Module 8) Bootstrap Basic & Advanced

1) What are the advantages of Bootstrap?

→ Bootstrap is a popular open-source front-end framework that facilitates the development of responsive and mobile-first web pages. Here are some advantages of using Bootstrap:

→ **Consistent Grid System:** Bootstrap provides a responsive grid system based on a 12-column layout, making it easy to create a consistent and organized structure for your web pages. This helps maintain a balanced design across different devices.

→ **Responsive Design:** Bootstrap is designed with a mobile-first approach, ensuring that your web applications look good and function well on various devices and screen sizes. It includes a responsive grid system and responsive utility classes.

→ **Pre-styled Components:** Bootstrap includes a wide range of pre-styled components, such as navigation bars, buttons, forms, alerts, and more. These components can be easily customized and integrated into your project, saving development time.

→ **Time-saving:** Bootstrap accelerates the development process by offering a set of ready-to-use components and styles. Developers can take advantage of these pre-built elements, reducing the time and effort required to create a visually appealing and functional user interface.

→ **Flexbox and Sass Support:** Bootstrap 4 introduced Flexbox support, allowing for more flexible and efficient layout designs. It also uses Sass, a popular CSS preprocessor, which makes it easier

to manage stylesheets with variables, mixins, and other advanced features.

2) What is a Bootstrap Container, and how does it work?

→ Bootstrap Containers are the most basic layout element in Bootstrap.Bootstrap Containers are very essential and basic building blocks of bootstrap that wrap a page's content.

→ It's responsible for setting and aligning content within it according to viewport or given device.

→ Containers are defined within the container class (.container). In other words, we can say that containers are established the width for the layout to give the content. Elements and content are added within the container.

→ Bootstrap has the default class or predefined class is ".container" & ".container-fluid" class for layout. 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.

→ Basically, there are three types of container classes available in bootstrap:

→ **1. Default-Container(container):**

→ The default container uses '.container' class. It provides a responsive fixed-width container.

→ Syntax:

<div class="container">

<!-- Content here -->

</div>

→ **2. Responsive-Container(along with sm, md, lg, xl, xxl)**:
Responsive containers are responsive in nature. Responsive containers allow you to specify a class that is wide until the specified breakpoint is reached, after which we apply max-widths for each of the higher breakpoints.

→ Syntax:

<div class="container-sm">Wide for small breakpoint</div>

<div class="container-md">Wide for medium breakpoint</div>

<div class="container-lg">Wide for large breakpoint</div>

<div class="container-xl">Wide for extra large breakpoint</div>

<div class="container-xxl">Wide for extra large breakpoint</div>

→ **3. Fluid-Container(container-fluid):**

→ Fluid-container uses the '.container-fluid' class. It is used for a full-width container, spanning the entire width of the viewport.

→ Syntax:

<div class="fluid-container">

 <!-- Content here -->

</div>

3) What are the default Bootstrap text settings?

→ **Font Family:**
Bootstrap sets the default font family to "Helvetica Neue", Helvetica, Arial, sans-serif. This is applied to the body text.

→ **Font Size:**

The default base font size is set to 16 pixels (px). Bootstrap uses relative units like em for other font sizes.

→ **Line Height:**

The default line height is set to 1.5. This ensures proper spacing between lines of text.

→ **Font Weight:**

The default font weight for normal text is 400. Bootstrap also provides utility classes for different font weights, such as font-weight-bold for bold text.

→ **Text Color:**

The default text color is black (#000).

→ **Text Alignment:**

The default text alignment is left. Bootstrap provides utility classes like text-center for centering text and text-right for right-aligning text.

→ **Text Decoration:**

Bootstrap does not apply any default text decoration. You can use utility classes like text-decoration-none to remove underlines or other decorations.

→ **Text Transform:**

The default text transform is none. Bootstrap provides utility classes like text-uppercase and text-lowercase for changing the case of text.

→ **Font Style:**

The default font style is normal. Bootstrap does not apply any italicization by default.

4) What do you know about the Bootstrap Grid System?

→ 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 provide a means to center and horizontally pad your site's contents. Use .container for a responsive pixel width or .container-fluid for width: 100% across all viewport and device sizes.
→ Rows are wrappers for columns. Each column has horizontal padding (called a gutter) for controlling the space between them. This padding is then counteracted on the rows with negative margins.

