**Experiment Documentation: Enhanced Responsive Web Design**

**Experiment Title: Creating an Enhanced Responsive Web Design with Bootstrap and Custom CSS**

**1. Problem Statement**

**To create a responsive website using HTML, Bootstrap, and custom CSS, featuring a navigation bar, a carousel, a services section with cards, and a footer.**

**2. Steps and Explanation**

**HTML Document Declaration**

* **The document starts with <!DOCTYPE html>, declaring the HTML5 document type.**
* **The <html> tag includes the lang="en" attribute, specifying English as the page’s language.**

**Head Section**

* **Meta Tags:**
  + **<meta charset="UTF-8"> ensures the document uses UTF-8 character encoding, supporting a wide range of characters.**
  + **<meta name="viewport" content="width=device-width, initial-scale=1.0"> ensures responsive design, making the page adaptable to various device screen sizes.**
* **Title: The <title> element sets the webpage's title as "Enhanced Responsive Web Design".**
* **Bootstrap CSS:**
  + **The link tag includes a CDN reference to Bootstrap CSS, which simplifies styling with pre-built components and responsive design elements.**
* **Custom CSS:**
  + **The <style> section provides additional customizations to override Bootstrap defaults and fine-tune the design for your website.**

**Custom CSS Breakdown:**

1. **Body Styling:**
   * **A clean and light background (#f4f4f9) with text color (#333) for readability.**
   * **Font family set to 'Segoe UI', sans-serif for a modern, clean look.**
2. **Navbar Customization:**
   * **.navbar: Background color is set to dark purple (#563d7c).**
   * **.navbar-brand and .navbar-nav .nav-link: Text color is set to white (#ffffff), ensuring contrast against the dark background.**
   * **.navbar-nav .nav-link:hover: Yellow hover effect (#ffde59) for interactivity.**
3. **Carousel Customization:**
   * **.carousel-item: Height is set to 400px, with a dark blue background (#2c3e50) and white text (#ecf0f1) for contrast.**
   * **Flexbox ensures centered content with a bold font style (font-size: 2rem and font-weight: bold).**
4. **Cards Customization:**
   * **.card: Box shadow, rounded corners, and hover effect (scale and shadow enhancement) are applied for interactivity and aesthetic appeal.**
   * **.card-title: Font size (1.5rem) and color (#34495e) distinguish the titles.**
   * **.btn-primary: Purple background (#563d7c) with a hover effect turning the button yellow (#ffde59).**
5. **Grid Customization:**
   * **.container: Adds a margin of 50px at the top, keeping the sections neatly spaced.**
6. **Footer Styling:**
   * **footer: Dark grey background (#34495e) and white text for consistency with the overall theme. Padding of 20px adds visual comfort.**
7. **Responsive Adjustments:**
   * **Media queries (@media) ensure the carousel text and card titles scale down on smaller screens for a better mobile experience.**

**Body Section**

1. **Navbar:**
   * **A responsive Bootstrap-based navbar is used with a dark purple background. It features links to "Home", "About", "Services", and "Contact", aligning to the right using Bootstrap’s ms-auto class.**
   * **On mobile, the navbar collapses into a hamburger menu.**
2. **Carousel:**
   * **The carousel includes three slides, each containing centered text inside a carousel-caption. Navigation controls (Previous and Next) are included to allow users to switch between slides.**
3. **Cards Section:**
   * **A Bootstrap grid system is used to display three cards in a row (on medium and larger screens) under the "Our Services" heading.**
   * **Each card has a title, description, and a "Learn More" button. Hover effects apply scale transformation and shadow for an interactive feel.**
4. **Footer:**
   * **The footer at the bottom of the page provides copyright information with a dark grey background to distinguish it from the rest of the content.**

**3. Expected Output**

