# CSS Guide

## 2. CSS

### 2.1 Basics of CSS

#### 2.1.1 CSS Introduction

* **CSS (Cascading Style Sheets)**: A language used for describing the presentation of a document written in HTML or XML. It controls the layout, colors, fonts, and overall visual aesthetics of a webpage.
* **Why Use CSS?**: CSS makes it easier to change the appearance of web pages by separating the content (HTML) from the presentation (CSS). This results in cleaner code and more efficient design processes.
* **Example**:
* <!DOCTYPE html>  
  **<html>**  
   **<head>**  
   **<style>**  
   body {  
   **background-color**: #f0f8ff;  
   }  
   h1 {  
   **color**: #333;  
   **font-size**: 24px;  
   }  
   p {  
   **color**: #666;  
   **line-height**: 1.6;  
   }  
   **</style>**  
   **</head>**  
   **<body>**  
   **<h1>**Welcome to CSS**</h1>**  
   **<p>**  
   CSS allows you to style and design web pages beautifully and  
   effectively.  
   **</p>**  
   **</body>**  
  **</html>**

#### 2.1.2 External, Internal, and Inline Style Sheets

* **External Style Sheet**: CSS is written in a separate file (e.g., styles.css) and linked to the HTML document using the <link> tag in the <head>.
  + **Example**:
  + *<!-- HTML File -->*  
    <!DOCTYPE html>  
    **<html>**  
     **<head>**  
     **<link** **rel**="stylesheet" **href**="styles.css" **/>**  
     **</head>**  
     **<body>**  
     **<h1>**External CSS Example**</h1>**  
     **<p>**Styles are applied from an external stylesheet.**</p>**  
     **</body>**  
    **</html>**
  + */\* styles.css \*/*  
    h1 {  
     **color**: navy;  
    }  
    p {  
     **font-size**: 16px;  
    }
* **Internal Style Sheet**: CSS is written within a <style> tag in the <head> section of the HTML file.
  + **Example**:
  + <!DOCTYPE html>  
    **<html>**  
     **<head>**  
     **<style>**  
     body {  
     **background-color**: #eee;  
     }  
     h1 {  
     **color**: #0066cc;  
     }  
     **</style>**  
     **</head>**  
     **<body>**  
     **<h1>**Internal CSS Example**</h1>**  
     **<p>**This example uses an internal stylesheet.**</p>**  
     **</body>**  
    **</html>**
* **Inline Style**: CSS is applied directly within an HTML element using the style attribute.
  + **Example**:
  + **<h1** **style**="color: red; font-size: 20px;"**>**Inline CSS Example**</h1>**  
    **<p** **style**="background-color: yellow;"**>**This paragraph has inline styling.**</p>**

#### 2.1.3 CSS Syntax

* **CSS Syntax**: Consists of a selector and a declaration block.
* **Selector**: Specifies the HTML element to style.
* **Declaration Block**: Contains one or more declarations enclosed in curly braces {}. Each declaration includes a CSS property and a value, separated by a colon, and multiple declarations are separated by semicolons.
* **Example**:
* p {  
   **color**: blue;  
   **font-size**: 14px;  
  }
* **Explanation**: The p selector targets all <p> elements, making the text color blue and the font size 14px.

#### 2.1.4 CSS Selectors

* **CSS Selectors**: Used to select and style HTML elements.
* **Element Selector**: Targets all elements of a specified type.
  + **Example**: p { color: green; } (styles all <p> elements)
* **ID Selector**: Targets a single element with a specific id. Use # followed by the ID name.
  + **Example**: #header { font-size: 24px; } (styles the element with id="header")
* **Class Selector**: Targets elements with a specific class. Use . followed by the class name.
  + **Example**: .highlight { background-color: yellow; } (styles all elements with class="highlight")
* **Attribute Selector**: Selects elements based on an attribute value.
  + **Example**: a[target="\_blank"] { color: red; } (styles links that open in a new tab)
* **Combined Example**:
* **<style>**  
   #main-title {  
   **color**: purple;  
   **text-align**: center;  
   }  
   .content {  
   **font-size**: 18px;  
   **margin**: 10px;  
   }  
   a[href^="https"] {  
   **text-decoration**: none;  
   **color**: green;  
   }  
  **</style>**  
    
  **<h1** **id**="main-title"**>**CSS Selectors Example**</h1>**  
  **<p** **class**="content"**>**This is a paragraph with a class selector.**</p>**  
  **<a** **href**="https://www.example.com" **target**="\_blank"**>**Secure Link**</a>**

#### 2.1.5 CSS Basic Properties

* **Common CSS Properties**:
  + **Color**: Defines the text color.
    - **Example**: color: red;
  + **Background**: Sets the background color or image.
    - **Example**: background-color: lightblue;
  + **Font**: Controls text appearance, such as font size and font family.
    - **Example**: font-size: 16px; font-family: Arial, sans-serif;
  + **Margin & Padding**: Defines space outside (margin) and inside (padding) an element.
    - **Example**: margin: 20px; padding: 10px;
  + **Example**:
  + body {  
     **font-family**: "Helvetica", sans-serif;  
     **background-color**: #fafafa;  
    }  
    h2 {  
     **color**: #333;  
     **margin-bottom**: 15px;  
    }  
    .box {  
     **border**: 1px solid #ddd;  
     **padding**: 20px;  
     **margin**: 10px;  
    }

#### 2.1.6 Example

* **Practical Example**:
* <!DOCTYPE html>  
  **<html>**  
   **<head>**  
   **<style>**  
   body {  
   **font-family**: "Verdana", sans-serif;  
   **background-color**: #e0f7fa;  
   }  
   .container {  
   **width**: 80%;  
   **margin**: 0 auto;  
   **padding**: 20px;  
   **background-color**: white;  
   **border-radius**: 5px;  
   **box-shadow**: 0 0 10px rgba(0, 0, 0, 0.1);  
   }  
   h1 {  
   **color**: #00796b;  
   **text-align**: center;  
   }  
   p {  
   **font-size**: 16px;  
   **color**: #555;  
   }  
   .note {  
   **color**: #d32f2f;  
   **font-weight**: bold;  
   }  
   **</style>**  
   **</head>**  
   **<body>**  
   **<div** **class**="container"**>**  
   **<h1>**CSS Example**</h1>**  
   **<p>**This is a simple demonstration of CSS styling.**</p>**  
   **<p** **class**="note"**>**  
   Important Note: Pay attention to CSS properties and their effects.  
   **</p>**  
   **</div>**  
   **</body>**  
  **</html>**