7.間隔 (Spacing)

The classes are named using the format {property}{sides}-{size} for xs and {property}{sides}-{breakpoint}-{size} for sm, md, lg, and xl.

Where *property* is one of:
- m - for classes that set margin
- p - for classes that set padding

Where *sides* is one of:
- t - for classes that set margin-top or padding-top
- b - for classes that set margin-bottom or padding-bottom
- l - for classes that set margin-left or padding-left
- r - for classes that set margin-right or padding-right
- x - for classes that set both *-left and *-right
- y - for classes that set both *-top and *-bottom
- blank - for classes that set a margin or padding on all 4 sides of the element

Where *size* is one of: **$spacer = 1rem = 16px**
- 0 - for classes that eliminate the margin or padding by setting it to 0
- 1 - (by default) for classes that set the margin or padding to $spacer * .25 (==> 16PX *0.25)
- 2 - (by default) for classes that set the margin or padding to $spacer * .5 (==> 16PX *0.5)
- 3 - (by default) for classes that set the margin or padding to $spacer
- 4 - (by default) for classes that set the margin or padding to $spacer * 1.5
- 5 - (by default) for classes that set the margin or padding to $spacer * 3
- auto - for classes that set the margin to auto

mt-3: margin-top: 16px

```html
<div class="container mt-3">
  <div class="row">
    <div class="box p-3 mb-3">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi sit ipsa voluptatum
      necessitatibus doloribus eum! Ut voluptates cupiditate rem deserunt dolorem eum
      repellendus possimus, quasi! Architecto odit optio recusandae quod.</p>
      <p class="mb-0">Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda
      vitae eligendi nostrum sequi, inventore amet! Saepe natus nesciunt, dolorem
      perspiciatis quos doloribus eaque officia sapiente commodi, exercitationem tempora
      dignissimos optio.</p>
    </div>
    <div class="box p-3">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi sit ipsa voluptatum
      necessitatibus doloribus eum! Ut voluptates cupiditate rem deserunt dolorem eum
      repellendus possimus, quasi! Architecto odit optio recusandae quod.</p>
      <p class="mb-0">Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda
      vitae eligendi nostrum sequi, inventore amet! Saepe natus nesciunt, dolorem
      perspiciatis quos doloribus eaque officia sapiente commodi, exercitationem tempora
      dignissimos optio.</p>
    </div>
  </div>
</div>
```

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi sit ipsa voluptatum necessitatibus doloribus eum! Ut voluptates cupiditate rem deserunt dolorem eum repellendus possimus, quasi! Architecto odit optio recusandae quod.

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda vitae eligendi nostrum sequi, inventore amet! Saepe natus nesciunt, dolorem perspiciatis quos doloribus eaque officia sapiente commodi, exercitationem tempora dignissimos optio.

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Modi sit ipsa voluptatum necessitatibus doloribus eum! Ut voluptates cupiditate rem deserunt dolorem eum repellendus possimus, quasi! Architecto odit optio recusandae quod.

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Assumenda vitae eligendi nostrum sequi, inventore amet! Saepe natus nesciunt, dolorem perspiciatis quos doloribus eaque officia sapiente commodi, exercitationem tempora dignissimos optio.

mx-auto: 水平置中

```html
<div class="row">
  <div class="col-sm-3 mx-auto">
    <div class="box">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores</p>
    </div>
  </div>
</div>
```

