INTRODUCTION TO WEB DEVELOPMENT
(BOOTSTRAP & WORDPRESS)

SESSION ONE

Objectives

At the end of this session, the student will be able to:

1. Understand what a framework is and how to install bootstrap.
2. Setting up bootstrap to design a website.
3. Bootstrap Layout/Grid System.

Bootstrap 4

What is a framework?
Broad overview, outline, or skeleton of interlinked items which supports a particular approach to a specific objective, and serves as a guide that can be modified as required by adding or deleting items.

What is a CSS framework?
CSS frameworks provide a basic structure for designing consistent solutions to tackle common recurring issues across front end web development. They provide generic functionality which can be overridden for specific scenarios and applications.

What is Bootstrap CSS framework?
Bootstrap is a free and open-source front-end **framework** for designing websites and web applications. It contains HTML- and **CSS**-based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions.

How to use Bootstrap

How to use Bootstrap

1. Use CDN (Content Delivery Network).
2. Download the source files.

Install Bootstrap

1. Download the source files.
2. Create a folder (bootstrap) on your desktop.
3. Create additional folders(css & js) inside the bootstrap folder.
4. Download jquery file.

Start Working with Bootstrap

1. Copy boiler template and paste it into your index.html
2. Replace the cdn with your local files.

Layout/Grid System

What is Bootstrap Grid System

Bootstrap grid system provides the quick and convenient way to create responsive website layouts. Bootstrap 4 introduces the new mobile-first flexbox grid system that appropriately scales up to 12 columns as the device or viewport size increases. Bootstrap's grid system uses a series of containers, rows, and columns to layout and align content. It's built with flexbox and is fully responsive.

Containers

Containers are the most basic layout element in Bootstrap and are **required when using our default grid system**. Containers are used to contain, pad, and (sometimes) center the content within them. While containers *can* be nested, most layouts do not require a nested container.

Bootstrap comes with two different containers:
.container, which sets a max-width at each responsive breakpoint
.container-fluid, which is width: 100% at all breakpoints

Creating two Column Layouts

The following example will show you how to create two column layouts for medium, large and extra large devices like tables, laptops and desktops etc. first create a container that acts as a wrapper for your rows and columns using the `.container` class, after that create rows inside the container using the `.row` class, and to create columns inside any row you can use the `.col-*`, `.col-sm-*`, `.col-md-*`, `.col-lg-*` and `.col-xl-*` classes.

```
1   <div class="container">
2       <!--Row with two equal columns-->
3       <div class="row">
4           <div class="col-md-6">Column left</div>
5           <div class="col-md-6">Column right</div>
6       </div>
7
8       <!--Row with two columns divided in 1:2 ratio-->
9       <div class="row">
10          <div class="col-md-4">Column left</div>
11          <div class="col-md-8">Column right</div>
12      </div>
13
14      <!--Row with two columns divided in 1:3 ratio-->
15      <div class="row">
16          <div class="col-md-3">Column left</div>
17          <div class="col-md-9">Column right</div>
18      </div>
19  </div>
```

Creating Three Column Layouts

Similarly, you can create other layouts based on the above principle. For instance, the following example will typically create three column layouts for laptops and desktops screens. It also works in tablets in landscape mode if screen resolution is more than or equal to 992 pixels (e.g. Apple iPad).

```html
<div class="container">
    <!--Row with three equal columns-->
    <div class="row">
        <div class="col-lg-4">Column left</div>
        <div class="col-lg-4">Column middle</div>
        <div class="col-lg-4">Column right</div>
    </div>

    <!--Row with three columns divided in 1:4:1 ratio-->
    <div class="row">
        <div class="col-lg-2">Column left</div>
        <div class="col-lg-8">Column middle</div>
        <div class="col-lg-2">Column right</div>
    </div>

    <!--Row with three columns divided unevenly-->
    <div class="row">
        <div class="col-lg-3">Column left</div>
        <div class="col-lg-7">Column middle</div>
        <div class="col-lg-2">Column right</div>
    </div>
</div>
```

Creating Three Column Layouts

Similarly, you can create other layouts based on the above principle. For instance, the following example will typically create three column layouts for laptops and desktops screens. It also works in tablets in landscape mode if screen resolution is more than or equal to 992 pixels (e.g. Apple iPad). However, in portrait mode the grid columns will be horizontal as usual.

```html
1   <div class="container">
2       <!--Row with three equal columns-->
3       <div class="row">
4           <div class="col-lg-4">Column left</div>
5           <div class="col-lg-4">Column middle</div>
6           <div class="col-lg-4">Column right</div>
7       </div>
8
9       <!--Row with three columns divided in 1:4:1 ratio-->
10      <div class="row">
11          <div class="col-lg-2">Column left</div>
12          <div class="col-lg-8">Column middle</div>
13          <div class="col-lg-2">Column right</div>
14      </div>
15
16      <!--Row with three columns divided unevenly-->
17      <div class="row">
18          <div class="col-lg-3">Column left</div>
19          <div class="col-lg-7">Column middle</div>
20          <div class="col-lg-2">Column right</div>
21      </div>
22  </div>
```

Bootstrap Typography

Working with Headings

You can define all HTML headings, <h1> through <h6> — In the same way you define in simple HTML document. You can also utilize the heading classes .h1 through .h6 on other elements, if you want to apply the style on element's text same as headings.

