

## HTML Notes

### 1. Introduction to HTML

HTML stands for **HyperText Markup Language** and it is used to create and structure web pages. It defines the layout and organization of content such as text, images, links, forms, and tables. HTML is a markup language and does not contain programming logic.

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### 2. HTML Document Structure

An HTML document starts with the `<!DOCTYPE html>` declaration, which specifies that the document follows HTML5 standards. The `<html>` tag is the root element that encloses the entire web page. The `<head>` section contains metadata, while the `<body>` section contains all the visible content displayed in the browser.

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### 3. Head Section

The `<head>` section contains information about the webpage that is not visible to users. It includes elements such as the `<title>` tag, which defines the text shown on the browser tab, and metadata used for SEO and character encoding.

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### 4. Body Section

The `<body>` section holds all the content that users can see and interact with on the webpage. This includes text, images, links, lists, tables, and forms.

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### 5. HTML Tags and Elements

HTML elements are defined using tags that usually consist of an opening tag and a closing tag. The content written between these tags is displayed on the webpage. Some elements, such as line breaks and images, are self-closing and do not require closing tags.

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### 6. Headings

HTML headings are used to define titles and subtitles on a webpage. They range from `<h1>` to `<h6>`, where `<h1>` is the most important heading and `<h6>` is the least important. Proper use of headings improves readability and SEO.

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### 7. Paragraphs

Paragraphs in HTML are created using the `<p>` tag. They are used to display blocks of text and automatically add spacing before and after the content.

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### 8. Line Breaks and Horizontal Rules

The `<br>` tag is used to insert a line break within text. The `<hr>` tag is used to create a horizontal line that visually separates different sections of content.

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## 9. Links

Links in HTML are created using the `<a>` tag. The `href` attribute specifies the destination URL of the link. The `target="_blank"` attribute is used to open the link in a new browser tab.

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## 10. Images

Images are added to a webpage using the `<img>` tag. The `src` attribute defines the image path, and the `alt` attribute provides alternative text for accessibility and search engine optimization.

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## 11. Lists

HTML lists are used to group related items together. Unordered lists use the `<ul>` tag and display bullet points, while ordered lists use the `<ol>` tag and display numbered items. Each list item is defined using the `<li>` tag.

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## 12. Div and Span

The `<div>` tag is a block-level element used to group multiple elements for layout and styling purposes. The `<span>` tag is an inline element used to style or modify a specific part of text within an element.

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## 13. Tables

HTML tables are used to display data in a structured format of rows and columns. The `<table>` tag defines the table, `<tr>` defines a row, `<th>` defines a header cell, and `<td>` defines a data cell.

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## 14. Forms

HTML forms are used to collect user input from users. The `<form>` tag contains form elements such as input fields, labels, and buttons. Forms commonly use input types like text, email, password, radio buttons, checkboxes, and submit buttons.

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## 15. HTML Attributes

HTML attributes provide additional information about elements and are written inside the opening tag. Attributes such as `id` and `class` are used for styling and scripting, while attributes like `src` and `href` define external resources.

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## **16. Inline Styling**

Inline styling allows CSS styles to be applied directly to HTML elements using the style attribute. Although inline styles are useful for quick testing, external CSS files are recommended for large projects.

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## **17. HTML with CSS and JavaScript**

HTML works together with CSS and JavaScript to create modern websites. HTML provides the structure, CSS controls the design and layout, and JavaScript adds interactivity and dynamic behavior.