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores

利用justify-content-end 讓物件靠右排版，再利用 ml-auto將左邊物件推到最前方

```html
<div class="row justify-content-end">
  <div class="col-sm-3">
    <div class="box">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores</p>
    </div>
  </div>
  <div class="col-sm-3 ml-auto">
    <div class="box">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores</p>
    </div>
  </div>
  <div class="col-sm-3">
    <div class="box">
      <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores</p>
    </div>
  </div>
</div>
```
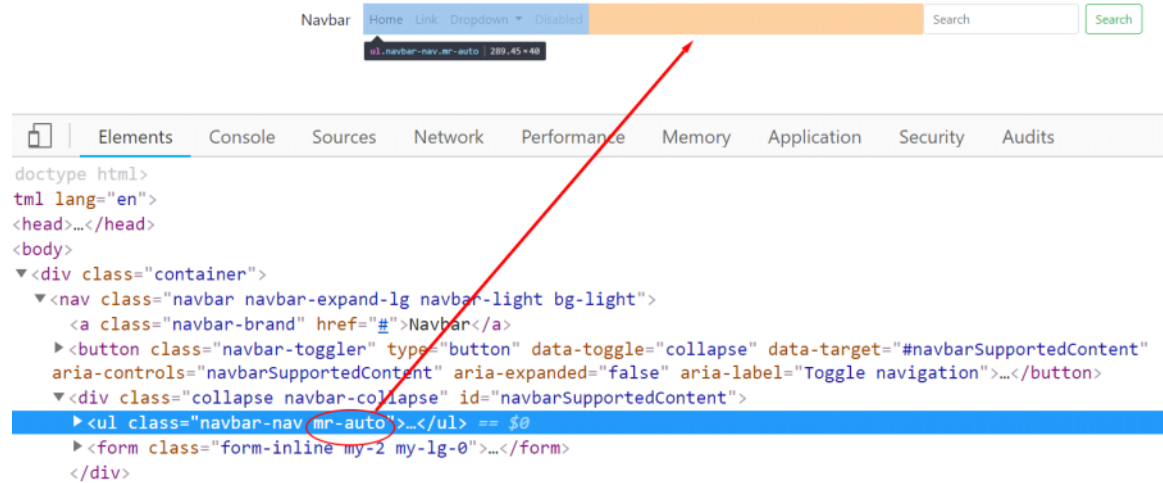
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores
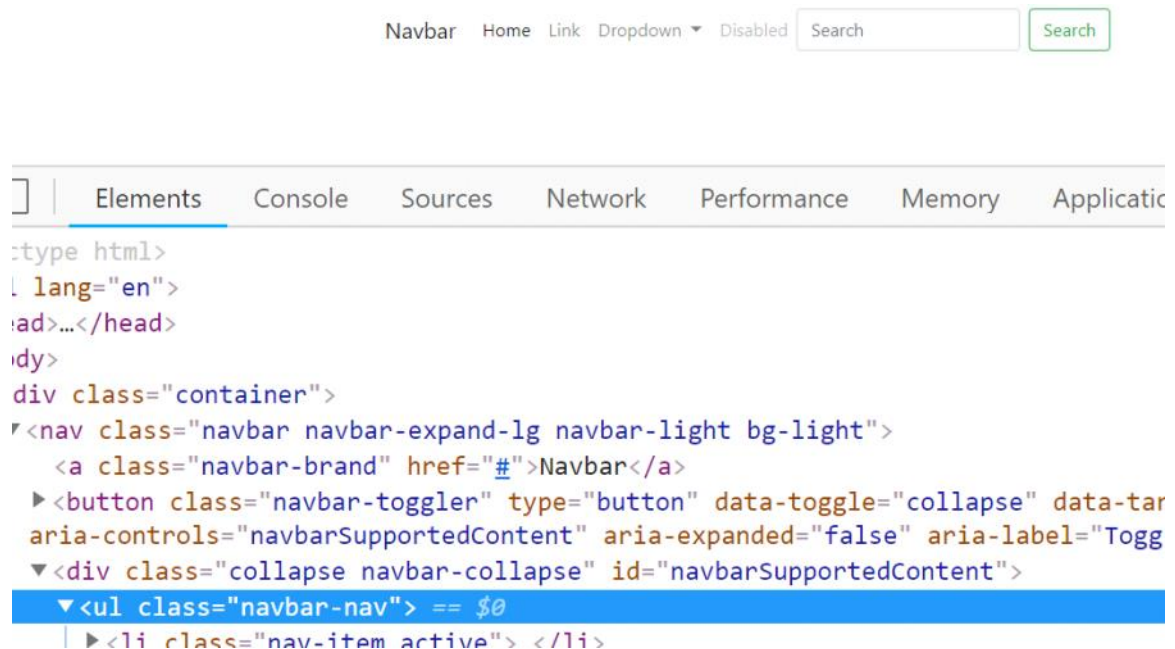
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Consectetur rerum asperiores

