MODULE: 6 (Bootstrap Basic & Advance)

1. What are the advantages of Bootstrap?

Ans : Bootstrap is an open-source CSS framework designed to come up with mobile-friendly, responsive front-end web development.

➔ It consists of enormous versatile and reusable pieces of code written in HTML, JavaScript, and CSS. As a framework,fundamentals are already placed for responsive web development, and developers simply need to position the code in a premeditated grid system.

❖ **Advantages :**

1. Easy initiation
2. Responsiveness
3. Highly customizable
4. Extremely user-centric
5. Top-notch support
6. Cross-browser compatibility
7. JavaScript plugins to your rescue
8. Far-reaching popularity
9. Ample documentation
10. Updates at the doorstep

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

Ans : 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.

Containers are used for many purposes such as –

It requires use with the default grid system.
To establish width for the layout to give web content.

To provide responsive fixed behavior of any web project.

To sets the content margin dealing with
the responsive behavior of your layout.

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)

2. Responsive-Container(along with sm, md, lg, xl, xxl)
3. Fluid-Container(container-fluid)

1.   **Default-Container:** The default container uses '.container' class. It provides a responsive fixed-width container.

Syntax:

```
<div class="container">

<!-- Content here -->

 </div>
```

2.   **Responsive-Container:**   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:** 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?
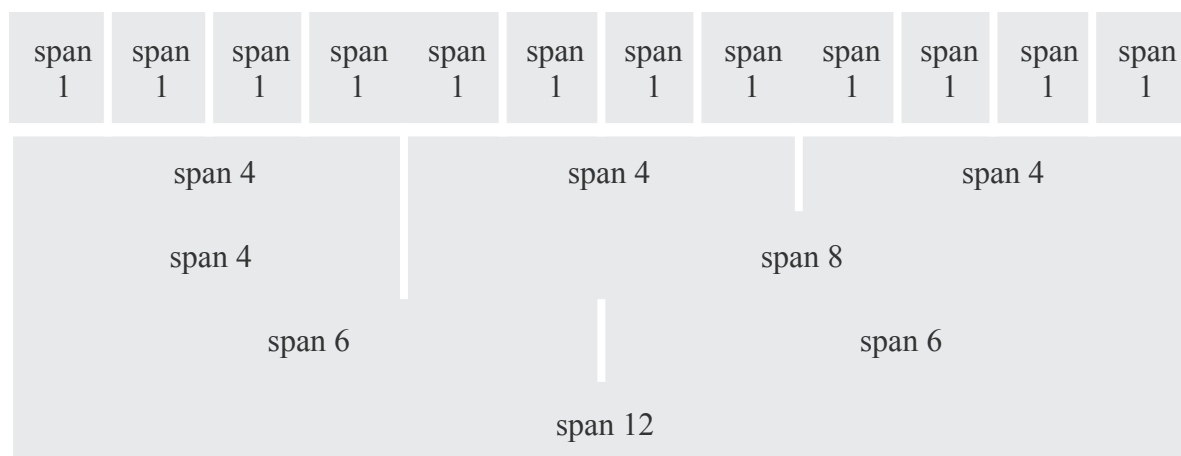
Ans : <u>Bootstrap Default Settings :</u>

❖ Bootstrap   uses a default font-size of 16px, and its line-height is 1.5. The default font-family is "Helvetica Neue", Helvetica, Arial, sans-serif. In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

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

Ans : <u>*Bootstrap Grid System*</u>

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

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

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											

Bootstrap's grid system is responsive, and the columns will re-arrange depending on the screen size: On a big screen it might look better with the content organized in three columns, but on a small screen it would be better if the content items were stacked on top of each other.

Tip: Remember that grid columns should add up to twelve for a row. More than that, columns will stack no matter the viewport.

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.

Tip: Each class scales up, so if you wish to set the same widths for xs and sm, you only need to specify xs.

Grid System Rules

Some Bootstrap grid system rules:

Rows must be placed within a `.container` (fixed-width)

or `.container-fluid` (full-width) for proper alignment and padding

Use rows to create horizontal groups of columns

Content should be placed within columns, and only columns may be immediate children of rows

Predefined classes like `.row` and `.col-sm-4` are available for quickly making grid layouts

Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and last column via negative margin on `.rows`

Grid columns are created by specifying the number of 12 available columns you wish to span. For example, three equal columns would use three `.col-sm-4`

Column widths are in percentage, so they are always fluid and sized relative to their parent element

Grid Options

The following table summarizes how the Bootstrap grid system works across multiple devices:

	Extra small <768px	Small >=768px	Medium >=992px	Large >=1200px
Class prefix	`.col-xs-`	`.col-sm-`	`.col-md-`	`.col-lg-`

	Phones	Tablets	Small Laptops	Laptops & Desktops
Suitable for	Phones	Tablets	Small Laptops	Laptops & Desktops
Grid behaviour	Horizontal at all times	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints	Collapsed to start, horizontal above breakpoints
Container width	None (auto)	750px	970px	1170px
# of columns	12	12	12	12
Column width	Auto	~62px	~81px	~97px
Gutter width	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)	30px (15px on each side of a column)
Nestable	Yes	Yes	Yes	Yes
Offsets	Yes	Yes	Yes	Yes
Column ordering	Yes	Yes	Yes	Yes

