

# Software Studio

## 軟體設計與實驗

# Personal Website

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# Layout

- **What are we going to do?**
- **TODO**
  - Starting up
  - Bootstrap Components
  - Photo Gallery – Grid
  - YouTube <iframe> – Media Query
- **Grading Policy**



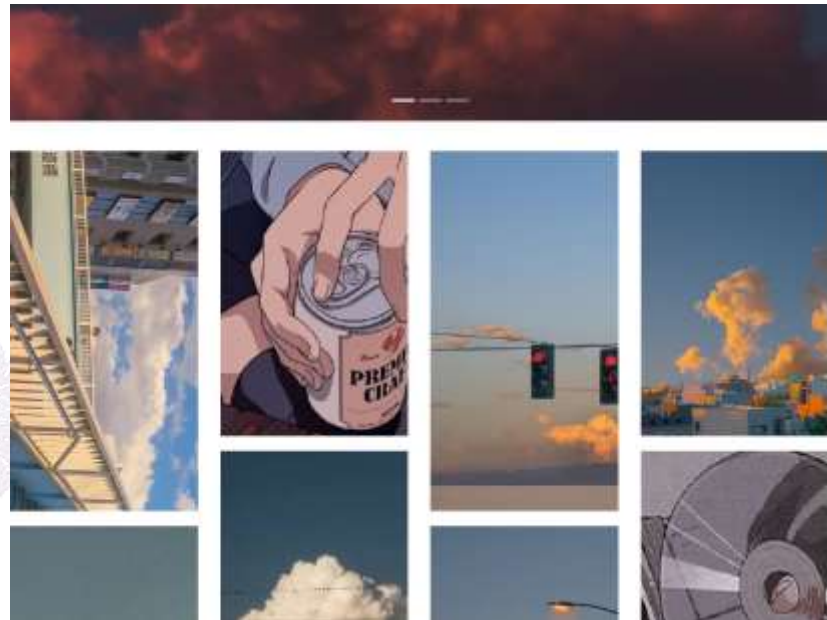
# What are we going to do?

- Make a website from scratch
- Make a **responsive website** (RWD)
- Use **Bootstrap components**



# What are we going to do?

- Checkout the Website!
- <https://lab03-demo-allen109061101-8a4420dbfa5efc530cfcfc822a2ec2b1f4f7d.gitlab.io/>



# Goal

- Add 3 Bootstrap components
- Add a photo gallery
- Add YouTube <iframe>

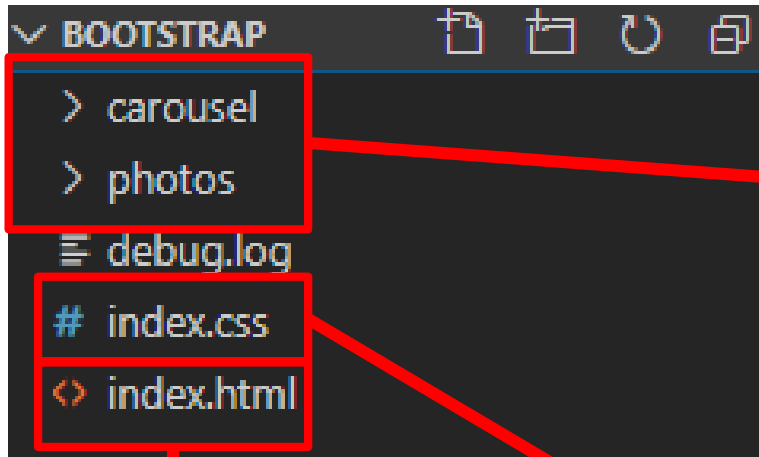


# Layout

- What are we going to do?
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# Starting up - Files



```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8" />
    <title>SS-Lab03</title>
    <link rel="stylesheet" href="../index.css" />
  </head>
  <body>
    Visible content
  </body>
</html>
```

Link the css file to your html file

```
.classA {
  width: 100%;
  overflow: hidden;
  height: 380px;
}

.classB {
  width: 100%;
  overflow: hidden;
  height: 480px;
}
```



