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FSD Laboratory 02

Problem Statement: Design and develop a responsive web page (For example student registration, course enrollment, library management system, online shopping system etc.) using Bootstrap front end framework. Web pages should contain HTML5 elements (Use all possible formatting for example font, colour etc.).

Use all possible formatting for example,

- font,
- colour etc.

Web page should include various

- images,
- links within the page,
- tables
- lists
- form elements
- paragraphs
- links to other pages for navigation,
- new tabs.

Use Cascaded Style Sheets (CSS) to style the web pages designed. Make use of

- Three types of styles (Inline, Internal and External)
- border,
- margins,
- padding,
- navigation,
- dropdown list
- tag selector
- class selector
- id selector
- exploring background image and position property etc.

Aim : Design and develop a responsive web page using Bootstrap front end framework.

Objectives:

1. To understand HTML tags
2. To learn the styling of web pages using CSS
3. To learn Bootstrap Front End Framework.

Theory :

Bootstrap Grid System -

1. Grid System Overview:

- Bootstrap's grid system is a responsive layout system used to create a structured and responsive web page layout.
- It is based on a 12-column grid, allowing for flexible and customizable layout designs.

2. Column Classes:

- Bootstrap provides classes like `.col-`, `.col-sm-`, `.col-md-`, and `.col-lg-` to define the width of elements within different screen sizes.
- For example, `.col-6` creates a column that spans half the width of its parent container.

3. Row and Container:

- To create rows of columns, you use the `.row` class to group columns together.
- The parent container for your grid system can be either `.container` (fixed-width) or `.container-fluid` (full-width), providing structure to your layout.

4. Responsive Breakpoints:

- Bootstrap's grid system adjusts columns' widths and layout as the screen size changes by using responsive breakpoints.
- It allows you to design layouts suitable for various devices, such as smartphones, tablets, and desktops.

5. Offset and Nesting:

- You can offset columns using `.offset-` classes to create spacing between columns.
- Nesting columns within other columns is also possible, allowing for complex layout structures.

6. Alignment and Order:

- Bootstrap provides classes for aligning columns vertically and horizontally.
- You can also control the order of columns on different screen sizes using `.order-` classes.

Bootstrap `.container` and `.container-fluid` class:

1) `.container` Class:

- `.container` creates a fixed-width container that centers content on the page.

- It is suitable for websites that want a consistent, centered layout across different screen sizes.

2) **.container-fluid Class:**

- .container-fluid creates a full-width container that spans the entire viewport width.
- It is ideal for designs that utilize the full available screen width, adapting to various screen sizes.

FAQ :

1. What is a responsive website?

- A responsive website is a web design approach that ensures a web page's layout and content adapt and adjust seamlessly to fit different screen sizes and devices. This includes smartphones, tablets, laptops, and desktop computers.

2. How Bootstrap helps to design a responsive website?

Bootstrap simplifies the process of creating responsive websites by providing a responsive grid system and pre-designed CSS components. Here's how it helps:

- **Grid System:** Bootstrap's grid system allows you to create flexible and responsive layouts that adapt to various screen sizes.
- **Responsive CSS:** Bootstrap includes responsive CSS classes and utilities that make it easy to hide, show, or modify elements based on screen size.
- **Pre-designed Components:** Bootstrap offers pre-styled components like navigation bars, buttons, and forms that are already optimized for responsiveness.
- **Cross-browser Compatibility:** Bootstrap ensures cross-browser compatibility, reducing the need for extensive browser-specific CSS adjustments.
- **Mobile-First Approach:** Bootstrap follows a mobile-first approach, prioritizing mobile design and then enhancing it for larger screens.
- **Community and Resources:** It has an active community and extensive documentation, making it easier for developers to learn and troubleshoot responsive design challenges.

Output :

