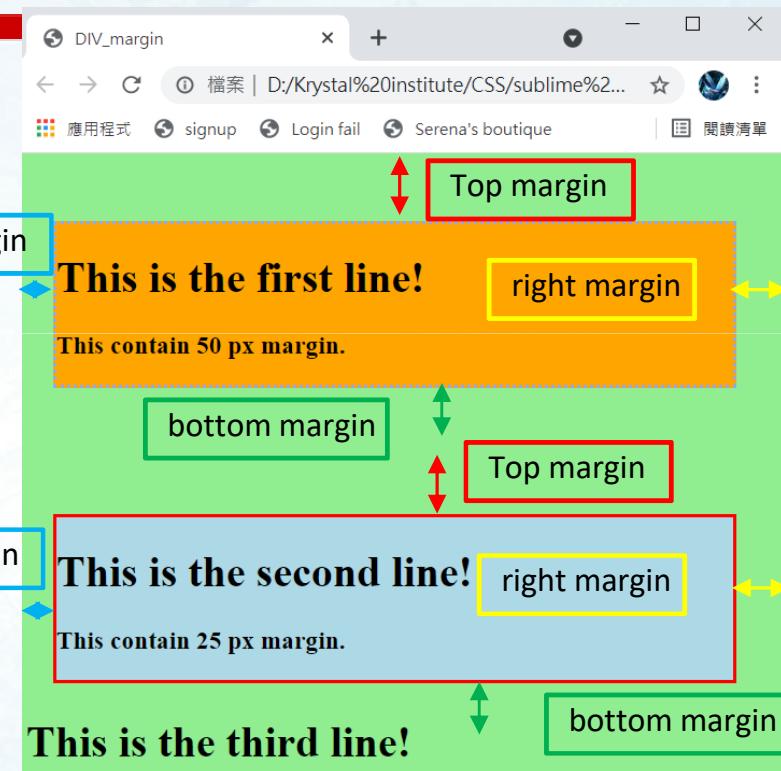


3.3 Margin addition(shorthand)



```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
    margin-top:50px;
    margin-right:30px;
    margin-bottom:25px;
    margin-left:20px;
  }

  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
    margin:50px 30px 25px 20px;
  }
</style>
```



We can use a simpler way to get the same result.

3.3 Padding example(original)

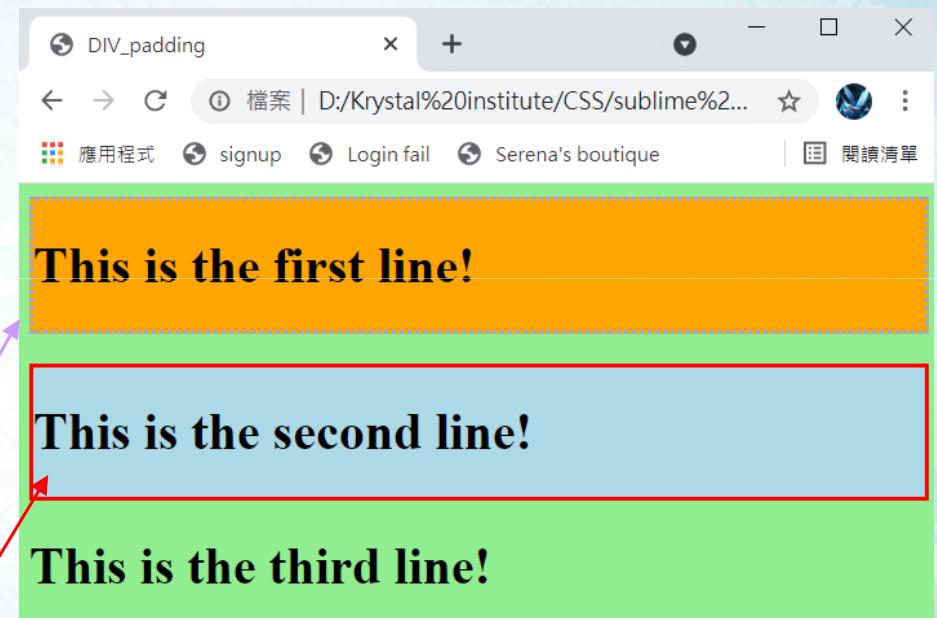


```

<body style="background-color:lightgreen">
    <div class="orange">
        <H1>This is the first line!</H1>
    </div>
    <br>
    <div class="lightblue">
        <H1>This is the second line! </H1>
    </div>
    <H1>This is the third line!</H1>
</body>
</html>
    
```