5) What is the difference between Bootstrap 4 and Bootstrap 5

→ **Grid System:**
o Bootstrap 4 has 5 tier (xs, sm, md, lg, xl).
o Bootstrap 5 has 6 tier (xs, sm, md, lg, xl, xxl).
→ **Color:**
o Bootstrap 4 has limited colors.
o In Bootstrap 5, Extra colors added with the looks, A card improved color palette. there are various shades available to choose.
→ **Form elements:**

- In Bootstrap 4, Radio buttons, checkboxes have different look in different OS and browsers. The form uses whatever default browsers provide.
- In Bootstrap 5 , The look of form elements will not change, on different OS or browser. The forms can be customized and form controls can be added, they would not depend on browser.

→ **Gutter:**
- Bootstrap 4 use .glutter with fontsize in px.
- Bootstrap 5 use .g* with fontsize in rem.

→ **Bootstrap Icons:**
- Bootstrap 4 doesn't have its own SVG icons, we have to use font-awesome for icons.
- Bootstrap 5 have its own SVG icons.

6) What is a Button Group, and what is the class for a basic Button Group?

→ **Button Group :** Group a series of buttons together on a single line or stack them in a vertical column.

→ Wrap a series of buttons with .btn in .btn-group.

→ example:

```
<div class="btn-group" role="group" aria-label="Basic example">

 <button type="button" class="btn btn-secondary">Left</button>

<button type="button" class="btn btn-secondary">Middle</button>

<button type="button" class="btn btn-secondary">Right</button>

</div>
```

7) How can you use Bootstrap to make thumbnails?

→ Thumbnails in Bootstrap are typically used to showcase images or videos in a grid layout. Here's a basic example of how you can use Bootstrap to create thumbnails

→ you can create thumbnails using the img tag and the img-thumbnail class provided by Bootstrap.

8) In Bootstrap 4, what is flexbox?

→ Bootstrap 4 uses flexbox, instead of floats, to handle the layout.

→ The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.

→ **Enable flex behaviors:**

→ Apply display utilities to create a flexbox container and transform direct children elements into flex items. Flex containers and items are able to be modified further with additional flex properties.

→ **Direction:**

→ Use .flex-row to set a horizontal direction (the browser default), or .flex-row-reverse to start the horizontal direction from the opposite side.

→ Same as in column structure, use .flex-column to set in vertical direction.

→ **Justify content:**

→ Use justify-content utilities on flexbox containers to change the alignment of flex items on the main axis (the x-axis to start, y-axis if flex-direction: column).

→ Choose from start (browser default), end, center, between, or around.

→ **Align items:**

→ Use align-items utilities on flexbox containers to change the alignment of flex items on the cross axis (the y-axis to start, x-axis if flex-direction: column). Choose from start, end, center, baseline, or stretch (browser default).

→ **Wrap:**

→ Change how flex items wrap in a flex container. Choose from no wrapping at all (the browser default) with .flex-nowrap, wrapping with .flex-wrap,

9) How can one create an alert in Bootstrap?

→ Provide contextual feedback messages for typical user actions with the handful of available and flexible alert messages.

→ Alerts are available for any length of text, as well as an optional dismiss button.

→ For proper styling, use one of the eight required contextual classes .alert-success.

→ Examples:

<div class="alert alert-primary" role="alert">

 This is a primary alert—check it out!

</div>

<div class="alert alert-warning" role="alert">

This is a warning alert—check it out!

</div>

10) What is a bootstrap card and how would you create one?

→ A card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options.

→ Cards replace our old panels, wells, and thumbnails. Similar functionality to those components is available as modifier classes for cards.

→ Example:

→ **Titles, text, and links:**

→ Card titles are used by adding .card-title to a <h*> tag. In the same way, links are added and placed next to each other by adding .card-link to an <a> tag.

```
<div class="card" style="width: 18rem;">
  <div class="card-body">
    <h5 class="card-title">Card title</h5>
    <h6 class="card-subtitle mb-2 text-muted">Card subtitle</h6>
    <p class="card-text">Some quick example text to build on the
        card title and make up the bulk of the card's content.</p>
    <a href="#" class="card-link">Card link</a>
    <a href="#" class="card-link">Another link</a>
  </div>
</div>
```