

# Day1

**Assignment 1: Implement a navigation bar using an unordered list with links to different sections of your HTML page. Use CSS to style the list as a horizontal menu and highlight the current page or section.**

**HTML Structure:**

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Navigation Bar</title>

  <link rel="stylesheet" href="styles.css">

</head>

<body>

  <header>

    <nav>

      <ul>

        <li><a href="#home">Home</a></li>

        <li><a href="#about">About</a></li>

        <li><a href="#services">Services</a></li>

        <li><a href="#contact">Contact</a></li>

      </ul>

    </nav>

  </header>

  <section id="home">

    <h2>Home Section</h2>
```

```
<p>Welcome to the Home section.</p>
</section>

<section id="about">
  <h2>About Section</h2>
  <p>Learn more about us in the About section.</p>
</section>

<section id="services">
  <h2>Services Section</h2>
  <p>Explore our services in the Services section.</p>
</section>

<section id="contact">
  <h2>Contact Section</h2>
  <p>Contact us through the Contact section.</p>
</section>
</body>
</html>
```

CSS:

```
margin: 0;
padding: 0;
box-sizing: border-box;
}
header nav ul {
  list-style-type: none;
  background-color: #333;
  text-align: center;
```

```
padding: 10px 0;
}
header nav ul li {
    display: inline;
}
header nav ul li a {
    text-decoration: none;
    color: white;
    padding: 10px 20px;
    display: inline-block;
    transition: background-color 0.3s ease;
}
header nav ul li a:hover {
    background-color: #555;
}
header nav ul li a.active {
    background-color: #4CAF50;
}
```

## Explanation

### HTML Structure:

- The navigation bar (<nav>) is placed inside the <header> element for semantic purposes.
- An <ul> (unordered list) is used to list navigation items, each wrapped in an <li> (list item).
- Each <a> (anchor) tag within the <li> points to a corresponding section of the page using href="#section\_id".

### CSS Styles:

- **Resetting:** The \* selector resets margins, padding, and sets box-sizing to border-box to ensure consistent box model behavior.

- **Navigation Styling:** Sets background color, centers text, and adds padding to the <ul> for spacing.
- **List Item Styling:** Makes list items display inline to create a horizontal menu.
- **Link Styling:** Removes underline, sets text color to white, adds padding for spacing, and makes links inline-block for layout control.
- **Hover Effect:** Changes background color on hover to provide visual feedback.
- **Active Link Styling:** Defines a specific style for the active/current page link using the .active class.

**Assignment 2: Create a simple HTML page that includes the use of headings, paragraphs, and at least two semantic tags like <article> or <section>. Add a table with data of your choice and a form with fields for a user's name, email, and a submit button.**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple HTML Page</title>
  <style>
    table {
      width: 50%;
      margin-top: 20px;
    }
    table, th, td {
      border: 1px solid black;
    }
    form {
      margin-top: 20px;
    }
  </style>
</head>
```

<body>

<header>

<h1>Welcome to My Simple HTML Page</h1>

</header>

<section>

<h2>About This Page</h2>

<p>This page is a demonstration </p>

</section>

<article>

<h2>Sample Article</h2>

<p>This is a sample article to demonstrate </p>

</article>

<section>

<h2>Data Table</h2>

<table>

<thead>

<tr>

<th>Name</th>

<th>Age</th>

<th>City</th>

</tr>

</thead>

<tbody>

<tr>

<td>John Doe</td>

```
        <td>30</td>

        <td>New York</td>
    </tr>

    <tr>

        <td>Jane Smith</td>

        <td>25</td>

        <td>Los Angeles</td>
    </tr>

    <tr>

        <td>Mike Johnson</td>

        <td>35</td>

        <td>Chicago</td>
    </tr>
</tbody>
</table>
</section>
```

```
<section>

    <h2>Contact Form</h2>

    <form action="#" method="post">

        <label for="name">Name:</label><br>

        <input type="text" id="name" name="name" required><br><br>

        <label for="email">Email:</label><br>

        <input type="email" id="email" name="email" required><br><br>

        <input type="submit" value="Submit">

    </form>
</section>
```

```
<footer>

    <p>&copy; 2024 Simple HTML Page. All rights reserved.</p>

</footer>
```

```
</body>

</html>
```

#### Explanation:

- **Header and Headings:** The page starts with a <header> containing an <h1> heading.
- **Sections and Articles:** Two main content sections are created using <section> and <article> tags, each containing an <h2> heading and a paragraph.
- **Table:** A simple table is included with a header row and three data rows.
- **Form:** The form includes fields for the user's name and email, with a submit button. Each field is labeled and marked as required.
- **Footer:** A footer section at the bottom of the page includes a copyright notice.

