

HTML validation:

HTML validation is the process of checking whether a web page's HTML code is well-formed and follows the rules of the HTML specification. Valid HTML is important for ensuring that web pages are displayed correctly across different browsers and devices. There are various tools available for HTML validation, and one common way is to use the W3C Markup Validation Service.

Here's a detailed explanation with two coding examples:

Example 1: Valid HTML

```
```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Valid HTML Example</title>
</head>
<body>
 <header>
 <h1>Welcome to My Website</h1>
 </header>
 <main>
 <p>This is a sample web page with valid HTML.</p>

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 </main>
 <footer>
 <p>© 2024 My Website. All rights reserved.</p>
 </footer>
</body>
</html>
```
```

In this example:

- The `<!DOCTYPE html>` declaration defines the document type and version of HTML.
- The `<html>` element is the root element of the HTML document.
- The `<head>` section contains meta information and the document title.
- The `<body>` section contains the main content of the web page.

- Elements like ``<h1>``, ``<p>``, ````, and ```` are used to structure and present the content.

Example 2: Invalid HTML

```
```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Invalid HTML Example</title>
</head>
<body>
 <header>
 <h1>Welcome to My Website</h1>
 </header>
 <main>
 <p>This is an example with some validation errors.</p>

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 <p>This paragraph is missing its closing tag.
 </main>
 <footer>
 <p>© 2024 My Website. All rights reserved.</p>
 </footer>
</body>
</html>
```
```

In this example:

- The closing tag for the second ``<p>`` element in the ``<main>`` section is missing.
- This is an intentional error to demonstrate how validation tools can catch such issues.

To validate HTML, you can use the W3C Markup Validation Service at <https://validator.w3.org/>. Simply copy and paste your HTML code into the provided text area, and the service will check for errors and provide feedback on the validity of your HTML. Valid HTML ensures better compatibility and consistent rendering across different browsers.