以navbar為例 可以觀察出他也是利用mr-auto的功能將右邊的欄位推到最右邊

Navbar   Home Link Dropdown ▾ Disabled   Search   Search

ul.navbar-nav.mr-auto | 289.45 × 40

| Elements | Console | Sources | Network | Performance | Memory | Application | Security | Audits |

```
doctype html>
tml lang="en">
<head>…</head>
<body>
▼<div class="container">
  ▼<nav class="navbar navbar-expand-lg navbar-light bg-light">
    <a class="navbar-brand" href="#">Navbar</a>
    ▶<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent"
    aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">…</button>
    ▼<div class="collapse navbar-collapse" id="navbarSupportedContent">
      ▶<ul class="navbar-nav mr-auto">…</ul> == $0
      ▶<form class="form-inline my-2 my-lg-0">…</form>
    </div>
```

刪除mr-auto 後右邊單位即向左邊靠齊了

Navbar   Home Link Dropdown ▾ Disabled   Search   Search

| Elements | Console | Sources | Network | Performance | Memory | Applicatio |

```
:type html>
l lang="en">
ad>…</head>
dy>
div class="container">
▼<nav class="navbar navbar-expand-lg navbar-light bg-light">
   <a class="navbar-brand" href="#">Navbar</a>
 ▶<button class="navbar-toggler" type="button" data-toggle="collapse" data-tar
 aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Togg
  ▼<div class="collapse navbar-collapse" id="navbarSupportedContent">
    ▼<ul class="navbar-nav"> == $0
      ▶<li class="nav-item active"> </li>
```