Examples

The next chapters shows examples of grid systems for different devices:

5. What is the difference between Bootstrap 4 and Bootstrap 5?
Ans :

BASIS OF	BOOTSTRAP 4	BOOTSTRAP 5
Grid System	It has 5 tier (xs, sm, md, lg, xl).	It has 6 tier (xs, sm, md, lg, xl, xxl).
Color	It has limited colors.	Extra colors added with the looks, A card improved color palette. there are various shades available to choose.
Jquery	It has jquery and all related plugins.	Jquery is removed and switched to vanilla JS with some working plugins
Internet Explorer	Bootstrap 4 supports both IE 10 and 11.	Bootstrap 5 doesn't support IE 10 and 11.
Form elements	Radio buttons, checkboxes have different look in different OS and browsers. The form uses whatever default browsers provide.	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.

BASIS OF	BOOTSTRAP 4	BOOTSTRAP 5
Utilities API	We cannot modify utilities in bootstrap 4	Bootstrap 5 gave freedom to modify and also create our own utility
Gutter	We use .glutter with fontsize in px	We use .g* with fontsize in rem
Vertical Classes	Columns can be positioned relative	Columns cannot be positioned relative
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
Jumbotron	It supports.	It doesn't support jumbotron.
Card deck	The card deck is used to create an isset of cards with equal width and height.	Card deck class in removed in bootstrap
Navbar	We have inline-block property and we will get white dropdown as default for dropdown-menu- dark class.	Inline-block property is removed and we will get black dropdown as default for dropdown-menu-dark class.
Static Site Generator	Bootstrap 4 uses Jekyll software.	Bootstrap 5 uses Hugo software as it is fast static site generator.
flexbox grid	this makes easier to implement vertical designs, and the columns and rows can easily be implemented. the classes justify-center-content can directly be used to align according to the requirement.	advanced grid system is made available , also columns don't have relative positions.

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

Ans : "Button Groups" in Bootstrap is a class of name "**btn-group" which is used to create series of buttons in groups (without spaces) vertically or horizontally**. This is the basic syntax of the button group class where each button has its own class of "btn".

```
<div class="btn-group">
    <button type="button" class="btn">Click</button>
</div>
```

7. How can you use Bootstrap to make thumbnails?

Ans :

    Step 1: Include Bootstrap and jQuery CDN into the <head> tag before all other stylesheets to load our CSS.

    Step 2 : Add <div> tag in the HTML body with class row. In that <div> create four div sections to create four images.

    Step 3 : Add "col-sm-6" and "col-md-3" to four div sections which creates webpage responsive.

    Step 4 : Add <a> tag with class value thumbnail to define the link of the image in the next line.

```
<a href="#" class="thumbnail">
```

8. In Bootstrap 4, what is flexbox?

Ans : Flexbox is used to quickly manage the layout, alignment and sizing of grid columns, navigation, components, and more with a full suite of responsive flexbox utilities. You can also do complex implementations using custom CSS. Flexbox Properties: Enable flex behaviors.

9. How can one create an alert in Bootstrap ?

Ans : <u>Alerts:-</u>

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 (e.g., .alert-success). For inline dismissal, use the <u>alerts jQuery plugin</u>.

```
<div class="alert alert-primary" role="alert">
  This is a primary alert—check it out!
</div>
<div class="alert alert-secondary" role="alert">
  This is a secondary alert—check it out!
</div>
<div class="alert alert-success" role="alert">
  This is a success alert—check it out!
</div>
<div class="alert alert-danger" role="alert">
  This is a danger 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?

Ans : 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. If you're familiar with Bootstrap 3, cards replace our old panels, wells, and thumbnails. Similar functionality to those components is available as modifier classes for cards.

Example :

```html
<!doctype html>
<html lang="en">

<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Bootstrap demo</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/css/bootstrap.min.css" rel="stylesheet"
        integrity="sha384-KK94CHFLLe+nY2dmCWGMq91rCGa5gtU4mk92HdvYe+M/SXH301p5ILy+dN9+nJOZ" crossorigin="anonymous">
</head>

<body>
    <h1>Card</h1>
    <div class="container">
        <div class="row">
            <div class="col-md-4">
                <div class="card" style="width: 18rem;">
                    <img src="dog.png" class="card-img-top" alt="...">
                    <div class="card-body">
                        <h5 class="card-title">DOG hOUSE</h5>
                        <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="btn btn-primary"> SEARCH MORE</a>
                    </div>
                </div>
            </div>
        </div>
    </div>


    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha3/dist/js/bootstrap.bundle.min.js"
        integrity="sha384-ENjdO4Dr2bkBIFxQpeoTz1HIcje39Wm4jDKdf19U8gI4ddQ3GYNS7NTKfAdVQSZe"
        crossorigin="anonymous"></script>
</body>

</html>
```