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MODULE: 6 (Bootstrap Basic & Advance)

**1.What are the advantages of Bootstrap?**

**Ans.** What is Bootstrap

* 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. Therefore, while coming up with a new website or application, Bootstrap is a boon because it waives off the burden of coding from scratch. You can efficiently blend its ready-made coding blocks, CSS-Less functionality, and cross-browser compatibility to save tedious hours of coding.
* Due to this whole concept, web designing in a limited period is a reality. Besides, it is equipped with free tools, which helps build some common website interface components, thus adding to the adaptability of the framework.
  + **Top 10 Advantages of Bootstrap for Web Development**

**1. Easy initiation**

Coding is a hurricane task for a person who is unbeknownst to web development. But the greatest use of Bootstrap in web development is it makes coding hassle-free. Bootstrap handles everything for you. Despite having no extensive knowledge of coding, one can design an enticing landing page using Bootstrap. The only criterion is to have moderate experience of CSS and HTML. Alongside this, the integration process of Bootstrap is easy on existing and newer websites. In your current CSS, you can incorporate diverse platforms, frameworks, elements of Bootstrap without any hassles.

**2. Responsiveness**

Statistics highlight over 6.4 billion smartphone users worldwide. This study infers smartphone penetration of over 80 percent. And the numbers do not stop here; in fact, they are rising rapidly. Due to this extensive demand, having a mobile-responsive website has become a prerequisite, and this task is a cakewalk with Bootstrap by your side. It has a fluid grid layout, which adapts as per the screen resolution.

**3. Highly customizable**

You can find an array of templates in Bootstrap. However, if you find them unappealing, you can concoct your customization using the CSS file. Besides, if you cannot spare time to start everything from scratch, you can blend the customization with the existing code and enhance the functionality. All this can be undertaken under the customization page.

**4. Extremely user-centric**

While creating landing pages, it is very important to design from the user’s point of view. If a landing page is engaging, only then does it appeal to the audience. One of the prominent advantages of Bootstrap is you can design landing pages complementing the audience’s requirements. It comes up with suggestions regarding elements like photos, Call-to-actions (CTA) that look best for your audience and enhance user experience. Moreover, it helps in making easy edits to the landing page elements for reaching out to more audiences.

**5. Top-notch support**

When using Bootstrap, the only requirement is basic knowledge of coding. However, as a newbie, you might come across an array of problems. It might lead to hesitancy when using Bootstrap. To overcome this problem, Bootstrap comes with a huge support community. Having a support community is a blessing in disguise when using any technology. You get answers to every query. You share the query, and the community will actively help in solving it.

Besides, the creators are always on their toes updating Bootstrap to offer a better experience to the users. With this, you can always avail the best assistance in every circumstance.

**6.Cross-browser compatibility**

Every user is different, and so is their device. Along with the device, they use varied browsers too. Bootstrap is compatible with the latest versions of all modern browsers and platforms. One of the biggest advantages of using Bootstrap is compatibility across browsers. With Bootstrap by your side, heave a sigh of relief when it comes to displaying your landing page across multiple browsers. Its compatibility with Google Chrome, Firefox, Safari, and Internet Explorer makes it more versatile.

**7. JavaScript plugins to your rescue**

To make the pages more interactive, one needs elements, like sliders, drop-down menus, tabs, etc. The hunt begins to find complementing plugins to include these elements. But with Bootstrap by your side, you can easily incorporate these components as numerous JavaScript plugins are bundled in the Bootstrap package. Also, adding these functionalities is easy as you just need to write a few lines of code and you are all set. Moreover, with the customization option, you have the liberty to choose particular plugins, helping to maintain minimize file size.

**8. Far-reaching popularity**

The most crucial advantage of using Bootstrap is its widespread presence. A multinational and global company like Apple utilizes Bootstrap for its Apple Maps and Apple Music web apps. Not just this, but Dropbox, Coursera, and Airbnb have acknowledged the prowess of Bootstrap and are using it to maintain robustness.

**9. Ample documentation**

When using a framework, the support from the community is priceless, but some prefer referring to written notes. Fortunately, Bootstrap satiates this requirement by providing easy-to-read and efficient documentation on the Bootstrap website. The framework is easy, and the documentation makes it easier to work on UI designing.