# Starting up - CSS Class & Id

ex.html

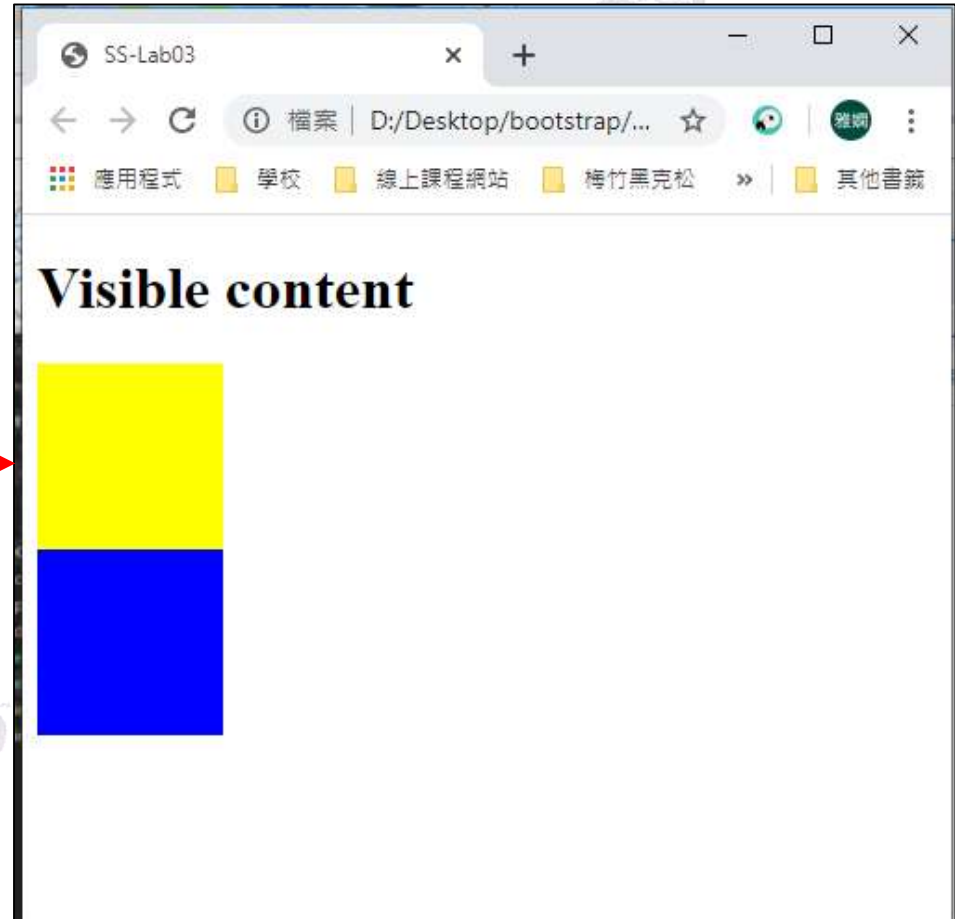
```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8" />
    <title>SS-Lab03</title>
    <link rel="stylesheet" href="./ex.css" />
  </head>
  <body>
    <h1>Visible content</h1>
    <div id="yellow-id"></div>
    <div class="blue-class"></div>
  </body>
</html>
```

ex.CSS

```
#yellow-id {
  width: 100px;
  height: 100px;
  background-color: yellow;
}

.blue-class {
  width: 100px;
  height: 100px;
  background-color: blue;
}
```

#id-name  
.class-name





# Starting up -The <div> Element

- A **<div> element** is important to website layouts
- **<div> is often used with CSS style**
  - When used with CSS, the <div> element can be used to style blocks of content

```
I am a master  
student at the  
Department of  
Computer Science,  
National Tsing Hua  
University (NTHU)  
and also working in  
CGVLab.
```



# Layout

- What are we going to do?
- TODO
  - Starting up
  - **Bootstrap Components**
  - Photo Gallery – Grid
  - YouTube <iframe> – Media Query
- Grading Policy



# Bootstrap Component

- Fork Bootstrap starter template from TA's repo!

```
<> starter.html > html
1  <!doctype html>
2  <html lang="en">
3    <head>
4      <!-- Required meta tags -->
5      <meta charset="utf-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
7
8      <!-- Bootstrap CSS -->
9      <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css" integrity="sha384-vkSczlXcKhqLk2N+tIUwaAQ9fN+D7KxrDzV+f/OqBpVRLDX85Ohnjkrx15JNV9gwhTX79Q7aPodg9OA38" crossorigin="anonymous">
10
11    <title>Hello, world!</title>
12  </head>
13  <body>
14    <h1>Hello, world!</h1>
15
16    <!-- Optional JavaScript -->
17    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
18    <script src="https://code.jquery.com/jquery-3.4.1.slim.min.js" integrity="sha384-J6qa4849blE2+ph5n0+9/2A6e9D1Se8s1WdNv1hgOA8lkGPA6821T8Spp2k1R7LY" crossorigin="anonymous"></script>
19    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-IaSoJiaShr86KOQ0kHytQvB2RUw6KtYdr0U7T1gPoc9K-ScgtSNNJEAshF2PDH8E2SgP" crossorigin="anonymous"></script>
20    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js" integrity="sha384-Xp9b8+k/rQKwpR9C9o26G7J+VnwniupPUCeIjZAhLW9OMgFT793YUMqIDaG+X8s" crossorigin="anonymous"></script>
21  </body>
22 </html>
```

