Lab 5: Responsive Web Design with Bootstrap

Objective:

To learn about Responsive Web Design and Bootstrap, understanding their core concepts, advantages, and implementation in web development.

Lab Journal

Task 1: Creating a Basic Bootstrap Page

Objective: Create a simple webpage using Bootstrap that includes a header, a paragraph, and a button.

Instructions:

1. Create a new HTML file and include the Bootstrap CDN links.
2. Use a `<div>` container with the `.container` class.
3. Add a `<h1>` header and a paragraph inside the container.
4. Create a Bootstrap button using the `.btn` and `.btn-primary` classes.
5. Run the file in a browser and observe the responsiveness.

Expected Outcome: A basic webpage with a Bootstrap-styled header, paragraph, and button.

Code Example:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Bootstrap Page</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootst
</head>
<body>
    <div class="container">
        <h1>Welcome to Bootstrap</h1>
        <p>This is a simple Bootstrap page.</p>
        <button class="btn btn-primary">Click Me</button>
    </div>
</body>
</html>
```

Task 2: Implementing the Bootstrap Grid System

Objective: Use the Bootstrap grid system to create a responsive layout with three columns.

Instructions:

1. Inside a `.container`, create a `<div>` with the `.row` class.
2. Add three `<div>` elements inside the row with the `.col-md-4` class.
3. Style each column with different background colors to distinguish them.
4. Resize the browser window and observe how the columns adjust responsively.

Expected Outcome: A three-column layout that stacks vertically on smaller screens.

Code Example:

```html
<div class="container">
    <div class="row">
        <div class="col-md-4" style="background-color: lightblue;">Column 1</div>
        <div class="col-md-4" style="background-color: lightcoral;">Column 2</div>
        <div class="col-md-4" style="background-color: lightgreen;">Column 3</div>
    </div>
</div>
```

Task 3: Creating a Responsive Table

Objective: Design a Bootstrap table that adapts to different screen sizes.

Instructions:

1. Create a table using the `.table` class.
2. Add `.table-bordered` to include borders.
3. Use `.table-striped` for alternating row colors.
4. Wrap the table inside a `<div>` with `.table-responsive` to enable scrolling on smaller screens.
5. Test by viewing the page on different screen sizes.

Expected Outcome: A responsive table that displays well on various devices.

Code Example:

```html
<div class="container">
    <h2>Responsive Bootstrap Table</h2>
    <div class="table-responsive">
        <table class="table table-bordered table-striped">
            <thead>
                <tr>
                    <th>Firstname</th>
                    <th>Lastname</th>
                    <th>Email</th>
                </tr>
            </thead>
            <tbody>
                <tr>
                    <td>John</td>
                    <td>Doe</td>
                    <td>john@example.com</td>
                </tr>
                <tr>
                    <td>Jane</td>
                    <td>Moe</td>
                    <td>jane@example.com</td>
                </tr>
            </tbody>
        </table>
    </div>
</div>
```

Conclusion

Bootstrap is a powerful framework that simplifies web development by offering responsive and mobile-friendly components. By leveraging Bootstrap's grid system, responsive elements, and predefined styles, developers can quickly create modern and professional-looking web applications.