**Assignment 3: Apply the CSS box model to ensure that your page content has appropriate margins and padding. Create a layout using div tags and style them to arrange content in a multi-column format using floats or flexbox.**

```
<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

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

    <title>Simple HTML Page with Flexbox</title>

    <style>

        body {

            font-family: Arial, sans-serif;

            margin: 0;

            padding: 0;

            box-sizing: border-box;
```

```
}  
  
* {  
    box-sizing: inherit;  
}  
  
header, footer {  
    background-color: #f8f8f8;  
    padding: 20px;  
    text-align: center;  
}  
  
.container {  
    display: flex;  
    flex-wrap: wrap;  
    margin: 20px;  
}  
  
.column {  
    padding: 20px;  
    box-sizing: border-box;  
}  
  
.left, .right {  
    flex: 1 1 25%;  
}  
  
.main {  
    flex: 1 1 50%;  
}  
  
table {  
    width: 100%;  
    border-collapse: collapse;  
    margin-top: 20px;  
}
```



```
table, th, td {
    border: 1px solid black;
}
th, td {
    padding: 10px;
    text-align: left;
}
form {
    margin-top: 20px;
}
</style>
</head>
<body>

<header>
    <h1>Welcome to My Simple HTML Page</h1>
</header>

<div class="container">
    <div class="column left">
        <section>
            <h2>About This Page</h2>
            <p>This page is a demonstration of basic HTML elements, including headings,
paragraphs, semantic tags, a table, and a form.</p>
        </section>
    </div>

    <div class="column main">
        <article>
            <h2>Sample Article</h2>
```

`<p>`This is a sample article to demonstrate the use of the `<code>&lt;article&gt;</code>` tag in HTML5. Articles are intended to be independent sections of content.`</p>`

`</article>`

`<section>`

`<h2>`Data Table`</h2>`

`<table>`

`<thead>`

`<tr>`

`<th>`Name`</th>`

`<th>`Age`</th>`

`<th>`City`</th>`

`</tr>`

`</thead>`

`<tbody>`

`<tr>`

`<td>`Alice Brown`</td>`

`<td>`28`</td>`

`<td>`San Francisco`</td>`

`</tr>`

`<tr>`

`<td>`Bob White`</td>`

`<td>`32`</td>`

`<td>`Seattle`</td>`

`</tr>`

`<tr>`

`<td>`Charlie Green`</td>`

`<td>`40`</td>`

`<td>`Boston`</td>`

```
</tr>
</tbody>
</table>
</section>
```

```
<section>
  <h2>Contact Form</h2>
  <form action="#" method="post">
    <label for="name">Name:</label><br>
    <input type="text" id="name" name="name" required><br><br>

    <label for="email">Email:</label><br>
    <input type="email" id="email" name="email" required><br><br>
    <input type="submit" value="Submit">
  </form>
</section>
</div>
```

```
<div class="column right">
  <aside>
    <h2>Side Content</h2>
    <p>This is some additional side content, perhaps for advertisements, links, or other
relevant information.</p>
  </aside>
</div>
</div>
```

```
<footer>
  <p>&copy; 2024 Simple HTML Page. All rights reserved.</p>
</footer>
```

</body>

</html>

## Explanation

### Box Model:

- **box-sizing: border-box;** ensures that padding and border are included in the element's total width and height.
- Applied consistent padding and margins to provide spacing around and inside elements.

### Flexbox Layout:

- The .container class uses display: flex; and flex-wrap: wrap; to create a flexible, responsive layout.
- The .column class is used for all columns, with padding for spacing.
- .left, .main, and .right classes define the relative widths of the columns.