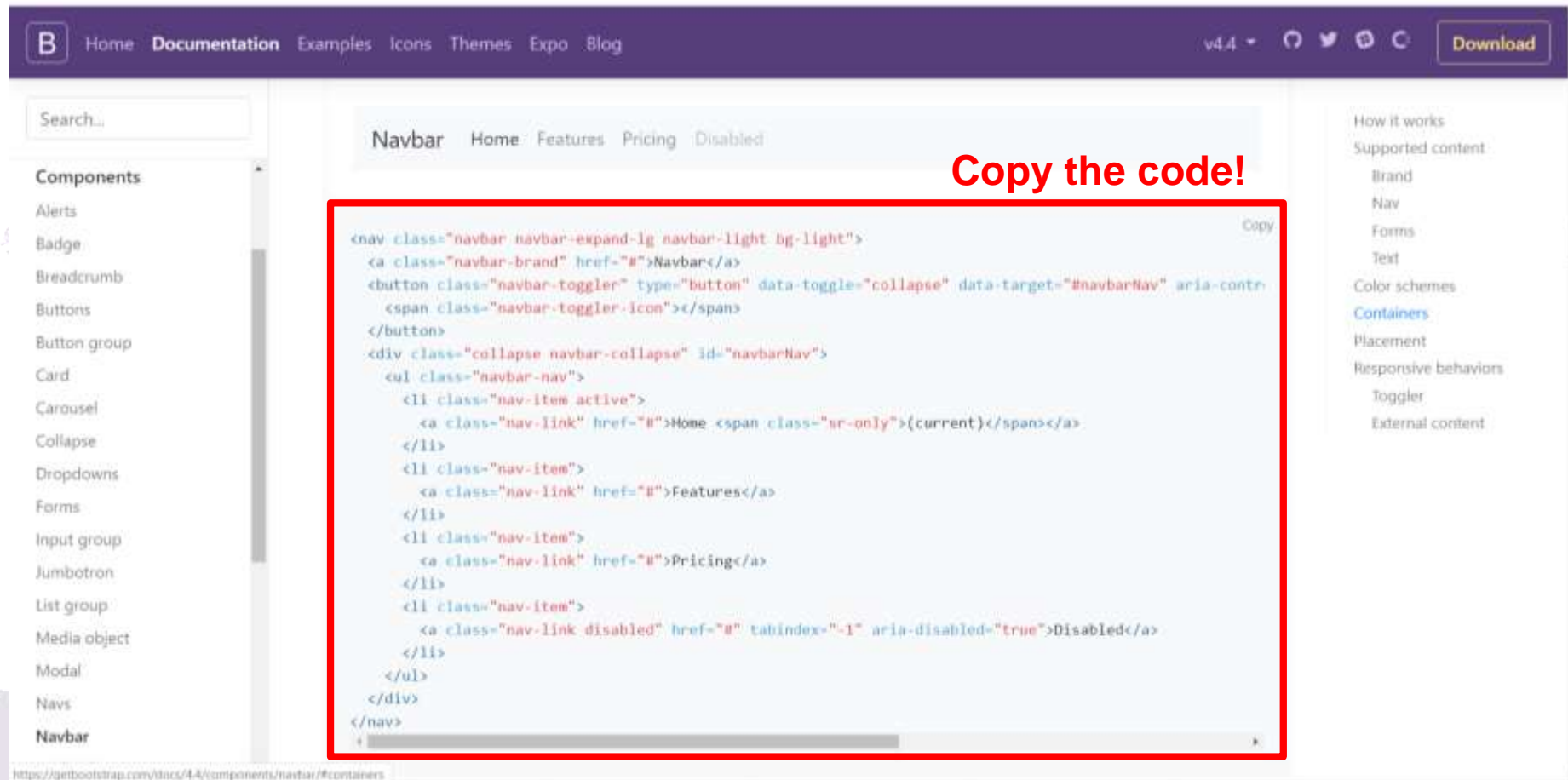
# Bootstrap Component

- Let's start building our website!
- **Bootstrap** is an extremely popular front-end framework for building **responsive website**, providing us with a bunch of **front-end components**.
- Let us try adding a **navbar** to our website.



# Bootstrap Component

- [Bootstrap Documentation - navbar](#)



Search...

Home Documentation Examples Icons Themes Expo Blog

v4.4

Download

Navbar Home Features Pricing Disabled

**Copy the code!**

```
<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="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
  </button>
  <div class="collapse navbar-collapse" id="navbarNav">
    <ul class="navbar-nav">
      <li class="nav-item active">
        <a class="nav-link" href="#">Home <span class="sr-only">(current)</span></a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Features</a>
      </li>
      <li class="nav-item">
        <a class="nav-link" href="#">Pricing</a>
      </li>
      <li class="nav-item">
        <a class="nav-link disabled" href="#" tabindex="-1" aria-disabled="true">Disabled</a>
      </li>
    </ul>
  </div>
</nav>
```

Components

- Alerts
- Badge
- Breadcrumb
- Buttons
- Button group
- Card
- Carousel
- Collapse
- Dropdowns
- Forms
- Input group
- Jumbotron
- List group
- Media object
- Modal
- Navs
- Navbar

How it works

- Supported content
  - Brand
  - Nav
  - Forms
  - Text
- Color schemes
- Containers
  - Placement
- Responsive behaviors
  - Toggler
- External content

<https://getbootstrap.com/docs/4.4/components/navbar/#containers>


# Bootstrap Component

**Paste the code**

```
<title>Hello, world!</title>
</head>
<body>
  <h1>Hello, world!</h1>

  <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="#navbarNavAltMarkup"
      aria-controls="navbarNavAltMarkup"
      aria-expanded="false"
      aria-label="Toggle navigation"
    >
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNavAltMarkup">
      <div class="navbar-nav">
        <a class="nav-item nav-link active" href="#">
          Home <span class="sr-only">(current)</span></a>
        <a class="nav-item nav-link" href="#">Features</a>
        <a class="nav-item nav-link" href="#">Pricing</a>
        <a
          class="nav-item nav-link disabled"
          href="#"
          tabindex="-1"
          aria-disabled="true"
        >
          Disabled</a>
      </div>
    </div>
  </nav>
```

**Navbar is added!**



# Bootstrap Component

- Choose **3 Bootstrap components from below** and add them to your website!
- Button
- Card
- Carousel
- Media object
- Modal
- Dropdown
- Jumbotron
- Collapse





# Bootstrap Component

- Modify the components to fit your website!
- You can:
  - Change the **style** of the component (different size, font, color, etc.)
  - Change the **href** attribute (point to another website, or another element in the same page)
  - Change the **options** attributes shown in the Bootstrap documentation (ex: “data-interval” for Carousels)
- **No points if you only change the text content.**
- **Make it obvious!**





