HTML and CSS Course Outline with Examples

1. Getting Started with HTML and CSS

What Are HTML and CSS?

- **HTML**: Structures your content on the web (e.g., headings, paragraphs, forms).
- **CSS**: Styles the HTML content (e.g., colors, layouts, animations).

How Do They Work Together?

1. HTML creates the structure.
2. CSS enhances it visually.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Basic Page</title>
    <style>
      body {
        font-family: Arial, sans-serif;
        background-color: #f0f0f0;
      }
      h1 {
        color: blue;
      }
      p {
        color: gray;
      }
    </style>
  </head>
  <body>
    <h1>Hello, World!</h1>
    <p>This is a paragraph styled with CSS.</p>
  </body>
</html>
```

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2. Structuring a Webpage

HTML Basics

- Use semantic tags like `<header>`, `<nav>`, `<main>`, and `<footer>` for better structure.

Adding CSS to the Structure

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Website</title>
    <style>
      header {
        background-color: #4CAF50;
        color: white;
        text-align: center;
        padding: 1rem;
      }
      nav {
        background: #333;
        padding: 0.5rem;
      }
      nav a {
        color: white;
        text-decoration: none;
        margin: 0 10px;
      }
      main {
        padding: 20px;
      }
    </style>
  </head>
  <body>
    <header>
      <h1>Welcome to My Website</h1>
    </header>
    <nav>
      <a href="#">Home</a>
      <a href="#">About</a>
      <a href="#">Contact</a>
    </nav>
    <main>
      <p>This is the main content area.</p>
    </main>
  </body>
</html>
```

3. Building Forms

HTML Form

- Use `<form>` with `<input>`, `<button>`, `<textarea>`.

Styling the Form

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <style>
      form {
        max-width: 400px;
        margin: 0 auto;
        padding: 20px;
        background-color: #f9f9f9;
        border: 1px solid #ccc;
        border-radius: 5px;
      }
      input, textarea {
        width: 100%;
        padding: 10px;
        margin: 10px 0;
        border: 1px solid #ccc;
        border-radius: 5px;
      }
      button {
        width: 100%;
        padding: 10px;
        background-color: #4CAF50;
        color: white;
        border: none;
        border-radius: 5px;
        cursor: pointer;
      }
      button:hover {
        background-color: #45a049;
      }
    </style>
  </head>
  <body>
    <form>
      <input type="text" placeholder="Your Name">
      <textarea placeholder="Your Message"></textarea>
      <button type="submit">Send</button>
    </form>
  </body>
</html>
```

4. Positioning with CSS

- Learn **Flexbox** and **Grid** for layout designs.

Using Flexbox

```
<!DOCTYPE html>
<html>
  <head>
    <style>
      .container {
        display: flex;
        justify-content: space-around;
        align-items: center;
        height: 100vh;
        background-color: #f0f0f0;
      }
      .box {
        width: 100px;
        height: 100px;
        background-color: #4CAF50;
        text-align: center;
        line-height: 100px;
        color: white;
      }
    </style>
  </head>
  <body>
    <div class="container">
      <div class="box">1</div>
      <div class="box">2</div>
      <div class="box">3</div>
    </div>
  </body>
</html>
```

---

5. Small Project: Personal Portfolio Website

Project Objective

Build a simple portfolio website using both HTML and CSS.

HTML Structure

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Portfolio</title>
    <link rel="stylesheet" href="styles.css">
  </head>
  <body>
    <header>
      <h1>John Doe</h1>
      <p>Web Developer</p>
    </header>
    <nav>
      <a href="#about">About</a>
      <a href="#projects">Projects</a>
      <a href="#contact">Contact</a>
    </nav>
    <main>
      <section id="about">
        <h2>About Me</h2>
        <p>I am a passionate web developer with a love for creating modern
and responsive designs.</p>
      </section>
      <section id="projects">
        <h2>My Projects</h2>
        <div class="project">
          <h3>Project 1</h3>
          <p>Description of the project.</p>
        </div>
      </section>
      <section id="contact">
        <h2>Contact Me</h2>
        <form>
          <input type="text" placeholder="Your Name">
          <input type="email" placeholder="Your Email">
          <textarea placeholder="Your Message"></textarea>
          <button type="submit">Send</button>
        </form>
      </section>
    </main>
    <footer>
      <p>&copy; 2024 John Doe. All rights reserved.</p>
    </footer>
  </body>
</html>
```

CSS File (styles.css)

```css
body {
  font-family: Arial, sans-serif;
  line-height: 1.6;
  margin: 0;
  padding: 0;
  box-sizing: border-box;
}

header {
  background: #4CAF50;
  color: white;
  text-align: center;
  padding: 1.5rem 0;
}

nav {
  display: flex;
  justify-content: center;
  background: #333;
  padding: 1rem;
}

nav a {
  color: white;
  text-decoration: none;
  margin: 0 15px;
}

main {
  padding: 2rem;
}

section {
  margin-bottom: 2rem;
}

footer {
  text-align: center;
  background: #333;
  color: white;
  padding: 1rem 0;
}
```

Project Explanation

1. **HTML Creates the Structure**: The header, navigation, and sections for About, Projects, and Contact are added using semantic HTML.
2. **CSS Styles the Page**: Colors, padding, margins, and responsive layouts are applied.
3. **Interactive Form**: The contact form includes styled inputs and a button.