

INTRODUCTION TO HTML

HTML (Hypertext Markup Language) is the standard markup language used to create web pages. It serves as the backbone of web content, enabling developers to structure their documents and define how elements are displayed in a web browser. This unit will provide a comprehensive overview of HTML, including its basic concepts, structure, evolution, essential tags, text formatting, and hyperlinks.

1. Overview of HTML

Basic Concepts

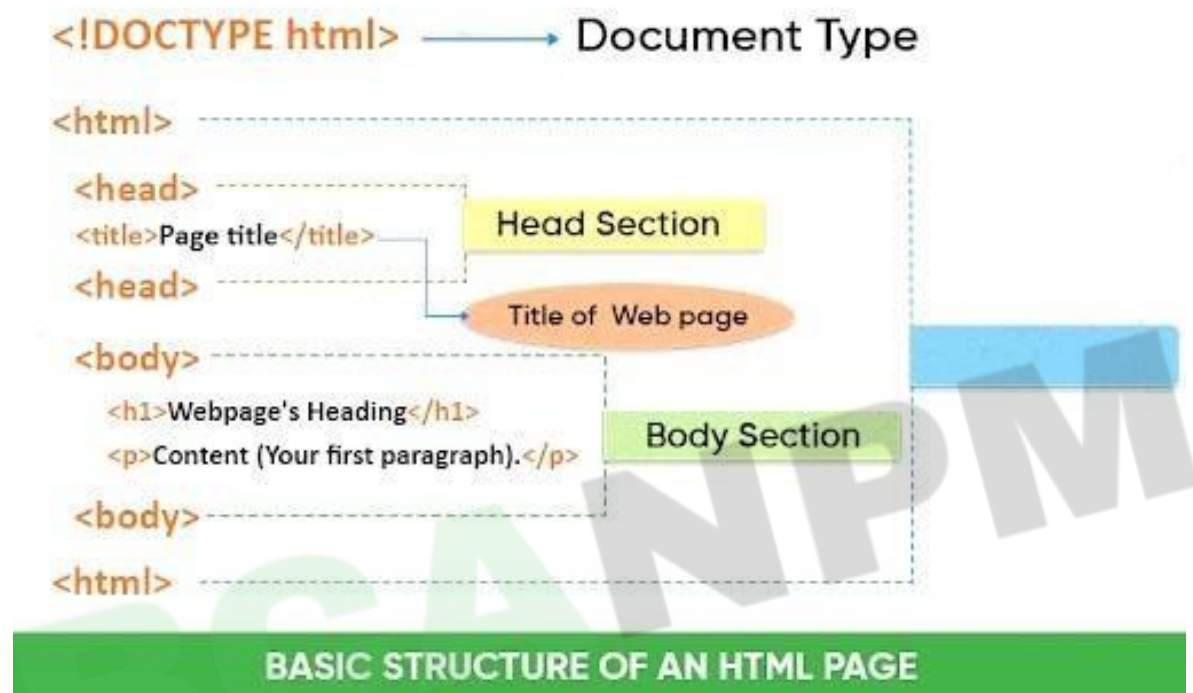
HTML is a markup language, which means it uses a system of tags to annotate text, images, and other content on a webpage. These annotations instruct the web browser on how to display the content. HTML is not a programming language; instead, it focuses on structuring content.

Key Characteristics of HTML:

- **Markup Language:** HTML uses tags to define elements.
- **Static Content:** HTML is primarily used for static content; dynamic features require additional languages like JavaScript.
- **Hyperlinks:** HTML allows linking to other documents or resources via hyperlinks, creating a network of interconnected information.

Structure of HTML Documents

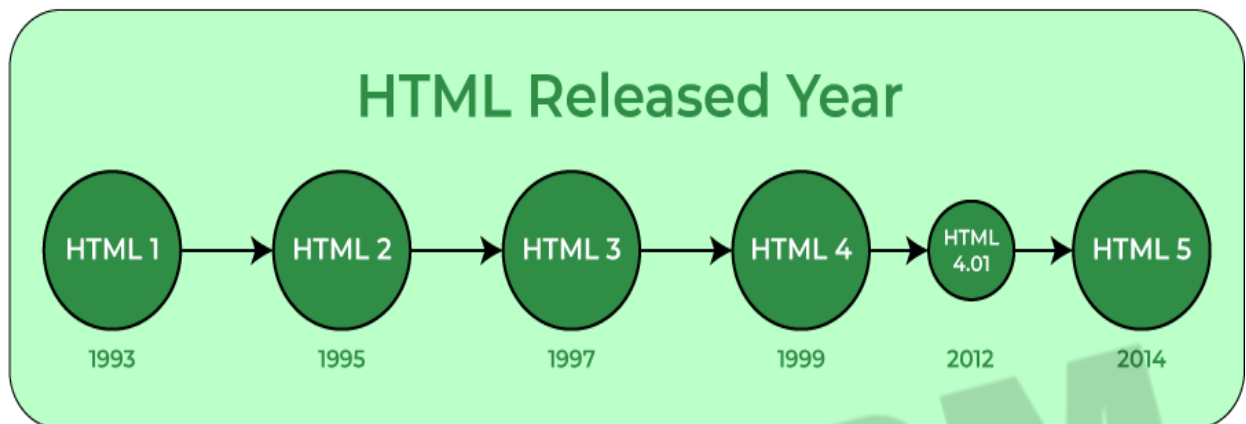
An HTML document is structured hierarchically. At the highest level, it consists of various elements, each defined by tags. An HTML document typically includes:



- **Doctype Declaration:** Specifies the version of HTML being used (e.g., `<!DOCTYPE html>`).
- **HTML Element:** The root element that encapsulates the entire document.
- **Head Section:** Contains metadata about the document, including title, links to stylesheets, and scripts.
- **Body Section:** Contains the visible content of the webpage, including text, images, and other media.