**10. Updates at the doorstep**

Staying updated is the core of any technology. The same thumb rule applies to Bootstrap, which is fully attuned. Its core developers constantly keep the framework updated. They keep a close eye on future web requirements and make changes accordingly. Whenever there is a new update, Bootstrap considers the users to get hold of the latest and most advanced technology available in the industry.

**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 behaviour of any web project.

To sets the content margin dealing with the responsive behaviour 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) centre 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.luid-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.** Bootstrap 5 uses a default font-size of 1rem (16px by default), and its line-height is 1.5.

In addition, all <p> elements have margin-top: 0 and margin-bottom: 1rem (16px by default).

<h1> - <h6>

Bootstrap 5 styles HTML headings (<h1> to <h6>) with a bolder font-weight and a responsive font-size.

Display Headings

Display headings are used to stand out more than normal headings (larger font-size and lighter font-weight), and there are six classes to choose from:. display-1 to. display-6:

<small>

In Bootstrap 5 the HTML <small> element (and the. small class) is used to create a smaller, secondary text in any heading:

<mark>

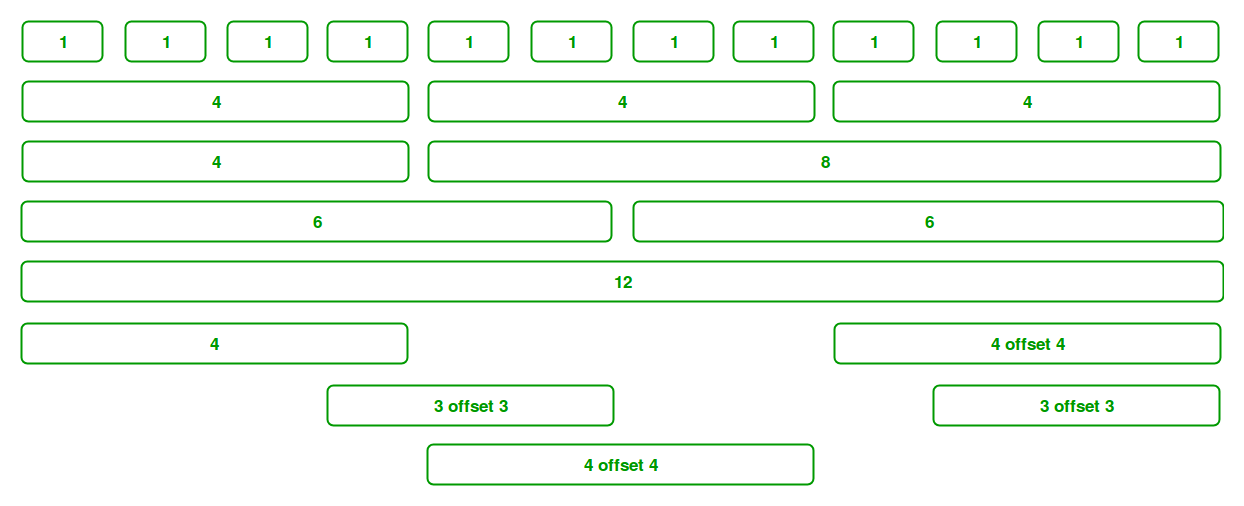
Bootstrap 5 will style <mark> and .mark with a yellow background colour and some padding:

<abbr>

Bootstrap 5 will style the HTML <abbr> element with a dotted border bottom and a cursor with question mark on hover:

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

**Ans.** Grid System: Bootstrap Grid System allows up to 12 columns across the page. You can use each of them individually or merge them together for wider columns. You can use all combinations of values summing up to 12. You can use 12 columns each of width 1, or use 4 columns each of width 3 or any other combination.