<style>
.orange{
background-color: orange;
border-style:dotted;
border-color:rgb(137,169,255);}

.lightblue{
background-color:lightblue;
border-style:solid;
border-color:red;}
</style>

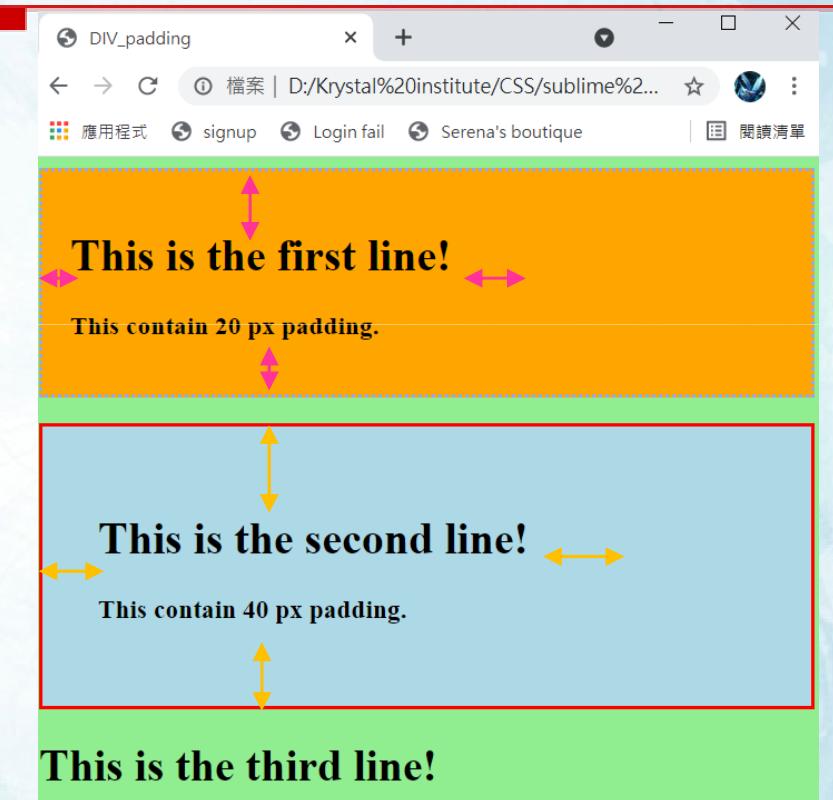


3.3 Padding example(20px and 40px)

```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
    padding:20px;
  }

  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
    padding:40px;
  }

```



3.3 Padding addition(shorthand)



- You may define different padding for different sides, there are 2 methods:
 - { padding-top: 50px;
padding-right:30px;
padding-bottom:25px;
padding-left:20px; }
 - {padding : 50px 30px 25px 20px ;}