2. HTML Versions

HTML has evolved over the years, with various versions being released to improve functionality and user experience.



Evolution from HTML to HTML5

- **HTML 1.0**: The first version, released in 1993, provided basic text formatting and link capabilities.
- **HTML 2.0**: Introduced in 1995, this version standardized the features available to web developers.
- **HTML 3.2**: Released in 1997, it added support for tables and applets.
- **HTML 4.01**: Introduced in 1999, this version emphasized the separation of content and presentation, allowing for more sophisticated web designs.
- **XHTML**: A stricter version of HTML that followed XML rules, it was introduced in 2000.

- **HTML5**: Released in 2014, HTML5 marked a significant leap forward, providing new features such as audio and video support, local storage, semantic elements, and improved accessibility.

3. Basic Tags

HTML tags are the building blocks of web content. They come in pairs, consisting of an opening tag and a closing tag, with content in between. Below are some essential tags:

Heading Tags	<code><h1></code> , <code><h2></code> , <code><h3></code> , <code><h4></code> , <code><h5></code> , and <code><h6></code>
Paragraph Tag	<code><p></code>
Line Break Tag	<code>
</code> or <code>
</code>
Center Tag	<code><center></code>
Horizontal Rule Tag	<code><hr></code> or <code><hr /></code>
Preserve Formatting Tag	<code><pre></code>
Non-breaking Space	<code>&nbsp;</code> ;
Listing Tags	<code></code> and <code></code> <ul style="list-style-type: none">• Unordered Listing: <code></code>• Ordered Listing: <code></code>• List Item: <code></code>

HTML Basic Tags

a) `<html>`

The `<html>` tag is the root element of an HTML document. It signifies the beginning and end of an HTML page.

```
html
```

```
<html>
  <!-- Content goes here -->
</html>
```

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b) <head>

The <head> section contains metadata, which is not displayed on the webpage. It includes information like the document title, character set, and linked resources (e.g., CSS files).

```
htmlCopy code  
  
<head>  
  <title>My Webpage</title>  
</head>
```

c) <title>

The <title> tag specifies the title of the webpage, which appears in the browser tab. It helps with SEO and user navigation.

```
htmlCopy code  
  
<title>Welcome to My Website</title>
```

d) <body>


The <body> tag contains all the visible content of the webpage, including text, images, and links.

```
htmlCopy code  
  
<body>  
  <h1>Welcome to My Website</h1>  
</body>
```

e) Headings (<h1> to <h6>)

HTML provides six levels of headings, from <h1> (the largest) to <h6> (the smallest). These tags are used to structure content hierarchically, improving readability and SEO.

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```
<h1>Main Heading</h1>
<h2>Subheading</h2>
<h3>Sub-subheading</h3>
```

f) <p>

The <p> tag defines a paragraph. It is a block-level element that automatically adds space before and after the text.

html


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```
<p>This is a paragraph of text.</p>
```

g)
 and <hr>

- The
 tag is used for line breaks within text, creating a new line without starting a new paragraph.


html

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```
<p>This is a paragraph<br>with a line break.</p>
```

- The <hr> tag creates a horizontal rule (line) that separates content, often used to indicate a thematic change.

html

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```
<hr>
```


4. Text Formatting

HTML allows for various text formatting options to enhance the presentation of content.

a) Bold, Italics, and Underline

- **Bold**: The `` tag indicates strong importance and renders text in bold.
- **Italics**: The `` tag emphasizes text, rendering it in italics.
- **Underline**: The `<u>` tag applies an underline to text.

html

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```
<b>This text is bold</b>  
<i>This text is italicized</i>  
<u>This text is underlined</u>
```

b) Lists

HTML supports both ordered and unordered lists, which help organize content clearly.

- **Ordered List**: Created with the `` tag, it presents items in a numbered format.
- **Unordered List**: Created with the `` tag, it presents items with bullet points.
- **List Items**: Each item within a list is defined by the `` tag.

html

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```
<ol>
  <li>First item</li>
  <li>Second item</li>
  <li>Third item</li>
</ol>

<ul>
  <li>Apples</li>
  <li>Bananas</li>
  <li>Cherries</li>
</ul>
```

c) Block-Level Elements

Block-level elements, such as `<div>`, `<header>`, `<footer>`, and `<section>`, take up the full width available and begin on a new line. They are used to structure the layout of a webpage.

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```
<div>
  <h2>Header in a section</h2>
  <p>Paragraph inside a block-level element</p>
</div>
```


5. Hyperlinks

Hyperlinks are a fundamental feature of HTML, allowing users to navigate between different webpages or resources.

a) Internal Links

Internal links connect to other pages within the same website. They are created using the `<a>` (anchor) tag, with the `href` attribute specifying the destination URL.

html


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```
<a href="about.html">About Us</a>
```

b) External Links

External links point to pages on different websites. Similar to internal links, they are created with the `<a>` tag, but they navigate users away from the current site.

html


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```
<a href="https://www.example.com">Visit Example</a>
```

c) Mailto Links

Mailto links allow users to send emails directly from the webpage. These links use the `mailto:` protocol within the `href` attribute (e.g., `Email Us`).

html

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```
<a href="mailto:someone@example.com">Send Email</a>
```

6. Conclusion

HTML serves as the foundation for web development, enabling developers to create structured and visually appealing webpages. Understanding its basic concepts, tags, and functionalities is essential for anyone pursuing a career in computing, web design, or digital content creation.

By mastering HTML, students can effectively communicate information on the web, enhance user experience, and build the groundwork for more advanced web technologies, such as CSS and JavaScript. As the internet continues to evolve, so too will HTML, making it an essential skill for future web developers and designers.