Grid Classes: The Bootstrap grid system has four classes that can be combined to make more flexible layouts:

xs (<576px): For Portrait Mobile Phones.

sm (>=576px): For Landscapes phones

md (>=768px): For Tablets/Phablets

lg (>=992px): For Small-sized Desktops/Laptops

xl (>=1200px): For Larger-sized Desktops/Laptops

Components of Grid System: We will be learning the Components of the Grid system one-by-one:

**1.Containers:** Bootstrap requires a containing element to wrap site contents and house our grid system. The word ‘container’ is a container of row elements and row elements are ‘containers’ of the column elements. You will understand it more in the latter part of the article where we have dealt with columns.

**2. Rows:** Rows must be placed within a ‘container’ or ‘container-fluid’ for proper alignment and padding. We use rows to create horizontal groups of columns.

**3. Columns:** Grid columns are created by specifying the number of twelve available columns you wish to span. For example, three equal columns would use three “col-sm-4”.

**4.Column Resets:** With the four tiers of grids available, we are bound to run into issues where at certain breakpoints, the columns don’t quite clear right as one is taller (has more text) than the other column. A command called clear fix is there which fixes any issues regarding that viewport. We just need to write a div command with class clearfix after the block where the column isn’t clearing right.

Let’s say we have an issue with the md and sm viewport. But if we are using

But then it is causing problems for other viewport (maybe lg and xs). So, what we can do is make clearfix visible only for the md and sm block or hide all other blocks (lg and xs).

or

**5.Columns Offset:** We can move the columns to the right by x columns using col-md-offset-x in the class.

<div class="col-xs-3 col-sm-4 col-md-6 col-lg-1 col-lg-offset-2“>

This change results in making an offset of 2 grid columns before the fourth column.

6.Nesting Columns: For nesting columns within a column, we need to add a new row and set of columns. Nested rows should include a set of columns that add up to 12 or less than that.

**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). |
| **Colour** | It has limited colours. | 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. |
| **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 a set 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. |
| **RTL Support** | It does not enable RTL (Right to Left) switching. | It enables RTL(Right to Left) switching. |
| **Offcanvas Component** | It does not support Offcanvas Component. | It supports Offcanvas Component(that is it is available now). |

**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>

Buttons have a default border-radius on the first and last buttons of the group.

Adding Styles on Buttons: Bootstrap allows you to add styles to your buttons using the following classes:

.btn-default

.btn-primary

.btn-success

.btn-info

.btn-warning

.btn-danger

.btn-link

**7. How can you use Bootstrap to make thumbnails?**

**Ans.** Step 1: The first step is to include the Bootstrap and jQuery CDN into the head tag before having CSS's stylesheets.

Step 2: We need to create a div tag in our HTML body. We will create three div sections for each image in this div tag.

Step 3: We can add various col properties for making our page responsive, like col-sm-6 or col-md-3.

Step 4: You need to create an anchor tag <a>, with a class name -. thumbnail wrapped around an image tag.

**8.In Bootstrap 4, what is flexbox?**

**Ans.** The flexbox or flexible box model in CSS is a one-dimensional layout model that has flexible and efficient layouts with distributed spaces among items to control their alignment structure ie., it is a layout model that provides an easy and clean way to arrange items within a container. Flexbox can be useful for creating small-scales layouts & is responsive and mobile-friendly.

* Features of flexbox:

A lot of flexibility is given.

Arrangement & alignment of items.

Proper spacing

Order & Sequencing of items.

Bootstrap 4 is built on top of the flex layout.

Before the flexbox model, we had 4 layout modes:

Block: It is used to make sections in web pages.

Inline: It is used for text.

Table: It is used for two-dimensional table data.

Positioned: It is used for the explicit position of an element.

There are 2 main components of the Flexbox:

* Flex Container: The parent “div” which contains various divisions is called a flex container.
* Flex Items: The items inside the container “div” are flex items.

**9. How can one create an alert in Bootstrap?**

**Ans.** <https://github.com/Shivani081/Bootstrap/blob/main/Bootstrap%20practicals/Alert.html>

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

**Ans.** 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 are built with as little markup and styles as possible, but still manage to deliver a ton of control and customization. Built with flexbox, they offer easy alignment and mix well with other Bootstrap components. They have no margin by default, so use spacing utilities as needed.

<https://github.com/Shivani081/Bootstrap/blob/main/Bootstrap%20practicals/Card.html>