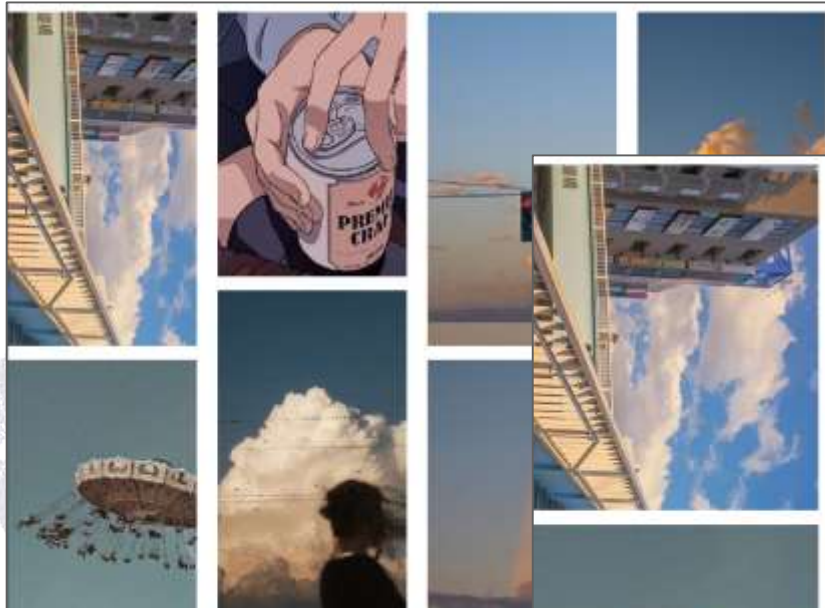
# Layout

- What are we going to do?
- TODO
  - Starting up
  - Bootstrap Components
  - **Photo Gallery – Grid**
  - YouTube <iframe> – Media Query
- Grading Policy

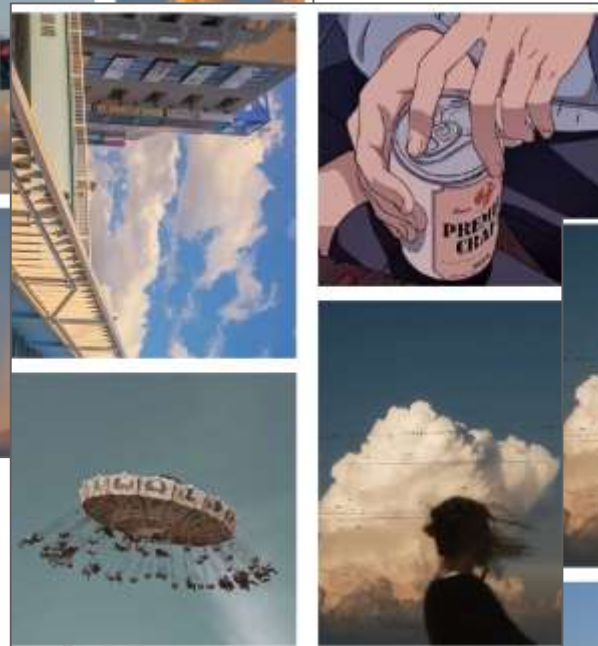


# Photo Gallery – Grid

width: 1200px



width: 900px

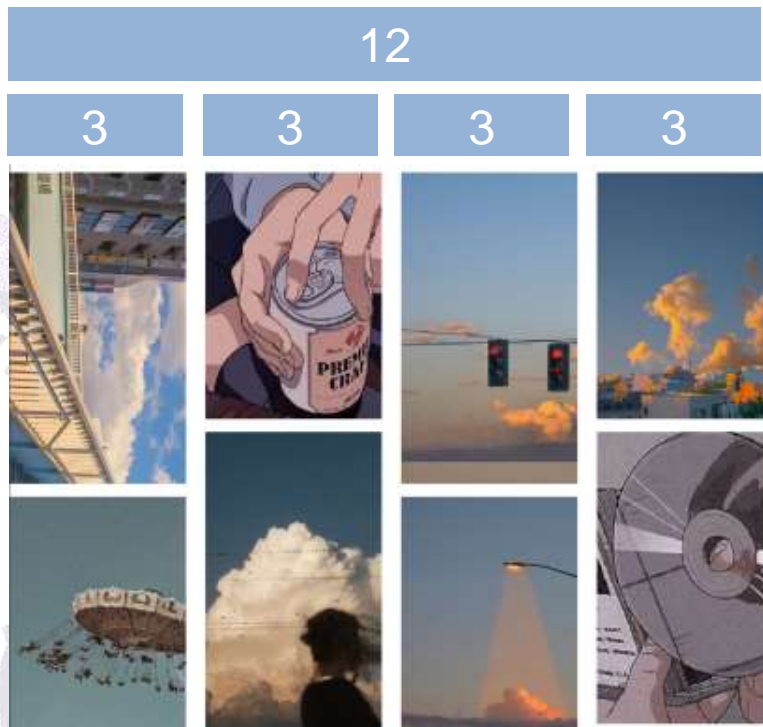


width: 650px



# Photo Gallery – Grid

- Divide the page into columns with **Grid**.



`col-lg-3`

When the screen is 'large', we divide the gallery into 4 columns.



# Photo Gallery – Grid

- Divide a `<div>` into four columns.

