CSS Tutorial – Lesson 1: Getting Started
Introduction, Selectors, Cascade, Box Model, and a First Project

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Learning Goals

By the end of this lesson, students will be able to:

- Explain the purpose of CSS in web development.
- Include CSS in three ways: inline, internal, and external.
- Use core selectors (element, class, id, group, descendant).
- Understand the cascade and specificity.
- Apply common CSS properties for color, fonts, spacing, and borders.
- Use the CSS box model to control layout.

1 What is CSS?

Cascading Style Sheets (CSS) control the presentation of HTML pages: colors, fonts, spacing, layout, and responsiveness. HTML = content and structure; CSS = design and appearance.

2 Three Ways to Add CSS

Inline CSS

```
<p style="color:crimson; font-size:20px;">Hello CSS!</p>
```

Internal CSS

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Internal CSS Demo</title>
  <style>
    h1 { color: royalblue; text-align: center; }
    p { font-size: 18px; line-height: 1.6; }
  </style>
</head>
<body>
  <h1>Welcome</h1>
  <p>This page uses internal CSS.</p>
</body>
</html>
```

External CSS

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8">
5    <title>External CSS Demo</title>
6    <link rel="stylesheet" href="styles.css">
7  </head>
8  <body>
9    <h1>External Stylesheet</h1>
10   <p>Separation of structure and design.</p>
11 </body>
12 </html>
```

Listing 1: styles.css

```
1  h1 { color: #2563eb; }
2  p { font-family: Arial, sans-serif; }
```

3   Core Selectors

```
1  /* Element selector */
2  p { color: #333; }
3
4  /* Class selector */
5  .card { padding: 16px; border: 1px solid #ddd; }
6
7  /* ID selector */
8  #hero { background: #f0f8ff; }
9
10 /* Group selector */
11 h1, h2, h3 { font-family: Georgia, serif; }
12
13 /* Descendant selector */
14 nav a { text-decoration: none; }
15
16 /* Attribute selector */
17 input[type="email"] { border-color: green; }
18
19 /* Pseudo-class selectors */
20 a:hover { text-decoration: underline; }
21 input:focus { outline: 2px solid blue; }
```

4   Cascade and Specificity

When multiple rules apply:

1. **Importance:** `!important` overrides all.

2. **Specificity:** ID > class/attribute > element.

3. **Order:** Later rules override earlier ones if tied.

5 The Box Model

Every element has:

- Content

- Padding (space inside border)

- Border

- Margin (outside space)

```css
1  .card {
2    width: 320px;
3    padding: 16px;
4    border: 1px solid #ddd;
5    margin: 16px auto;
6    border-radius: 8px;
7  }
```

6 Mini Project: Styling a Form

HTML Structure

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4     <meta charset="UTF-8">
5     <title>Registration Form</title>
6     <link rel="stylesheet" href="style.css">
7   </head>
8   <body>
9     <h2>Student Registration Form</h2>
10    <form class="form-card">
11      <label>Full Name <input type="text" required></label>
12      <label>Email <input type="email" required></label>
13      <label>Password <input type="password" required></label>
14      <label>Course
15        <select required>
16          <option value="">-- Select --</option>
17          <option>BCA</option>
18          <option>B.Tech</option>
19        </select>
20      </label>
21      <div class="actions">
22        <button type="submit" class="btn">Register</button>
23        <button type="reset" class="btn secondary">Reset</button>
24      </div>
25    </form>
26  </body>
27  </html>
```

CSS Styles

```
1   body {
2     font-family: Arial, sans-serif;
3     background: #f9fafb;
4     color: #333;
5   }
6   h2 { text-align: center; }
7
8   .form-card {
9     width: 400px;
10    margin: 20px auto;
11    padding: 16px;
12    background: white;
13    border: 1px solid #ddd;
14    border-radius: 8px;
15  }
16
17  label {
18    display: block;
19    margin: 12px 0;
20  }
21
22  input, select {
23    width: 100%;
24    padding: 8px;
25    border: 1px solid #ccc;
26    border-radius: 4px;
27  }
28
29  .actions {
30    text-align: center;
31    margin-top: 16px;
32  }
33
34  .btn {
35    padding: 8px 16px;
36    background: #2563eb;
37    color: white;
38    border: none;
39    border-radius: 4px;
40    cursor: pointer;
41  }
42
43  .btn.secondary {
44    background: gray;
45  }
```

7 Practice Tasks

1. Change all `h2` headings to green.

2. Increase padding inside all inputs.

3. Add a hover effect on the Register button.

8 Quick Quiz

1. Which is more specific: `#id` or `.class`?

2. If two selectors have equal specificity, which applies?

3. What does `box-sizing:  border-box` do?

4. Which method of CSS inclusion is best for projects?

5. Which pseudo-class styles inputs when active?

End of CSS Lesson 1. You are now ready for Lesson 2: Typography and Color Systems.