Objectives

◇ In this session, you will learn to:

◆ Introduction to Bootstrap

◆ Elements in Bootstrap

◆ Applying Bootstrap in website

What is Bootstrap?

- Bootstrap is a free front-end framework for faster and easier web development

- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins

- Bootstrap also gives you the ability to easily create responsive designs

- Responsive web design
  - Process that creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

Why Use Bootstrap ?

- Advantages of Bootstrap:
  - ❖ **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap
  - ❖ **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops
  - ❖ **Mobile-first approach:** In Bootstrap 3, mobile-first styles are part of the core framework
  - ❖ **Browser compatibility:** Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera)

Where to Get Bootstrap ?

- There are two ways to start using Bootstrap on your own web site.
  - ❖ Include Bootstrap from a CDN
    - ❖ If you don't want to download and host Bootstrap 4 yourself, you can include it from a CDN (Content Delivery Network).

```
<!-- Latest compiled and minified CSS -->
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">

<!-- jQuery library -->
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>

<!-- Latest compiled JavaScript -->
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
```

  - ❖ Download Bootstrap from getbootstrap.com

■ Add the HTML5 doctype

- ❖ Bootstrap uses HTML elements and CSS properties that require the HTML5 doctype.

- ❖ Always include the HTML5 doctype at the beginning of the page, along with the lang attribute and the correct character set

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
  </head>
</html>
```

Create First Web Page With Bootstrap

- **Bootstrap is mobile-first**
  - ❖ Bootstrap is designed to be responsive to mobile devices. Mobile-first styles are part of the core framework.
  - ❖ To ensure proper rendering and touch zooming, add the following <meta> tag inside the <head> element.

```html
<meta name="viewport" content="width=device-width, initial-scale=1">
```

  - ❖ The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).
  - ❖ The initial-scale=1 part sets the initial zoom level when the page is first loaded by the browser.

- **Containers**
  - ❖ Bootstrap also requires a containing element to wrap site contents.
  - ❖ There are two container classes to choose from:
    - ❖ The .container class provides a responsive **fixed width container**
    - ❖ The .container-fluid class provides a **full width container**, spanning the entire width of the viewport

.container

.container-fluid

Demo

Example of container-fluid:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container-fluid">
  <h1>My First Bootstrap Page</h1>
  <p>This is some text.</p>
</div>

</body>
</html>
```

Demo

Example of container:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container">
  <h1>My First Bootstrap Page</h1>
  <p>This is some text.</p>
</div>

</body>
</html>
```

Bootstrap Grid System

- Bootstrap's grid system allows up to 12 columns across the page.

- If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

- Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.

Bootstrap Grid System

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1

span 4	span 4	span 4

span 4	span 8

span 6	span 6

span 12

Grid Classes

- The Bootstrap grid system has four classes:
  - ❖ xs (for phones - screens less than 768px wide)
  - ❖ sm (for tablets - screens equal to or greater than 768px wide)
  - ❖ md (for small laptops - screens equal to or greater than 992px wide)
  - ❖ lg (for laptops and desktops - screens equal to or greater than 1200px wide)
- The classes above can be combined to create more dynamic and flexible layouts.

Responsive Columns

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container-fluid">
  <h1>Hello World!</h1>
  <p>Resize the browser window to see the effect.</p>
  <p>The columns will automatically stack on top of each other when the screen is less than 576px wide.</p>
  <div class="row">
    <div class="col-sm-3" style="background-color:lavender;">.col-sm-3</div>
    <div class="col-sm-3" style="background-color:lavenderblush;">.col-sm-3</div>
    <div class="col-sm-3" style="background-color:lavender;">.col-sm-3</div>
    <div class="col-sm-3" style="background-color:lavenderblush;">.col-sm-3</div>
  </div>
</div>
</body>
</html>
```

Responsive Columns

- Output:

Hello World!

Resize the browser window to see the effect.

The columns will automatically stack on top of each other when the screen is less than 576px wide.