Index.html

Bootstrap class

```
<!-- Photo gallery -->
<div class="row" id="photo-gallery">
  <div class="col-lg-3 photo-column"></div>
  <div class="col-lg-3 photo-column"></div>
  <div class="col-lg-3 photo-column"></div>
  <div class="col-lg-3 photo-column"></div>
</div>
```

Index.css

```
.photo-column {
  background-color: sienna;
  height: 900px;
}

#photo-gallery {
  background-color: bisque;
  height: 900px;
}
```



# Photo Gallery – Grid

- Divide each columns to 2 parts.

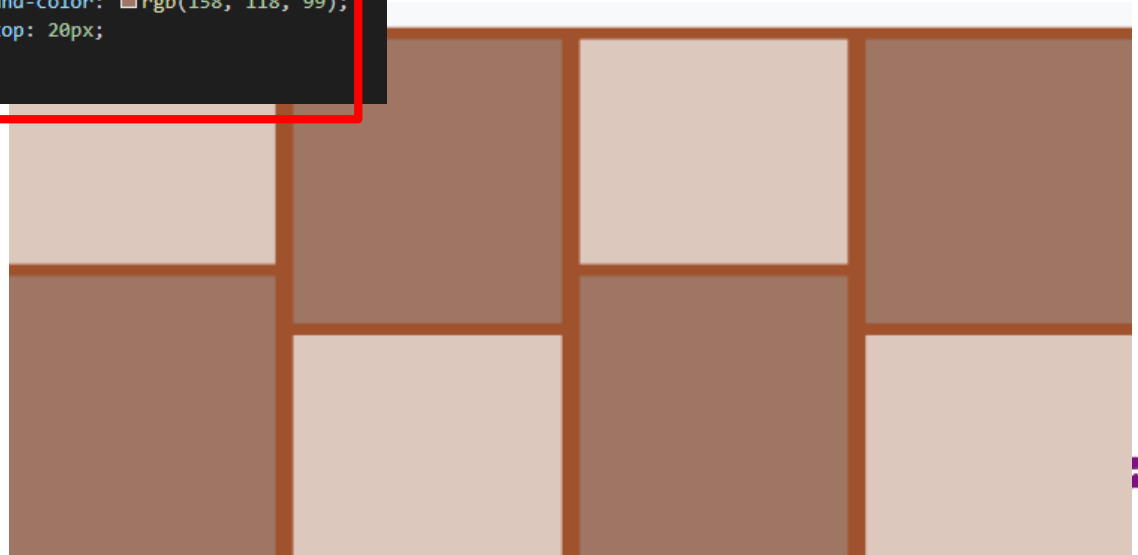
Index.html

```
<div class="row" id="photo-gallery">
  <div class="col-lg-3 photo-column">
    <div class="photo-sm"></div>
    <div class="photo-big"></div>
  </div>
  <div class="col-lg-3 photo-column">
    <div class="photo-big"></div>
    <div class="photo-sm"></div>
  </div>
  <div class="col-lg-3 photo-column">
    <div class="photo-sm"></div>
    <div class="photo-big"></div>
  </div>
  <div class="col-lg-3 photo-column">
    <div class="photo-big"></div>
    <div class="photo-sm"></div>
  </div>
</div>
```

Index.css

```
.photo-sm {
  width: 100%;
  height: 380px;
  background-color: #d3d3d3;
  margin-top: 20px;
}

.photo-big {
  width: 100%;
  height: 480px;
  background-color: #f5f5dc;
  margin-top: 20px;
}
```



# Photo Gallery – Grid

- Add an image.

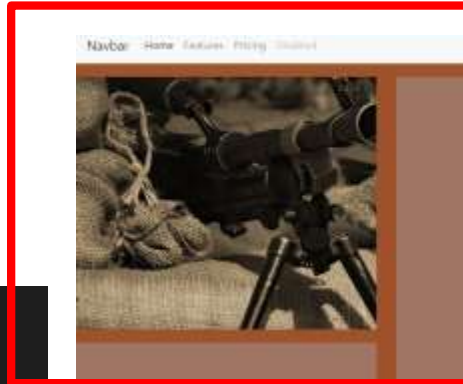
Index.html

```
<div class="row" id="photo-gallery">
  <div class="col-lg-3 photo-column">
    <div class="photo-sm">
      
    </div>
    <div class="photo-big"></div>
  </div>
```

Index.css

```
.photo-sm {
  width: 100%;
  height: 380px;
  background-color: rgb(221, 200, 190);
  margin-top: 20px;
  overflow: hidden;
}

.photo-big {
  width: 100%;
  height: 480px;
  background-color: rgb(158, 118, 99);
  margin-top: 20px;
  overflow: hidden;
}
```



