**3. Defining Metadata with <meta> Tags**

**3.1. What Are <meta> Tags?**

The <meta> tags provide metadata about an HTML document. Metadata is information that is not directly visible on the page but provides essential details to browsers and search engines. It can describe things like the character encoding, the page's author, keywords for SEO, and much more.

The <meta> tag is placed inside the <head> element of an HTML document.

**Syntax:**

html

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<meta name="name" content="value">

* **name**: Specifies the type of metadata.
* **content**: Contains the value associated with the metadata.

**3.2. Commonly Used <meta> Tags**

**1. Character Encoding:**

The <meta charset> tag specifies the character encoding for the document. This helps ensure that characters are displayed correctly in the browser.

**Example:**

//<meta charset="UTF-8">//

* UTF-8 is the most commonly used character encoding, supporting a wide variety of characters, including non-Latin characters like those in Chinese, Arabic, or accented characters in European languages.

**2. Author Information:**

You can use the <meta> tag to specify the author of the web page. This is useful for informational purposes, especially in the case of multiple authors working on the same website.

**Example:**

//<meta name="author" content="John Doe">//

This tells search engines and users that the author of the page is John Doe.

**3. Description (SEO):**

The <meta name="description"> tag provides a brief description of the page’s content. This is important for search engine optimization (SEO) because search engines use the description to understand what the page is about and to display it in search results.

**Example:**

//<meta name="description" content="Learn HTML with easy-to-follow tutorials and examples.">//

This tag helps search engines display relevant content in search results.

**4. Keywords (SEO):**

The <meta name="keywords"> tag is used to specify a list of keywords related to the content of the page. While its importance for SEO has decreased over time, it can still help search engines understand the content.

**Example:**

//<meta name="keywords" content="HTML, tutorials, web development, learn HTML">//

This helps search engines categorize the content of the page based on the keywords specified.

**5. Viewport (Responsive Design):**

For mobile optimization, the <meta name="viewport"> tag is used to control the layout of the page on different devices. This is especially important for responsive web design.

**Example:**

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

* width=device-width ensures the page width matches the device's width.
* initial-scale=1.0 sets the initial zoom level when the page is first loaded.

**3.3. Practical Examples:**

Here’s how you would typically see <meta> tags used inside the <head> section of a webpage:

//

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8"> <!-- Character encoding -->

<meta name="author" content="John Doe"> <!-- Author of the page -->

<meta name="description" content="Learn HTML with easy-to-follow tutorials."> <!-- Page description -->

<meta name="keywords" content="HTML, tutorials, web development"> <!-- Keywords -->

<meta name="viewport" content="width=device-width, initial-scale=1.0"> <!-- Viewport for mobile -->

<title>HTML Tutorial</title> <!-- Page title -->

</head>

<body>

<h1>Welcome to HTML Tutorial</h1>

<p>Learn HTML, CSS, and JavaScript with our easy-to-follow guides and examples.</p>

</body>

</html>//

**Key Points to Remember:**

* <meta> tags provide metadata (information) about the HTML document, but they do not display content on the page.
* The <meta charset="UTF-8"> tag specifies the character encoding, ensuring correct character rendering.
* The <meta name="author"> tag provides the author’s name.
* The <meta name="description"> and <meta name="keywords"> tags are important for SEO, helping search engines index the page correctly.
* The <meta name="viewport"> tag is used for responsive web design to optimize the page for different screen sizes.