Explorin Academy

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Day 3 Notes

Do semantic elements affect performance?

Semantic elements themselves do not directly impact the performance of a website, but their use can lead to certain indirect benefits that improve maintainability, and accessibility. Here's a breakdown of how semantic elements can influence performance:

1. Semantic HTML elements make the code more readable and understandable.
2. Clear, well-structured code is easier to debug and optimize.
3. Semantic tags provide structure to the content, making it easier for screen readers and assistive technologies to interpret and render the page.
4. For users who rely on screen readers, a more semantically structured page can allow for quicker navigation, reducing perceived latency in interaction.
5. Search engines rely on semantic HTML to understand the meaning of different parts of a page (headings, articles, navigation, etc.). Although SEO itself doesn't have a direct link to performance.
6. Some browsers may optimize the rendering of pages when semantic elements are used correctly.

Tags

HTML Tags are building blocks of HTML Page. A tag in HTML is a markup keyword enclosed in angle brackets (< >) that defines elements in an HTML document. Tags tell the browser how to structure and display content.

Key Characteristics of an HTML Tag

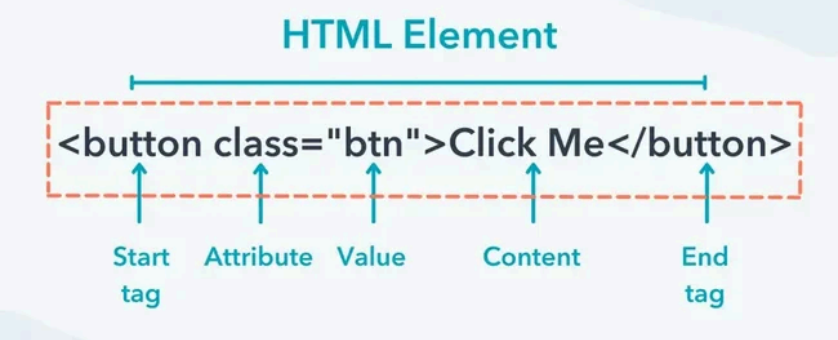
- Encapsulated in < > (e.g., <p>, <h1>, <img>).
- Defines an HTML element (e.g., paragraph, heading, image).
- Can be paired (<tag>...</tag>) or self-closing (<tag />).
- Case-insensitive, but lowercase is recommended.

Element

An HTML element is a complete structure that consists of a start tag, content, and an end tag. Some elements are self-closing and don't require an end tag. Elements can also include attributes within the start tag to provide additional information, like class or src. The structure is typically <tag>content</tag> for paired elements or <tag /> for self-closing ones. It defines the structure and content of a webpage.

Key Characteristics of an HTML Element

- Made up of a tag and content (<tag>content</tag>)
- Can be block-level ( ) or inline ()
- Can be self-closing (<img>,
, <input>)
- Forms the building blocks of a webpage



Various tags in html

Text & Formatting Tags

- <p> – Defines a paragraph
- <h1> to <h6> – Headings (largest to smallest)
-
 – Line break
- <hr> – Horizontal rule (divider)
- <b> – Bold text (non-semantic)
- – Important (bold) text (semantic)
- <i> – Italic text (non-semantic)
- – Emphasized (italic) text (semantic)
- <u> – Underlined text
- <s> – Strikethrough text

Structural & Layout Tags

- – Block-level container for layout
- – Inline container for styling text
- <header> – Defines the header section
- <nav> – Contains navigation links
- <main> – Main content area
- <section> – Groups related content
- <article> – Independent content block (e.g., blog post)
- <aside> – Sidebar content
- <footer> – Defines the footer section

Media Tags

- <img> – Displays images (alt attribute for accessibility)
- <audio> – Embeds audio files
- <video> – Embeds video files

Form & Input Tags

Table Tags

Block Elements

Block elements take up the full width of their container, pushing other elements to the next line. They start on a new line and extend horizontally as far as possible.

Examples: , <p>, <h1>, <section>, <article>.

Inline Elements

Inline elements take up only as much width as necessary and do not start on a new line. They flow within the content, appearing alongside other inline elements.

Examples: , <a>, , <img>, .

Tables

HTML tables are used to organize and display tabular data in rows and columns. They provide a structured way to present data such as schedules, pricing lists, or statistical data.

Structure of an HTML Table:

1. <table>: The <table> element is used to define the table itself. Example: <table></table>
2. <tr> (Table Row): The <tr> tag is used to define a row within the table. Each row can contain several cells. Example: <tr></tr>
3. <th> (Table Header): The <th> element is used to define a table header cell, which is typically bold and centered by default.
    - It is used within a <tr> tag to define headers for each column.
    - Example: <th>Header 1</th>
4. <td> (Table Data): The <td> element is used to define a data cell. These cells hold the actual content of the table. Example: <td>Data 1</td>
5. <thead>: Groups the header content in a table (optional).
6. <tbody>: Groups the body content in a table (optional).
7. <tfoot>: Groups the footer content in a table (optional).

Types of URL

Absolute URL : An absolute URL provides the complete address of a webpage or file on the internet, including the protocol "http:// or https://" domain, and path to the resource.
Example - https://www.explorin.io/logo.png

Relative URL : A relative URL specifies the path to a resource about the current document's path or the base URL of the website, without the domain name and protocol.
Example - “your_local_image_path”

Merging Rows and Columns

- **Column Span (colspan) :** Merges multiple columns into a single cell. Example :

```
<table border="1">
  <tr>
    <th colspan="3">Student Information</th>
  </tr>
  <tr>
    <th>Name</th>
    <th>Age</th>
    <th>Grade</th>
  </tr>
  <tr>
    <td>Alice</td>
    <td>20</td>
    <td>A</td>
  </tr>
</table>
```

Student Information		
Name	**Age**	**Grade**
Alice	20	A

- **Row Span (rowspan)**: Merges multiple rows into a single cell. Example :

```
<table border="1">
  <tr>
    <th>Name</th>
    <th >Subject</th>
    <th>Marks</th>
  </tr>
  <tr>
    <td>Alice</td>
    <td rowspan="2">Math</td>
    <td>90</td>
  </tr>
  <tr>
    <td>Bob</td>
    <td>85</td>
  </tr>
</table>
```

Name	Subject	Marks
Alice	Math	90
Bob		85