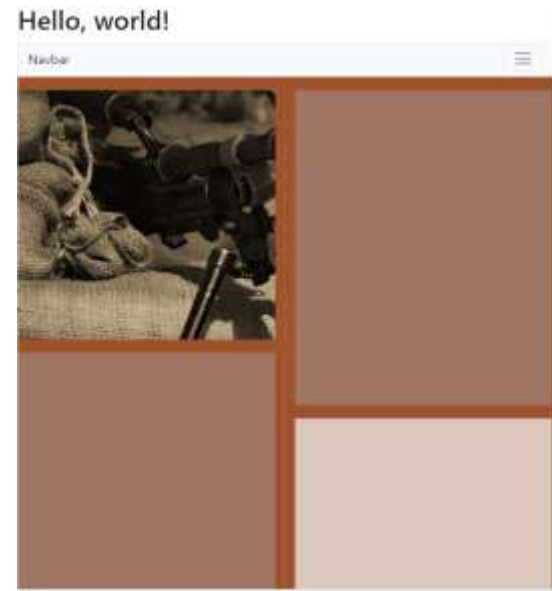
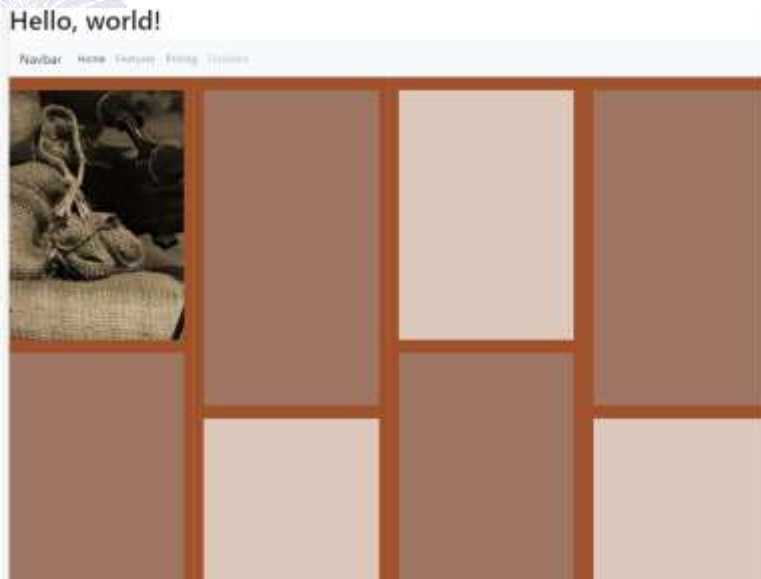
If not added, the photo will overflow the border





# Photo Gallery – Grid

- The gallery becomes **single-columned** if the screen width is smaller than 911px(large screen size).
- Can we make it **2-columned**?



# Photo Gallery – Grid

- Add col-md-6 and col-sm-12

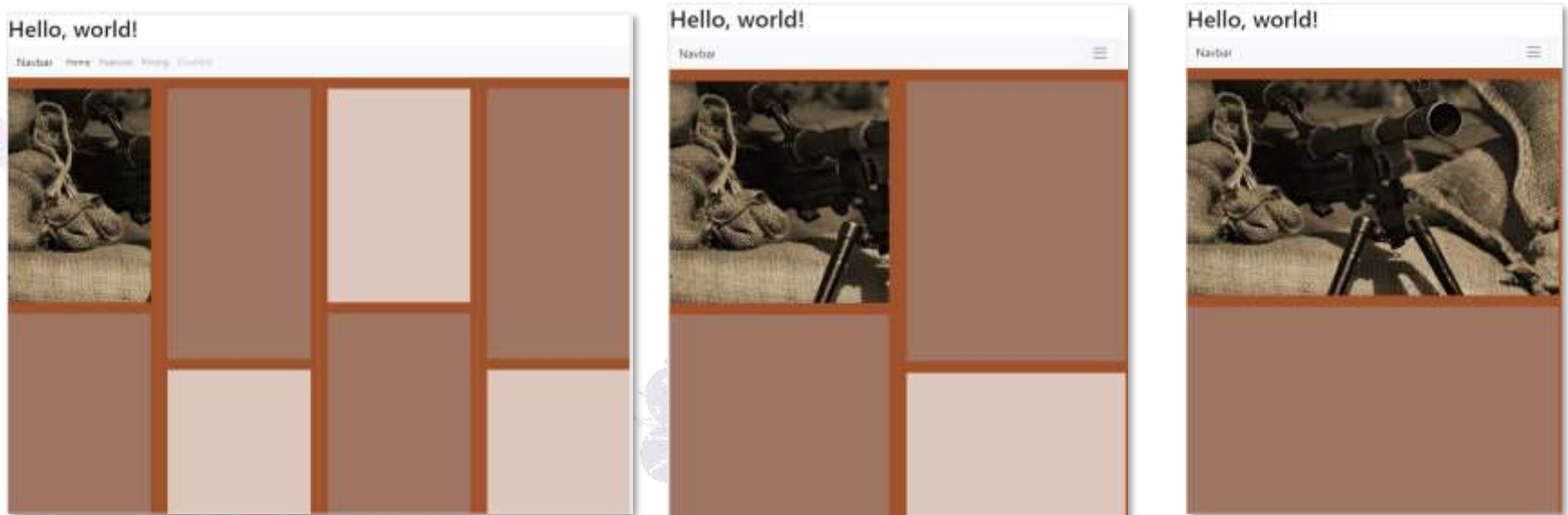
```
<div class="row" id="photo-gallery">
  <div class="col-lg-3 col-md-6 col-sm-12 photo-column">
    <div class="photo-sm">
      
    </div>
    <div class="photo-big"></div>
  </div>
  <div class="col-lg-3 col-md-6 col-sm-12 photo-column">
    <div class="photo-big"></div>
    <div class="photo-sm"></div>
  </div>
  <div class="col-lg-3 col-md-6 col-sm-12 photo-column">
    <div class="photo-sm"></div>
    <div class="photo-big"></div>
  </div>
  <div class="col-lg-3 col-md-6 col-sm-12 photo-column">
    <div class="photo-big"></div>
    <div class="photo-sm"></div>
  </div>
</div>
```





# Photo Gallery - Grid

- Now we get a responsive webpage!



# Photo Gallery - Grid

- Also, it is strongly recommended to learn **Flex system**, which is another layout system.