3.3 Padding

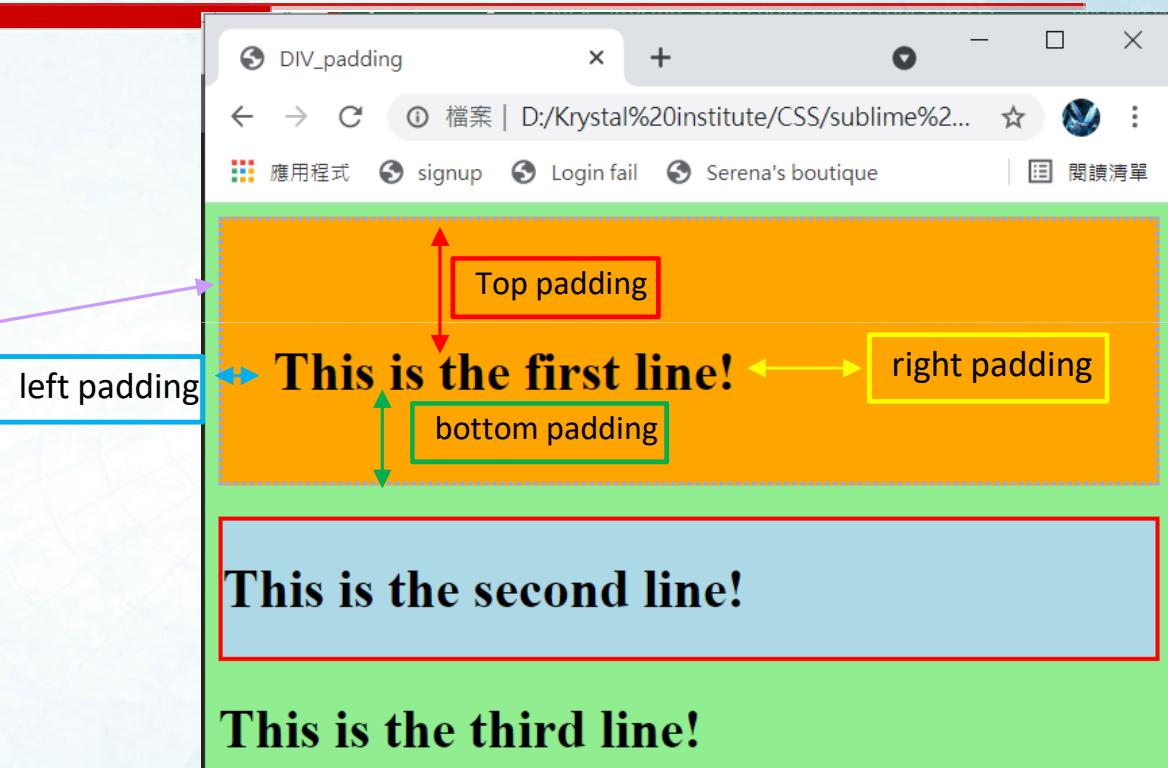
addition (padding-top/padding-right/padding-left/padding-bottom)



```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
    padding-top:50px;
    padding-right:30px;
    padding-bottom: 25px;
    padding-left: 30px;
  }

  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
  }

</style>
```



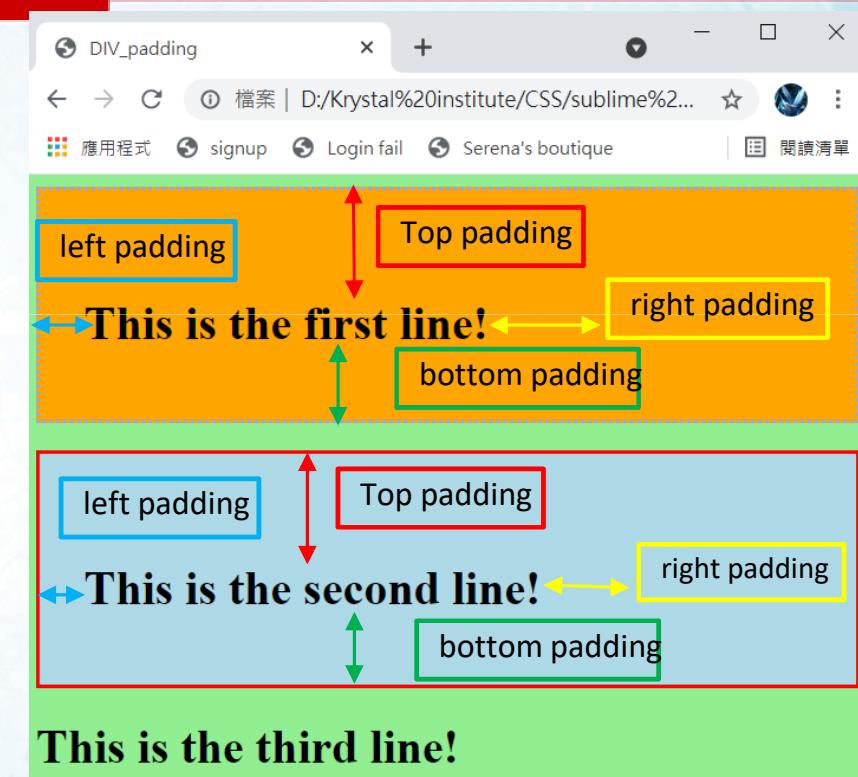
3.3 Padding addition(shorthand)



```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:rgb(137,169,255);
    padding-top:50px;
    padding-right:30px;
    padding-bottom: 25px;
    padding-left: 30px;
  }

  .lightblue{
    background-color:lightblue;
    border-style:solid;
    border-color:red;
    padding: 50px 30px 25px 30px;
  }

</style>
```



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3.3 Margin & Padding(summary)



