Explanation of Differences between Inline, Internal, and External CSS:

Inline CSS:

Definition: Inline CSS applies styles directly to an HTML element using the style attribute inside the opening tag.

Example:

html

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<h1 style="color: red;">This is a heading with inline CSS</h1>

Advantages:

Quick to apply to individual elements.

Ideal for applying unique styles to single elements.

Disadvantages:

Hard to maintain for large websites as styles are scattered.

Code duplication if you need the same style for multiple elements.

Internal CSS:

Definition: Internal CSS applies styles within a <style> tag inside the <head> section of the HTML page.

Example:

html

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<style>

h2 {

color: blue;

font-size: 24px;

}

</style>

Advantages:

Centralizes styles in the document, making them easier to manage than inline CSS.

Useful for applying styles that only affect a single page.

Disadvantages:

Can clutter the HTML file.

Less reusable as styles only apply to the current page.

External CSS:

Definition: External CSS uses a separate .css file linked to the HTML document through the <link> tag.

Example:

html

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

Advantages:

Allows separation of content and design, making code cleaner.

Reusable across multiple HTML pages, making maintenance easier.

Disadvantages:

Requires additional HTTP requests to load the stylesheet, which may slightly increase page load time.

Styles won't apply if the CSS file is missing or fails to load.

HTML Page Demonstrating All Three Methods:

html

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<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>CSS Demonstration</title>

<!-- External CSS -->

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

<!-- Internal CSS -->

<style>

h2 {

color: blue;

font-size: 24px;

text-align: center;

}

p {

font-family: Arial, sans-serif;

color: gray;

}

</style>

</head>

<body>

<!-- Inline CSS Example -->

<h1 style="color: red; text-align: center;">This is an Inline CSS Example</h1>

<!-- Internal CSS Example -->

<h2>This is an Internal CSS Example</h2>

<p>This paragraph is styled using internal CSS. The styles are located in the <style> tag within the HTML document.</p>

<!-- External CSS Example -->

<div class="external-example">

This text is styled using external CSS.

</div>

</body>

</html>

styles.css (External CSS file):

css

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.external-example {

color: green;

font-size: 20px;

text-align: center;

background-color: lightyellow;

}

Summary of Advantages and Disadvantages:

Inline CSS:

Advantage: Quick for small, unique styles.

Disadvantage: Not scalable for larger projects.

Internal CSS:

Advantage: Keeps styles within the same document, good for single-page applications.

Disadvantage: Makes HTML file larger and harder to maintain.

External CSS:

Advantage: Clean separation of content and styles, reusable across multiple pages.

Disadvantage: Additional HTTP request to fetch the CSS file, but allows more maintainable code.