- Flexbox Froggy:
- <https://flexboxfroggy.com/>



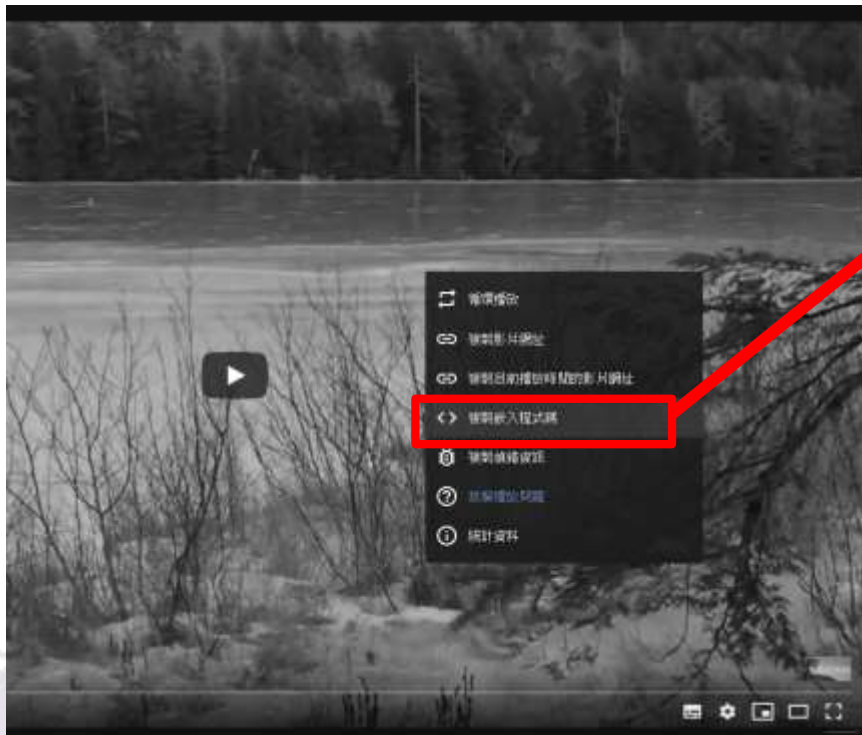
# Layout

- What are we going to do?
- TODO
  - Starting up
  - Bootstrap Components
  - Photo Gallery – Grid
  - **YouTube <iframe> – Media Query**
- Grading Policy

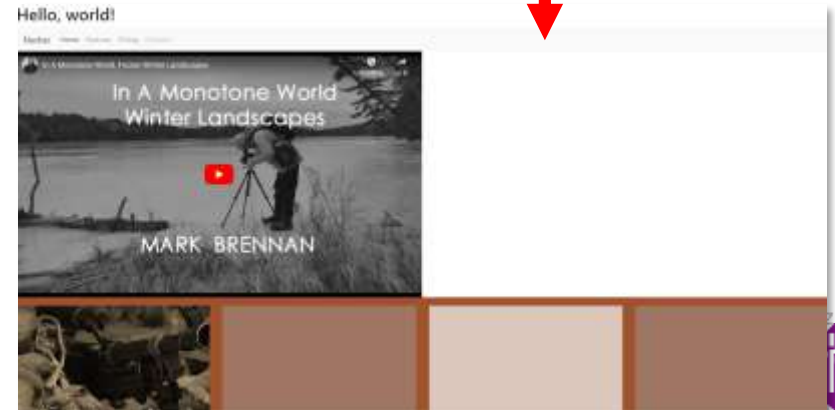


# YouTube <iframe> – Media Query

- Adding a **YouTube video** to our webpage is extremely easy!

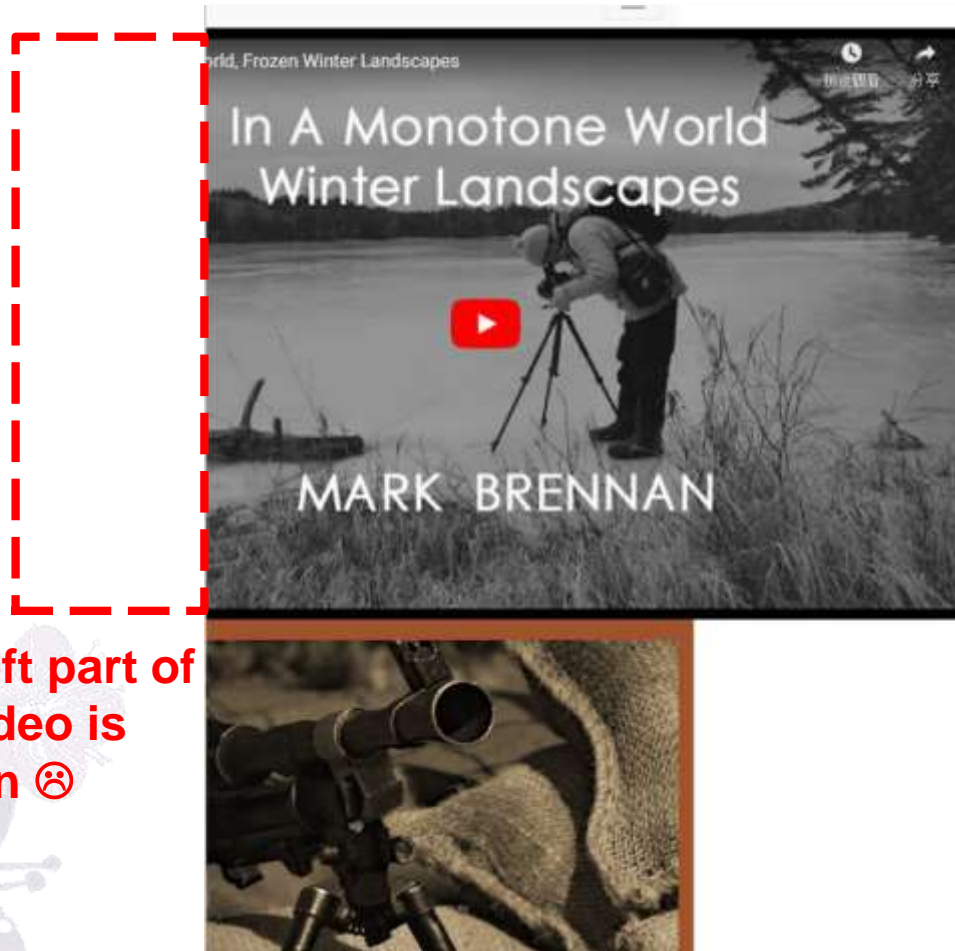


```
<!-- Video -->
<iframe
  width="1280"
  height="720"
  src="https://www.youtube.com/embed/n3FYoh-dsMQ"
  frameborder="0"
  allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture"
  allowfullscreen>
</iframe>
```