- They contain a similar coding syntax
- To specific different margin/padding, it is recommended to use the shorthand properties
- After setting padding ,be aware of the actual size of the DIV may be changed



• 3.4 Border & outline

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3.4 Border & Outline



- Outline is almost same with border
- Outline require space which may overlap the content
- Generally, developer are more likely to use Border, instead of Outline
- For reference: https://www.w3schools.com/css/css_outline.asp

3.3 Outline



```
</head>
<body style="background-color:lightgreen">
    <div class="orange">
        <H1>This is the first line!</H1>
    </div>
    <div class="lightblue">
        <H1>This is the second line! </H1>
    </div>
    <H1>This is the third line!</H1>
</body>
```

This is the first line!

This is the second line!

This is the third line!

```
<style>
    .orange{
        background-color: orange;
        outline-style:dotted;
        outline-color:red;
        outline-width:5px;
    }
    .lightblue{
        background-color:lightblue;
        outline: dotted orange 5px;
    }
</style>
```

3.3 Outline

```
<style>
  .orange{
    background-color: orange;
    outline-style:dotted;
    outline-color:red;
    outline-width:5px;
  }

  .lightblue{
    background-color:lightblue;
    outline: dotted orange 5px;
  }

</style>
```

```
<body style="background-color:lightgreen">
  <a class="orange">This is the first line!</a>
  <a class="lightblue">This is the second line! </a>
  <H1>This is the third line!</H1>

</body>
```

Outline will take space

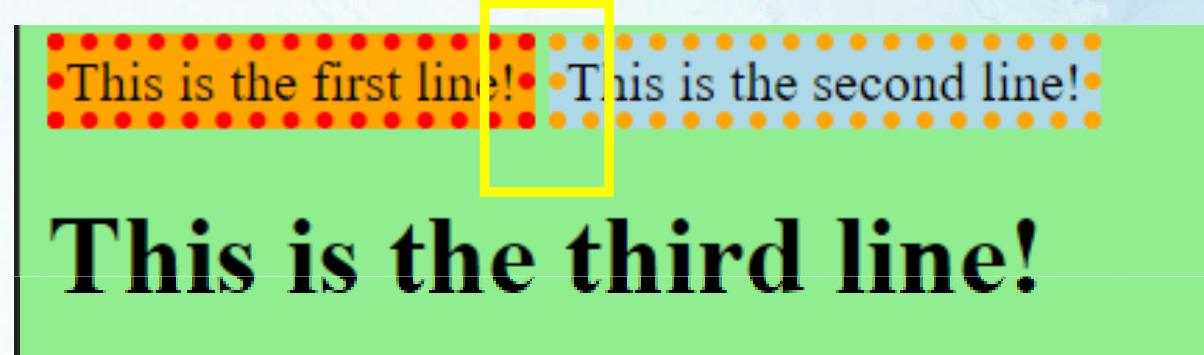
3.3 Border



```
<style>
  .orange{
    background-color: orange;
    border-style:dotted;
    border-color:red;
    border-width:5px;
  }

  .lightblue{
    background-color:lightblue;
    border: dotted orange 5px;
  }

</style>
```



```
<body style="background-color:lightgreen">
  <a class="orange">This is the first line!</a>
  <a class="lightblue">This is the second line! </a>
  <H1>This is the third line!</H1>

</body>
```