### Styling:

- header and footer sections have a background color and centered text.
- The main content is divided into three columns (left, main, `right

Name	Age	City
Alice Brown	28	San Francisco
Bob White	32	Seattle
Charlie Green	40	Boston

**Assignment 4: Enhance the page by adding CSS3 animations to the menu and form elements. Also, use media queries to make the page responsive, ensuring it looks good on both desktop and mobile screen sizes.**

<!-- HTML structure example -->

<div class="menu">

<a href="#" class="menu-item">Home</a>

<a href="#" class="menu-item">About</a>

```
<a href="#" class="menu-item">Services</a>
<a href="#" class="menu-item">Contact</a>
</div>

<form>
  <label for="name">Name:</label>
  <input type="text" id="name" name="name">
  <label for="email">Email:</label>
  <input type="email" id="email" name="email">
  <label for="message">Message:</label>
  <textarea id="message" name="message"></textarea>
  <button type="submit">Submit</button>
</form>
```

### HTML Structure:

We have a simple header with a navigation menu (nav.menu) and a main section containing a section.contact-form with a form inside.

```
.menu-item {
  transition: transform 0.3s ease-in-out;
}

.menu-item:hover {
  transform: scale(1.1);
}

input[type="text"], input[type="email"], textarea {
  transition: border-color 0.3s ease-in-out;
}
```

```

input[type="text"]:focus, input[type="email"]:focus, textarea:focus {
    border-color: #3b99fc;
}

@media only screen and (min-width: 1024px) {
    .menu {
        display: flex;
        justify-content: space-between;
    }
}

@media only screen and (max-width: 1023px) and (min-width: 768px) {
    .menu {
        display: flex;
        flex-direction: column;
    }
}

@media only screen and (max-width: 767px) {
    .menu {
        display: block;
    }
}

```

#### CSS Styles:

- **Menu Animation:** Menu items (a.menu-item) scale up (transform: scale(1.1)) on hover.
- **Form Styles:** Form inputs (input[type="text"], input[type="email"], textarea) have transition effects (border-color) on focus.
- **Responsive Design:** Media queries (@media) adjust the layout for screens up to 768px width, changing the menu to a column layout (flex-direction: column) and adjusting padding and margins for better mobile usability.

Assignment 5: Take the static HTML page from Day 1 and integrate Bootstrap. Refactor the navigation bar, table, and form to use Bootstrap components. Ensure the page is responsive using Bootstrap's grid system.

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Bootstrap Integrated Page</title>


  <!-- Bootstrap CSS -->

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


  <!-- Custom CSS -->

  <link rel="stylesheet" href="styles.css">
</head>

<body>

  <header>

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

      <a class="navbar-brand" href="#">Navbar</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 <span class="sr-
only">(current)</span></a>
```

```
</li>

<li class="nav-item">

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

</li>

<li class="nav-item">

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

</li>

<li class="nav-item">

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

</li>

</ul>

</div>

</nav>

</header>


<main class="container mt-4">

  <section class="contact-form">

    <h2>Contact Us</h2>

    <form>

      <div class="form-group">

        <label for="name">Name:</label>

        <input type="text" class="form-control" id="name" name="name" required>

      </div>

      <div class="form-group">

        <label for="email">Email:</label>

        <input type="email" class="form-control" id="email" name="email" required>

      </div>

    </form>

  </section>

</main>
```



```
<div class="form-group">
  <label for="message">Message:</label>
  <textarea class="form-control" id="message" name="message" rows="4"
required></textarea>
</div>
```

```
<button type="submit" class="btn btn-primary">Submit</button>
</form>
</section>
```

```
<section class="mt-4">
  <h2>Users</h2>
  <div class="table-responsive">
    <table class="table table-striped table-bordered">
      <thead class="thead-dark">
        <tr>
          <th>Name</th>
          <th>Email</th>
          <th>Phone</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>John Doe</td>
          <td>john@example.com</td>
          <td>123-456-7890</td>
        </tr>
        <tr>
          <td>Jane Smith</td>
          <td>jane@example.com</td>
```

```

        <td>987-654-3210</td>

    </tr>

</tbody>

</table>

</div>

</section>

</main>

<!-- Bootstrap JS and dependencies -->

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

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@1.16.1/dist/umd/popper.min.js"></s
cript>

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

</body>

</html>

```

## Explanation

### Bootstrap Integration:

- **Navbar:** Replaced with Bootstrap's navbar component, including a responsive toggle button (navbar-toggler).
- **Form:** Enhanced with Bootstrap's form-group and form-control classes for styling and structure.
- **Table:** Utilized Bootstrap's table, table-striped, table-bordered, and thead-dark classes for styling.
- **Grid System:** Utilized Bootstrap's container, row, and col classes for responsive layout within main.

### Custom CSS:

You can still use custom CSS (styles.css) to add additional styles or overrides specific to your design needs.