**Theory Assignment**

**1. How Modals and Carousels Work in Bootstrap**

**🔹 Modals**

A **modal** is a dialog box that appears on top of the current page. Bootstrap modals are triggered using buttons or links and are hidden by default.

**Key features:**

* Controlled using data attributes or JavaScript.
* Contains a header, body, and footer by default.

**Example:**

html

<button class="btn btn-primary" data-bs-toggle="modal" data-bs-target="#contactModal">

Contact Us

</button>

<div class="modal fade" id="contactModal">

<div class="modal-dialog">

<div class="modal-content">

<!-- Modal content here -->

</div>

</div>

</div>

**🔹 Carousels**

A **carousel** displays a slideshow of images or content with controls to navigate between slides.

**Example:**

html

<div id="myCarousel" class="carousel slide" data-bs-ride="carousel">

<div class="carousel-inner">

<div class="carousel-item active">

<img src="image1.jpg" class="d-block w-100">

</div>

<div class="carousel-item">

<img src="image2.jpg" class="d-block w-100">

</div>

</div>

<!-- Controls -->

<button class="carousel-control-prev" data-bs-target="#myCarousel" data-bs-slide="prev">

<span class="carousel-control-prev-icon"></span>

</button>

</div>

**2. Utility Classes in Bootstrap**

**Utility classes** provide quick, single-purpose styling without writing custom CSS.

**🔹 Examples:**

* Spacing: p-3, m-4, mt-2, mb-5
* Colors: bg-primary, text-danger, border-success
* Text: text-center, text-uppercase, fw-bold
* Flexbox: d-flex, justify-content-between, align-items-center

**Purpose:** They allow rapid prototyping and layout adjustments without extra CSS.

**3. Customizing Bootstrap Variables**

Bootstrap uses **Sass variables** for colors, spacing, breakpoints, etc.

**🔹 Importance:**

* Allows branding and theme consistency.
* Easily change all buttons, navbars, or backgrounds globally.

**🔹 Example (Sass):**

scss

$primary: #ff5733;

$btn-border-radius: 8px;

@import "bootstrap";