# YouTube <iframe> – Media Query

- But how do we make it **responsive**?



The left part of  
the video is  
hidden ☹️



# YouTube <iframe> – Media Query

- But how do we make it **responsive**?

Index.html

```
<!-- Video -->
<iframe
  class="video"
  src= https://www.youtube.com/embed/n3FYoh-dsMQ"
  frameborder="0"
  allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture"
  allowfullscreen
</iframe>
```

Remove 'width' & 'height', add 'class'

Index.css

```
@media (min-width: 575.98px) {
  .video {
    margin-top: 20px;
    width: 100%;
    height: 400px;
  }
}

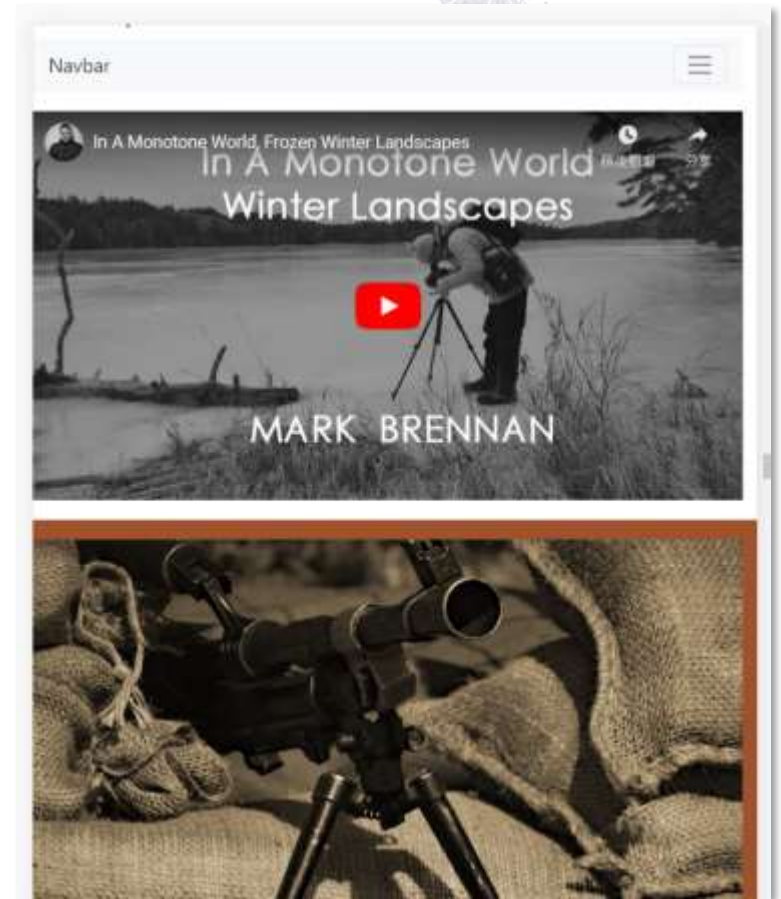
@media (min-width: 767.98px) {
  .video {
    margin-top: 20px;
    width: 100%;
    height: 600px;
  }
}

@media (min-width: 991.98px) {
  .video {
    margin-top: 20px;
    width: 100%;
    height: 800px;
  }
}
```



# YouTube <iframe> – Media Query

- Now it works perfectly!
- Try to add a responsive YouTube video to your page!



# Layout

- What are we going to do?
- TODO
  - Starting up
  - Bootstrap Components
  - Photo Gallery – Grid
  - YouTube <iframe> – Media Query
- **Grading Policy**





# Grading Policy

- 4 Bootstrap Components
    - Customize components
  - Photo Gallery
    - At least one photo
    - Basic Layout
    - RWD Layout (3 layouts)
  - YouTube <iframe>
    - <iframe>
    - Responsive with media query
- 5% x4  
5% x4  
5%  
20%  
5%  
5%  
25%



# Notice

- If you damage TA's repo, you will be **-10** points.
- Please **fork** the repo before syncing any changes.



# Bootstrap Components

- Button
- Card
- Carousel
- Media object
- Modal
- Dropdown
- Jumbotron
- Collapse