Display Headings

Bootstrap 4 introduces display headings that can be used when you need a heading to stand out. Display headings are displayed in larger [font-size](#) but lighter [font-weight](#). We have from .display-1 to .display-4

Working with Paragraphs

Bootstrap's global default font-size is 1rem (typically 16px), with a line-height of 1.5. This is applied to the <body> and all paragraphs. In addition to that a bottom margin of half their line-height (10px by default) is applied to the all paragraphs i.e. the <p> elements.
You can also make a paragraph stand out by adding the class .lead on it.

Text Transformation

You can also transform the text to lowercase, uppercase or make them capitalize.

Text Coloring

Colors are the powerful method of conveying important information in website design.
Bootstrap has handful of emphasis utility classes that can be used for this purpose such as showing success message in green color, warning or error message in red color, etc.

Bootstrap Tables

What is Table

The HTML tables are used to present data in grid manner like row and columns. Using Bootstrap you can greatly improve the appearance of table in a quick and easy way.

Creating a Simple Table with Bootstrap
You can create tables with basic styling that has horizontal dividers and small cell padding (8px by default), by just adding the Bootstrap's class .table to the <table> element.

Styling a table
Class="table"
Class="table table-dark"
Class="table table-striped"
Class="table table-bordered"

Setting Table Head Colors
You can also specify different background colors for the table head using the modifier classes .thead-light or .thead-dark on the <thead> element.

Bootstrap Forms

Bootstrap provides three different types of form layouts:
Vertical Form (default form layout)

```
1   <form>
2       <div class="form-group">
3           <label for="inputEmail">Email</label>
4           <input type="email" class="form-control" id="inputEmail"
        placeholder="Email">
5       </div>
6       <div class="form-group">
7           <label for="inputPassword">Password</label>
8           <input type="password" class="form-control" id="inputPassword"
        placeholder="Password">
9       </div>
10      <div class="form-group">
11          <label class="form-check-label"><input type="checkbox"> Remember
        me</label>
12      </div>
13      <button type="submit" class="btn btn-primary">Sign in</button>
14  </form>
```

Bootstrap Forms

Bootstrap provides three different types of form layouts:

Horizontal Form

```
1   <form>
2       <div class="form-group row">
3           <label for="inputEmail" class="col-sm-2 col-form-label">Email</label>
4           <div class="col-sm-10">
5               <input type="email" class="form-control" id="inputEmail"
    placeholder="Email">
6           </div>
7       </div>
8       <div class="form-group row">
9           <label for="inputPassword" class="col-sm-2 col-form-
    label">Password</label>
10          <div class="col-sm-10">
11              <input type="password" class="form-control" id="inputPassword"
    placeholder="Password">
12          </div>
13      </div>
14      <div class="form-group row">
15          <div class="col-sm-10 offset-sm-2">
16              <label class="form-check-label"><input type="checkbox"> Remember
    me</label>
17          </div>
18      </div>
19      <div class="form-group row">
20          <div class="col-sm-10 offset-sm-2">
21              <button type="submit" class="btn btn-primary">Sign in</button>
22          </div>
23      </div>
24  </form>
```

Bootstrap Forms

Bootstrap provides three different types of form layouts:
Inline Form

```
1   <form class="form-inline">
2       <div class="form-group mr-2">
3           <label class="sr-only" for="inputEmail">Email</label>
4           <input type="email" class="form-control" id="inputEmail"
    placeholder="Email">
5       </div>
6       <div class="form-group mr-2">
7           <label class="sr-only" for="inputPassword">Password</label>
8           <input type="password" class="form-control" id="inputPassword"
    placeholder="Password">
9       </div>
10      <div class="form-group mr-2">
11          <label><input type="checkbox" class="mr-1"> Remember me</label>
12      </div>
13      <button type="submit" class="btn btn-primary">Sign in</button>
14  </form>
```

Bootstrap Buttons

Bootstrap Button Styles
Different classes are available in Bootstrap for styling the buttons as well as to indicate the different states or semantic. Button styles can be applied to any element. However, it is applied normally to the <a>, <input>, and <button> elements for the best rendering.