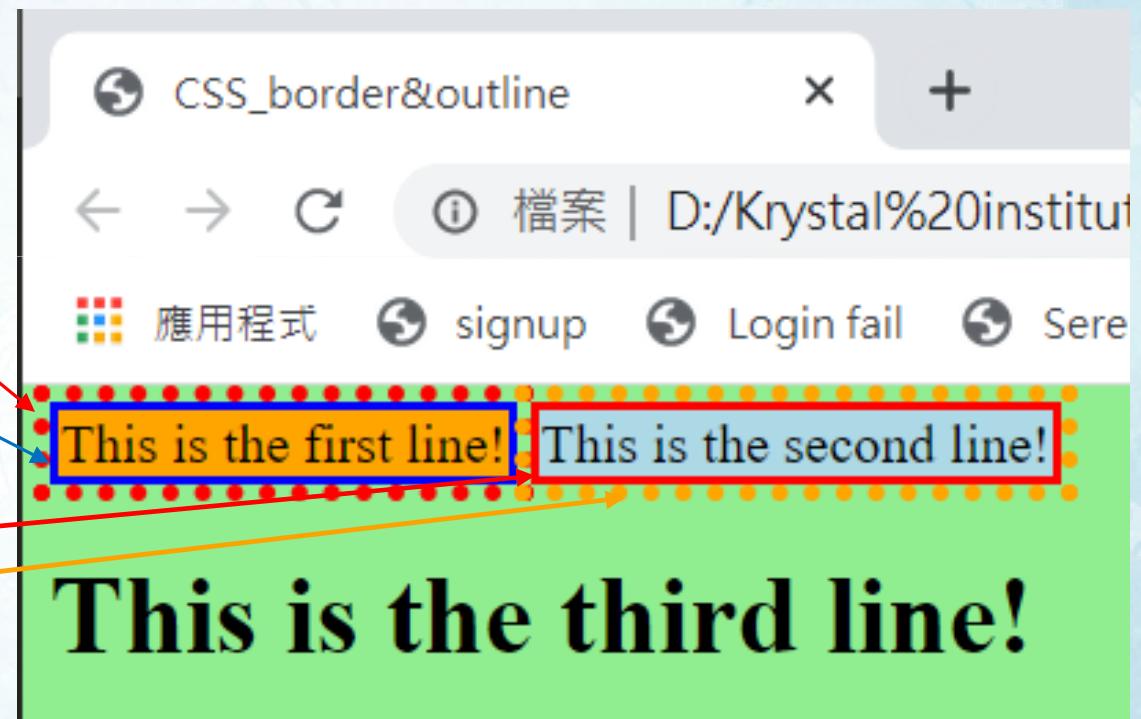
border WILL NOT take place

3.3 Border & outline



```
<style>
  .orange{
    background-color: orange;
    outline-style:dotted;
    outline-color:red;
    outline-width:5px;
    border-style:solid;
    border-color:blue;
    border-width:3px;
  }

  .lightblue{
    background-color:lightblue;
    border: solid red 3px;
    outline:dotted orange 5px;
  }
</style>
```

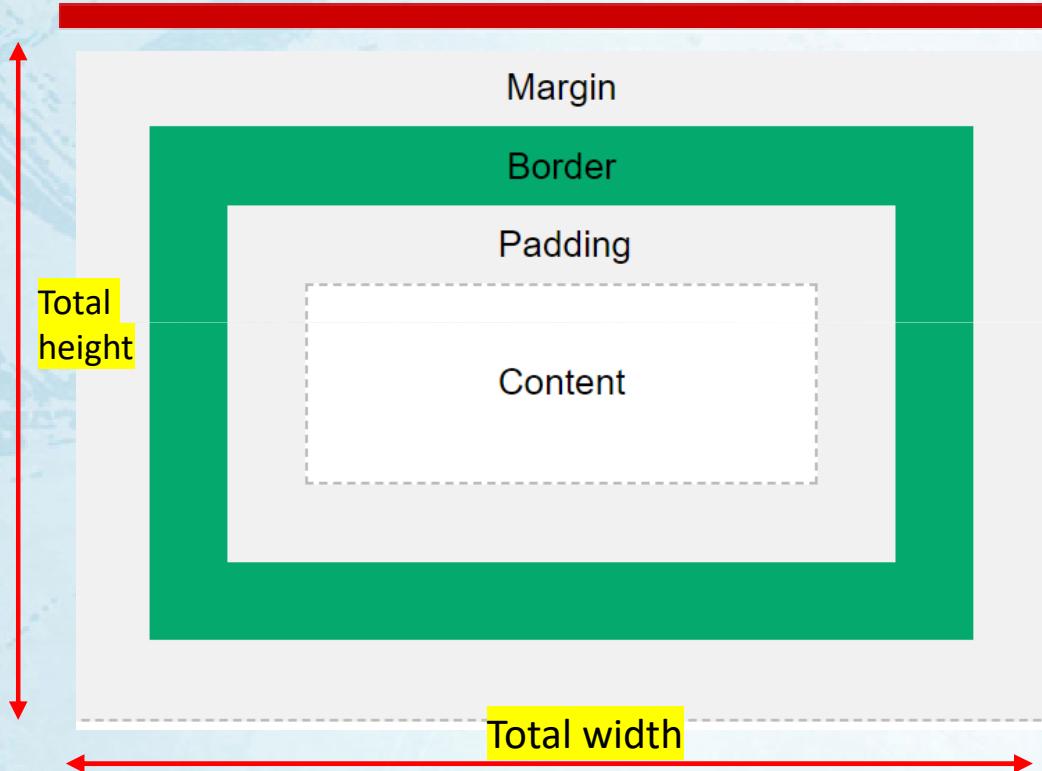




• 3.5 Box model

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3.4 Box model



The box model imply the design and layout of a website. It shows the factors that can be designed for an element. When calculating the **actual width or height** of an element , all of the attributes is included.



