Assignment 17: Introduction to Bootstrap

Theory Assignment Answers

1. **What is Bootstrap, and why is it useful for website design?**
   Bootstrap is a popular front-end framework for building responsive and mobile-first websites. It provides pre-designed CSS and JavaScript components like grids, buttons, forms, and modals.
   Why is it useful?
   a. Saves time by providing ready-to-use components.
   b. Ensures **responsive design** with its **grid system**.
   c. Compatible with all major browsers.
   d. Easy to use and customize.

2. **Explain the Bootstrap grid system and how it helps create responsive layouts.**
   Bootstrap's **grid system** is a flexible layout structure based on **12 columns**. It allows you to create responsive designs by defining how elements should be arranged at different screen sizes.
   a. Uses **container**, **row**, and **column** classes.
   b. Supports **breakpoints** (e.g., `col-sm-`, `col-md-`, `col-lg-`, `col-xl-`).
   c. Automatically adjusts elements based on screen size.
   d. On **mobile screens**, these columns stack vertically. On larger screens, they appear side by side.

3. **List and explain at least three Bootstrap components.**

- **Navbar**: A responsive navigation bar for easy site navigation.
- **Cards**: Used to create flexible and extensible content containers.
- **Buttons**: Pre-styled buttons with various sizes, colors, and effects.

Practical Assignment

1. **Redesign an HTML webpage using Bootstrap:**

(a) Implement a responsive grid layout for the header, main content, and footer.

http://127.0.0.1:5500/index.html/intro.html

(b) Add Bootstrap buttons and a styled form.

http://127.0.0.1:5500/index.html/intro.html

(c) Create a simple portfolio page with Bootstrap's card component.

http://127.0.0.1:5500/intro.html/index.html

Assignment 18: Advanced Bootstrap Components

Theory Assignment Answers

1. **Explain how modals and carousels work in Bootstrap.**
   a. **Modals** are pop-up windows that appear over the main content. They are used for forms, alerts, or extra information.
   b. **Carousels** are slideshow components that cycle through images automatically or via user controls.
2. **Describe the purpose of utility classes in Bootstrap and give examples.**
   Utility classes allow quick styling without writing custom CSS. Examples:
   a. `text-center` → Centers text.
   b. `bg-primary` → Adds a blue background.
   c. `p-3` → Adds padding.
3. **Discuss the importance of customizing Bootstrap variables for unique styling.**
   a. Helps match branding by **changing colors, fonts, and button styles**.
   b. Uses **SCSS variables** (`$primary: red;`) to apply global design changes.

Practical Assignment

1. **Add a Bootstrap carousel to showcase multiple images.**

http://127.0.0.1:5500/index.html/intro.html

  2.`Create a contact form in a modal.`

http://127.0.0.1:5500/index.html/intro.html?

`Customize Bootstrap using variables (SCSS example).`

`Create a custom SCSS file:`

```scss
$primary: #ff5733; // Change primary color
$btn-border-radius: 50px; // Make buttons rounded
@import "bootstrap";
```