<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-dark">Dark</button>
<button type="button" class="btn btn-light">Light</button>
<button type="button" class="btn btn-link">Link</button>

Outline buttons

In need of a button, but not the hefty background colors they bring? Replace the default modifier classes with the .btn-outline-* ones to remove all background images and colors on any button.
<button type="button" class="btn btn-outline-primary">Primary</button>
<button type="button" class="btn btn-outline-secondary">Secondary</button>
<button type="button" class="btn btn-outline-success">Success</button>
<button type="button" class="btn btn-outline-danger">Danger</button>
<button type="button" class="btn btn-outline-warning">Warning</button>
<button type="button" class="btn btn-outline-info">Info</button>
<button type="button" class="btn btn-outline-light">Light</button>
<button type="button" class="btn btn-outline-dark">Dark</button>

Bootstrap Images

Styling Images with Bootstrap

Images are very common in modern web design. So styling images and placing it properly on the web pages is very important for improving the user experience.

Using the Bootstrap built-in classes you can easily style images such as making the round cornered or circular images, or give them effect like thumbnails.

```
<img src="images/avatar.svg" class="rounded" alt="Rounded Image">
<img src="images/avatar.svg" class="rounded-circle" alt="Circular Image">
<img src="images/avatar.svg" class="img-thumbnail" alt="Thumbnail Image">
```

Creating Responsive Images

With Bootstrap you can make the images responsive too. Just add the class .img-fluid to the <img> tag. This class mainly applies the styles max-width: 100%; and height: auto; to the image so that it scales nicely to fit the containing element — in case if the width of the image is larger than the containing element itself.

Bootstrap Cards

Creating a Basic Card

The card markup is pretty straight forward. The ourter wrapper require the base class .card, whereas content can be placed inside the .card-body. The following example will show you how to create a card with a picture mixed with some text content and a button.

```
1  <div class="card" style="width: 300px;">
2      <img src="images/sample.svg" class="card-img-top" alt="...">
3      <div class="card-body text-center">
4          <h5 class="card-title">Alice Liddel</h5>
5          <p class="card-text">Alice is a freelance web designer and developer
   based in London. She is specialized in HTML5, CSS3, JavaScript, Bootstrap,
   etc.</p>
6          <a href="#" class="btn btn-primary">View Profile</a>
7      </div>
8  </div>
```

Bootstrap Cards

Creating Horizontal Cards

You can also create horizontal cards where image and text content are placed side-by-side using a combination of grid and utility classes, as shown in the following example:

```
1   <div class="card" style="max-width: 500px;">
2       <div class="row no-gutters">
3           <div class="col-sm-5" style="background: #868e96;">
4               <img src="images/sample.svg" class="card-img-top h-100"
    alt="...">
5           </div>
6           <div class="col-sm-7">
7               <div class="card-body">
8                   <h5 class="card-title">Alice Liddel</h5>
9                   <p class="card-text">Alice is a freelance web designer and
    developer based in London. She is specialized in HTML5, CSS3, JavaScript,
    Bootstrap, etc.</p>
10                  <a href="#" class="btn btn-primary stretched-link">View
    Profile</a>
11              </div>
12          </div>
13      </div>
14  </div>
```

Bootstrap Cards

Card with Header and Footer

You can also add header and footer within your cards using the .card-header and .card-footer class, respectively. Let's take a look at the following example:

```
1  <div class="card text-center">
2      <div class="card-header">Featured</div>
3      <div class="card-body">
4          <h5 class="card-title">NASA launches solar probe</h5>
5          <p class="card-text">Lorem ipsum dolor sit amet, consectetur
   adipiscing elit. Nam eu sem tempor, varius quam at, luctus dui. Mauris magna
   metus, dapibus nec turpis vel, semper malesuada ante.</p>
6          <a href="#" class="btn btn-primary">Know more</a>
7      </div>
8      <div class="card-footer text-muted">2 days ago</div>
9  </div>
```

Bootstrap Navbar

Creating a Simple Navbar with Bootstrap

You can use the Bootstrap navbar component to create responsive navigation header for your website or application. These responsive navbar initially collapsed on devices having small viewports like cell-phones but expand when user click the toggle button. However, it will be horizontal as normal on the medium and large devices like laptop or desktop.

Bootstrap Modals

Creating Modals with Bootstrap

Modal is basically a dialog box or popup window that is used to provide important information to the user or prompt user to take necessary actions before moving on. Modals are widely used to warn users for situations like session time out or to receive their final confirmation before going to perform any critical actions such as saving or deleting important data.

Practice

Use practice file **story.txt** in resources folder
Show students how to copy this file into their HTML document

Thank you