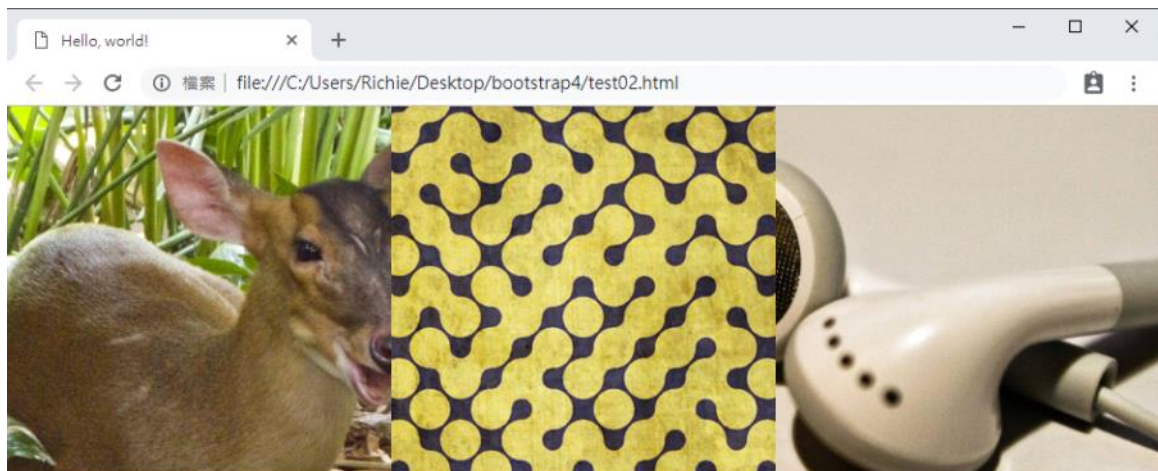# 練習1 圖片排版

```
<style>
    .box{
        height: 300px;
        background-color: #ccc;
    }
    .bg-cover{
        -webkit-background-size: cover;
        background-size: cover;
        background-position: center center;
    }
</style>
/head>
body>
<div class="container-fluid">
    <div class="row">
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img01.jpg)"></div>
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img02.jpg)"></div>
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img03.jpg)"></div>
    </div>
</div>
```
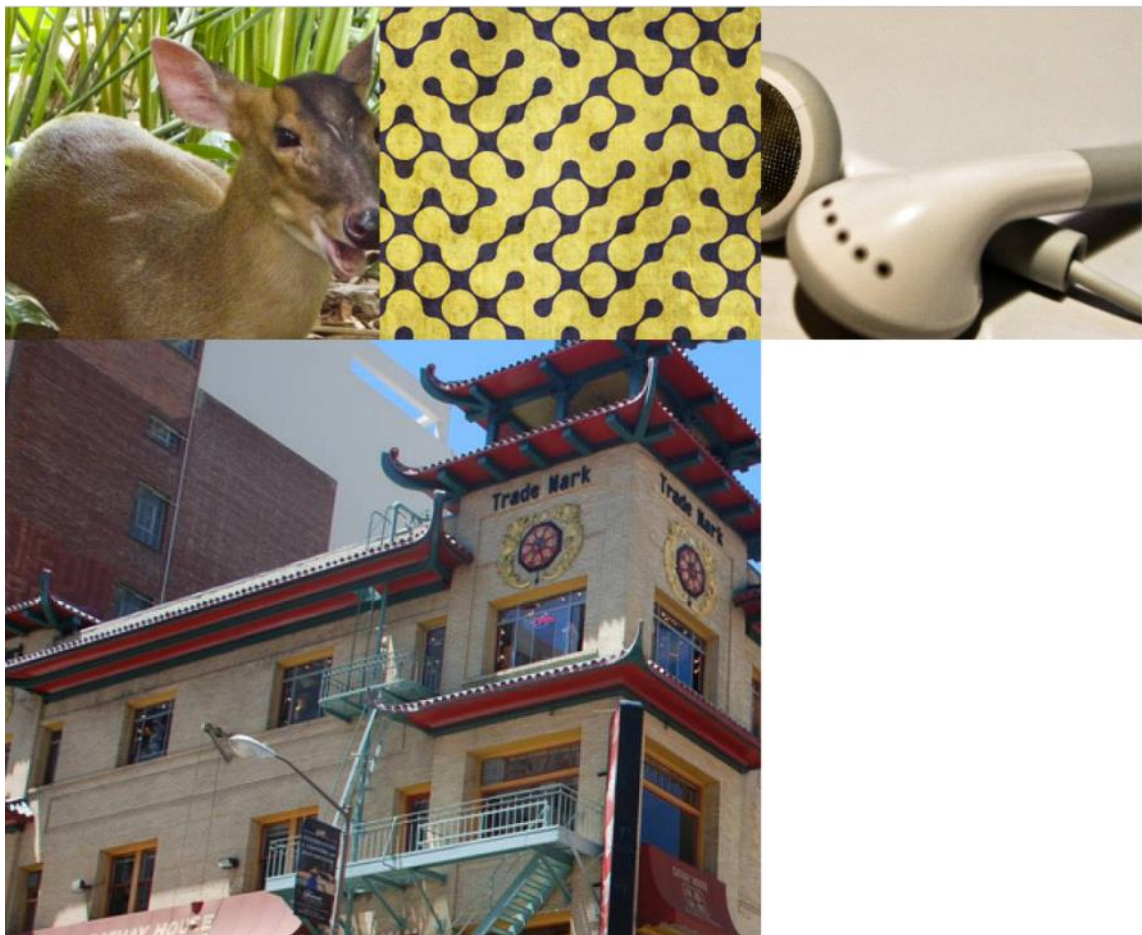

100vh : 裝置高度100%

```
<div class="container-fluid">
    <div class="row">
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img01.jpg)"></div>
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img02.jpg)"></div>
        <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img03.jpg)"></div>
    </div>
    <div class="row" style="height:100vh">
        <div class="col-sm-8" style="background-image: url(./img/img04.jpg)"></div>
        <div class="col-sm-4"></div>
    </div>
</div>
```