Any Questions ?



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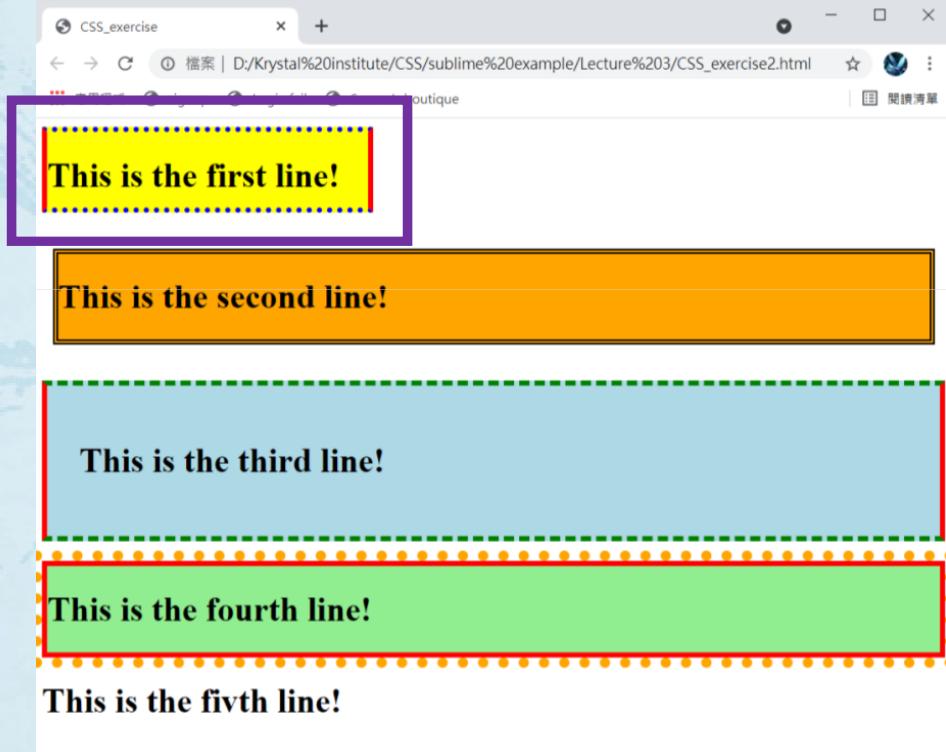
Question time



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Question time



- 1. What element is included in the first line?
 - ✓ background-color:**yellow**;
 - ✓ height:70px;
 - ✓ width:300px;
 - ✓ border-style: dotted solid;
 - ✓ border-width:5px;
 - ✓ border-color:**blue red**;

Question time

A screenshot of a web browser window titled "CSS_exercise". The address bar shows the file path "D:/Krystal%20institute/CSS/sublime%20example/Lecture%203/CSS_exercise2.html". The content area displays five lines of text:

- "This is the first line!" in a yellow box with a dotted border.
- "This is the second line!" in an orange box with a double border and a purple shadow.
- "This is the third line!" in a light blue box with a dashed border.
- "This is the fourth line!" in a green box with a dotted border and a red shadow.
- "This is the fifth line!" in a white box with no border.

- 2. What element is included in the second line?

- ✓ background-color: orange;
- ✓ border-style: double;
- ✓ border-width: 5px;
- ✓ margin: 15px 10px;

Question time

A screenshot of a web browser window titled "CSS_exercise". The address bar shows the path "D:/Krystal%20institute/CSS/sublime%20example/Lecture%203/CSS_exercise2.html". The content area displays five lines of text:

- "This is the first line!" in a yellow box with a dotted border.
- "This is the second line!" in an orange box with a solid border.
- "This is the third line!" in a light blue box with a dashed border.
- "This is the fourth line!" in a light green box with a dotted border.
- "This is the fifth line!" in a white box with no border.

