**Summary: Bootstrap Framework**

**Bootstrap** is a popular front-end framework for developing responsive and mobile-first websites. It provides pre-designed components and a flexible grid system, making it easier to create visually appealing and user-friendly web applications. Here’s how Bootstrap assists in developing responsive designs and an example layout:

**Key Features of Bootstrap:**

1. **Responsive Grid System**:
   * Bootstrap's grid system allows developers to create layouts that adapt to various screen sizes. It uses a 12-column layout and includes breakpoints for different devices (e.g., mobile, tablet, desktop).
2. **Pre-built Components**:
   * Bootstrap offers a variety of reusable components like navbars, buttons, cards, modals, and more, which can be easily customized to suit the design.
3. **Utility Classes**:
   * Bootstrap includes many utility classes for spacing, alignment, colors, and more, enabling quick styling without writing custom CSS.

**Example Layout using Bootstrap**

Here’s a simple web layout that includes a navbar, a grid system, and buttons:

html

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<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">

<title>Bootstrap Example</title>

</head>

<body>

<!-- Navbar -->

<nav class="navbar navbar-expand-lg navbar-light bg-light">

<a class="navbar-brand" href="#">My Website</a>

<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

<span class="navbar-toggler-icon"></span>

</button>

<div class="collapse navbar-collapse" id="navbarNav">

<ul class="navbar-nav">

<li class="nav-item active">

<a class="nav-link" href="#">Home</a>

</li>

<li class="nav-item">

<a class="nav-link" href="#">Features</a>

</li>

<li class="nav-item">

<a class="nav-link" href="#">Pricing</a>

</li>

</ul>

</div>

</nav>

<!-- Main Content -->

<div class="container mt-4">

<div class="row">

<div class="col-md-6">

<h2>Column 1</h2>

<p>This is some content for the first column.</p>

<button class="btn btn-primary">Primary Button</button>

</div>

<div class="col-md-6">

<h2>Column 2</h2>

<p>This is some content for the second column.</p>

<button class="btn btn-secondary">Secondary Button</button>

</div>

</div>

</div>

<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>

<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"></script>

<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>

</body>

</html>

**Explanation of Bootstrap Classes Used**

1. **Navbar Classes**:
   * navbar, navbar-expand-lg, navbar-light, bg-light: These classes create a responsive navbar that collapses on smaller screens.
   * navbar-brand: Styles the brand name in the navbar.
   * nav-item, nav-link: Used for the items in the navigation list.
2. **Grid System**:
   * container: Centers the content and provides responsive margins.
   * row: Creates a horizontal group of columns.
   * col-md-6: Defines a column that takes up 6 out of 12 columns on medium and larger devices.
3. **Buttons**:
   * btn, btn-primary, btn-secondary: Styles buttons with different colors. btn-primary for a blue button, btn-secondary for a gray button.