此處無法出線的原因為 h-50 為高度50% 但沒有比較基準 必須在外圍再加上h-100

```html
<div class="container-fluid">
  <div class="row">
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img01.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img02.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img03.jpg)"></div>
  </div>
  <div class="row" style="height:100vh">
    <div class="col-sm-8" style="background-image: url(./img/img04.jpg)"></div>
    <div class="col-sm-4">
      <div class="d-flex flex-column">
        <div class="h-50" style="background-image: url(./img/img05.jpg)"></div>
        <div class="h-50" style="background-image: url(./img/img06.jpg)"></div>
      </div>
    </div>
  </div>
</div>
```
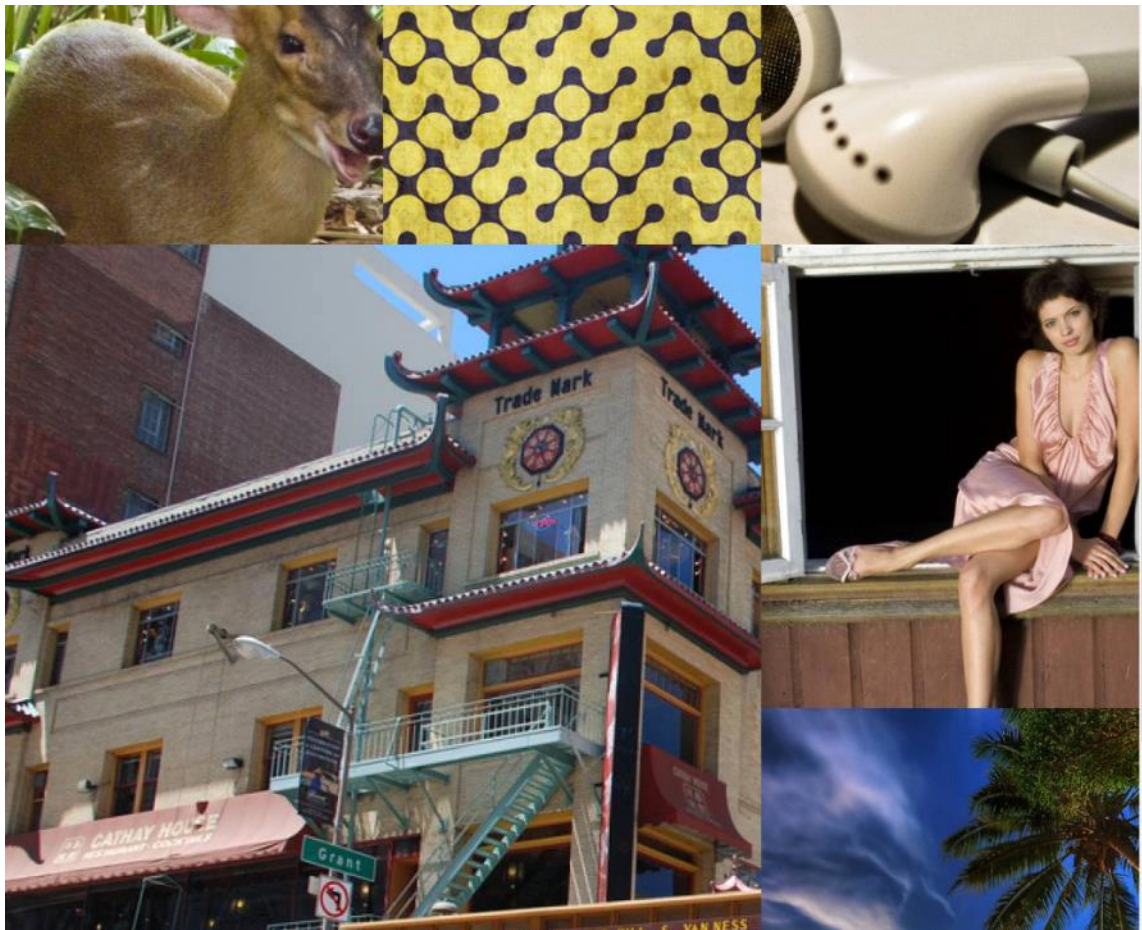
```
<div class="container-fluid">
  <div class="row">
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img01.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img02.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img03.jpg)"></div>
  </div>
  <div class="row" style="height:100vh">
    <div class="col-sm-8" style="background-image: url(./img/img04.jpg)"></div>
    <div class="col-sm-4">
      <div class="d-flex flex-column h-100">
        <div class="h-50 bg-cover" style="background-image: url(./img/img05.jpg)"></div>
        <div class="h-50 bg-cover" style="background-image: url(./img/img06.jpg)"></div>
      </div>
    </div>
  </div>
</div>
```