- 3. What element is included in the third line?
 - ✓ background-color: `lightblue`;
 - ✓ border-style: `dashed` `solid` ;
 - ✓ `border-width:5px`;
 - ✓ border-color: `green` `red`;
 - ✓ padding:30px;

Question time

A screenshot of a web browser window titled "CSS_exercise". The address bar shows the path "D:/Krystal%20Institute/CSS/sublime%20example/Lecture%203/CSS_exercise2.html". The page contains five lines of text:

- "This is the first line!" with a yellow background and a blue dotted border.
- "This is the second line!" with an orange background and a solid red border.
- "This is the third line!" with a light blue background and a red dashed border.
- "This is the fourth line!" with a light green background and a purple dotted border.
- "This is the fifth line!" with a white background and a black solid border.

- 4. What element is included in the fourth line?
 - ✓ `background-color:lightgreen;`
 - ✓ `border: solid red 5px;`
 - ✓ `outline: dotted orange 10px;`



Activity



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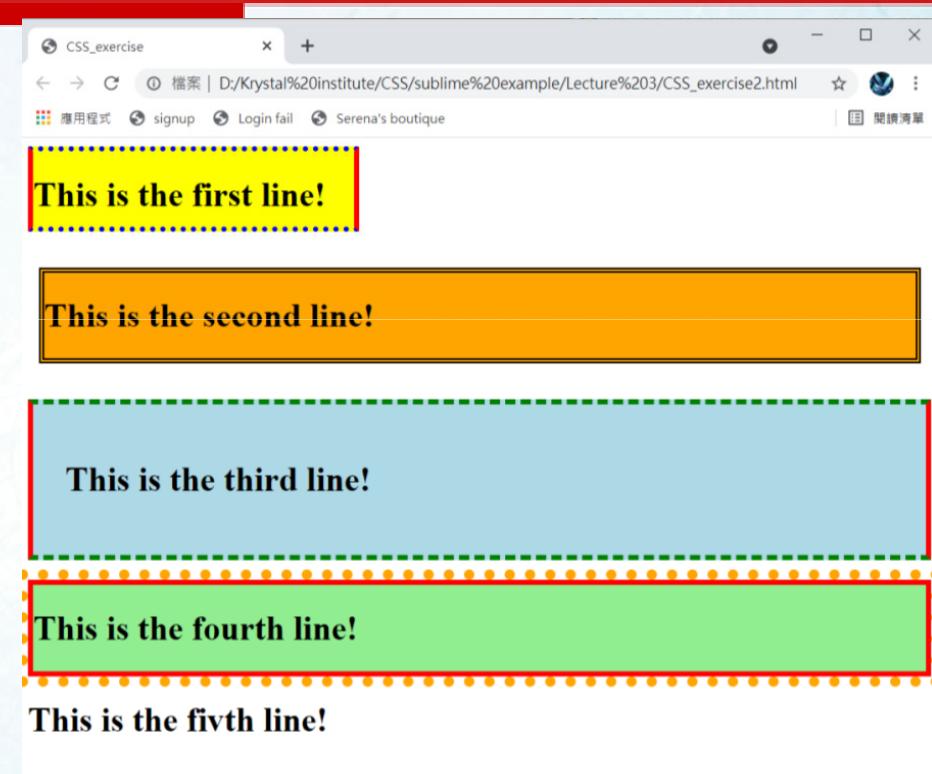


Activity 2

Please create a similar output that include DIV:border/outline/margin/padding

Hints:

You may follow the answer in the passed questions.



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Suggested answer



```
<style>
    .first{
        background-color:yellow;
        height:70px;
        width:300px;
        border-style: dotted solid ;
        border-width:5px;
        border-color:blue red;
    }

    .second{
        background-color:orange;
        border-style: double;
        border-width:5px;
        margin:15px 10px;
    }

```

```
.third{
    background-color:lightblue;
    border-style:dashed solid ;
    border-width:5px;
    border-color:green red;
    padding:30px;
}

.four{
    background-color:lightgreen;
    border: solid red 5px;
    outline:dotted orange 10px;
}
```



Reference



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Reference



There are the useful websites for reference:

1. https://www.w3schools.com/css/css_border.asp
2. https://www.w3schools.com/css/css_dimension.asp
3. https://www.w3schools.com/css/css_margin.asp
4. https://www.w3schools.com/css/css_padding.asp
5. https://www.w3schools.com/css/css_outline.asp
6. https://www.w3schools.com/css/css_boxmodel.asp