| .col-sm-3 | .col-sm-3 | .col-sm-3 | .col-sm-3 |

Two Unequal Responsive Columns

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container-fluid">
  <h1>Hello World!</h1>
  <p>Resize the browser window to see the effect.</p>
  <p>The columns will automatically stack on top of each other when the screen is less than 576px wide.</p>
  <div class="row">
    <div class="col-sm-4" style="background-color:lavender;">.col-sm-4</div>
    <div class="col-sm-8" style="background-color:lavenderblush;">.col-sm-8</div>
  </div>
</div>
</body>
</html>
```

Two Unequal Responsive Columns

- Output:

Hello World!

Resize the browser window to see the effect.

The columns will automatically stack on top of each other when the screen is less than 576px wide.

.col-sm-4   .col-sm-8

Bootstrap Text/Typography

- Bootstrap Default Settings
  - Bootstrap's global default font-size is 14px, with a line-height of 1.428.
  - This is applied to the <body> element and all paragraphs (<p>).
  - In addition, all <p> elements have a bottom margin that equals half their computed line-height (10px by default).

Bootstrap Text/Typography

More Typography Classes

Class	Description
.lead	Makes a paragraph stand out
.small	Indicates smaller text (set to 85% of the size of the parent)
.text-left	Indicates left-aligned text
.text-center	Indicates center-aligned text
.text-right	Indicates right-aligned text
.text-justify	Indicates justified text
.text-nowrap	Indicates no wrap text
.text-lowercase	Indicates lowercased text
.text-uppercase	Indicates uppercased text
.text-capitalize	Indicates capitalized text

Bootstrap Tables

- A basic Bootstrap table has a light padding and only horizontal dividers.

- The .table class adds basic styling to a table.

- The .table-striped class adds zebra-stripes to a table

- The .table-bordered class adds borders on all sides of the table and cells.

- The .table-hover class adds a hover effect (grey background color) on table rows.

- The .table-condensed class makes a table more compact by cutting cell padding in half.

Bootstrap Tables

Example:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container">
  <h2>Striped Rows</h2>
  <p>The .table-striped class adds zebra-stripes to a table:</p>
  <table class="table table-striped">
    <thead>
      <tr>
        <th>Firstname</th>
        <th>Lastname</th>
        <th>Email</th>
      </tr>
    </thead>
```

Bootstrap Tables

Output:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

Bootstrap Images

- The .img-rounded class adds rounded corners to an image (IE8 does not support rounded corners)

- The .img-circle class shapes the image to a circle (IE8 does not support rounded corners)

- The .img-thumbnail class shapes the image to a thumbnail

- Create responsive images by adding an .img-responsive class to the <img> tag. The image will then scale nicely to the parent element.

Bootstrap Images

Example:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
</head>
<body>
<div class="container">
  <img src="cinqueterre.jpg" class="img-circle" alt="Cinque Terre" width="304" height="236">
</div>
</body>
</html>
```

Bootstrap Images

Output:

Bootstrap Buttons

- ## Button Styles
  - ❖ Bootstrap provides different styles of buttons.
  - ❖ To achieve the button styles above, Bootstrap has the following classes:

```html
<button type="button" class="btn">Basic</button>
<button type="button" class="btn btn-default">Default</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-link">Link</button>
```

  - ❖ Output:

Bootstrap Buttons

- ## Button Sizes

  - ❖ Bootstrap provides four button sizes.

    ```
    <button type="button" class="btn btn-primary btn-lg">Large</button>
    <button type="button" class="btn btn-primary btn-md">Medium</button>
    <button type="button" class="btn btn-primary btn-sm">Small</button>
    <button type="button" class="btn btn-primary btn-xs">XSmall</button>
    ```

  - ❖ Output:

Bootstrap Buttons

- ## Block Level Buttons

  - ❖ A block level button spans the entire width of the parent element.

  - ❖ Add class .btn-block to create a block level button.

  ```
  <button type="button" class="btn btn-primary btn-block">Button 1</button>
  ```
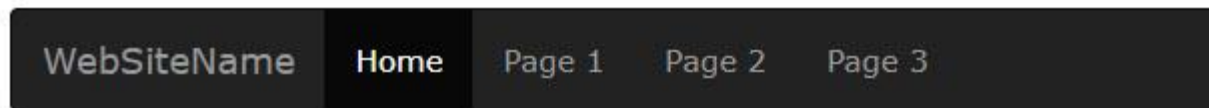
- ## Active/Disabled Buttons

  - ❖ A button can be set to an active (appear pressed) or a disabled (unclickable) state.

  - ❖ The class .active makes a button appear pressed, and the class .disabled makes a button unclickable

  ```
  <button type="button" class="btn btn-primary active">Active Primary</button>
  <button type="button" class="btn btn-primary disabled">Disabled Primary</button>
  ```

Bootstrap Navigation Bar

- A navigation bar is a navigation header that is placed at the top of the page.

- With Bootstrap, a navigation bar can extend or collapse, depending on the screen size.

- A standard navigation bar is created with <nav class="navbar navbar-default">.

- If you don't like the style of the default navigation bar, Bootstrap provides an alternative, black navbar, you can change the .navbar-default class into .navbar-inverse

- The .navbar-right class is used to right-align navigation bar buttons.

Bootstrap Navigation Bar

- To add buttons inside the navbar, add the .navbar-btn class on a Bootstrap button.

- To add form elements inside the navbar, add the .navbar-form class to a form element and add an input(s). Note that we have added a .form-group class to the div container holding the input.

- The .navbar-fixed-top class makes the navigation bar fixed at the top.

- The navigation bar often takes up too much space on a small screen. We should hide the navigation bar; and only show it when it is needed.

Navbar ☰

Bootstrap Navigation Bar

❖ Demo:

```
<nav class="navbar navbar-inverse">
  <div class="container-fluid">
    <div class="navbar-header">
      <a class="navbar-brand" href="#">WebSiteName</a>
    </div>
    <ul class="nav navbar-nav">
      <li class="active"><a href="#">Home</a></li>
      <li><a href="#">Link</a></li>
      <li><a href="#">Link</a></li>
    </ul>
    <button class="btn btn-danger navbar-btn">Button</button>
  </div>
</nav>
```

❖ Output:

Summary

- Introduction to Bootstrap
- Elements in Bootstrap
- Applying Bootstrap in website