再加上row取消白邊間隔

```html
<div class="container-fluid">
  <div class="row">
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img01.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img02.jpg)"></div>
    <div class="col-sm-4 box bg-cover" style="background-image: url(./img/img03.jpg)"></div>
  </div>
  <div class="row" style="height:100vh">
    <div class="col-sm-8" style="background-image: url(./img/img04.jpg)"></div>
    <div class="col-sm-4">
      <div class="row d-flex flex-column h-100">
        <div class="h-50 bg-cover" style="background-image: url(./img/img05.jpg)"></div>
        <div class="h-50 bg-cover" style="background-image: url(./img/img06.jpg)"></div>
      </div>
    </div>
  </div>
</div>
```

練習2 時間軸圖片排版

```css
.box{
    height: 180px;
    background-color: #ccc;
    background-image: url(img/img05.jpg);
    -webkit-background-size: cover;
    background-size: cover;
    background-position: center center;
}
```
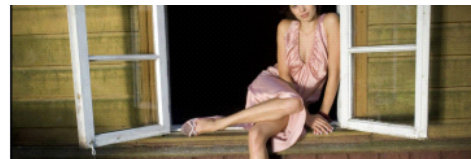
利用flex-row-reverse 來對調順序

```html
<div class="row">
    <div class="col-sm-6">
        <h3>這是一個標題</h3>
        <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus
        laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla </
        <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus
        laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla </
    </div>
    <div class="col-sm-6">
        <div class="box"></div>
    </div>
</div>
<div class="row flex-sm-row-reverse">
    <div class="col-sm-6">
        <h3>這是一個標題</h3>
        <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus
        laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla </
        <p>Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus
        laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla </
    </div>
    <div class="col-sm-6">
        <div class="box"></div>
    </div>
</div>
```
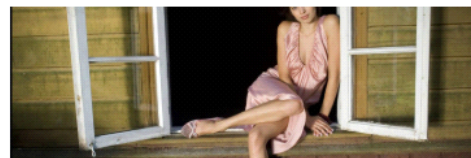
這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla
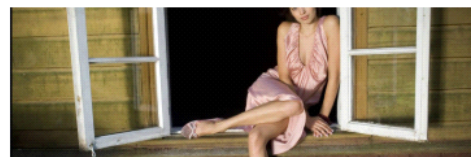
Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

```css
.timeline-section {
  position: relative;
}
.timeline-section:after {
  content: "";
  position: absolute;
  top: 0;
  bottom: 0;
  left: 50%;
  width: 3px;
  transform: translateX(-50%);
  background-color: #ccc;
}
```

transform: translateX(-50%); 向右橫向移動本身寬度 50% 的距離

```html
<div class="container">
  <div class="timeline-section">
    <div class="row">▣
    </div>
    <div class="row flex-sm-row-reverse">▣
    </div>
    <div class="row">▣
    </div>
    <div class="row flex-sm-row-reverse">▣
    </div>
    <div class="row">▣
    </div>
    <div class="row flex-sm-row-reverse">▣
    </div>
  </div>
</div>
```

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

```css
.timeline-pointer {
  position: relative;
}
.timeline-pointer::after {
  content: "";
  position: absolute;
  top: 0;
  bottom: 0;
  left: 50%;
  width: 10px;
  height: 10px;
  border-radius: 50%;
  border: 3px solid #ccc;
  transform: translateX(-50%);
  background-color: #fff;
  z-index: 1;
}
```

```
<div class="container">
  <div class="timeline-section">
    <div class="row timeline-pointer">…
    </div>
    <div class="row flex-sm-row-reverse timeline-pointer">…
    </div>
    <div class="row timeline-pointer">…
    </div>
    <div class="row flex-sm-row-reverse timeline-pointer">…
    </div>
    <div class="row timeline-pointer">…
    </div>
    <div class="row flex-sm-row-reverse timeline-pointer">…
    </div>
  </div>
</div>
```

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

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Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

```
@media (max-width: 576px) {
    .timeline-section:after,
    .timeline-pointer::after {
      display: none;
    }
}
```

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Nihil ducimus laudantium sint laborum rerum harum fuga amet fugit quibusdam sapiente nulla

這是一個標題

Lorem ipsum dolor sit amet, consectetur adipisicing elit.