

# series 1: HTML

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## Introduction to HTML

HTML (HyperText Markup Language) is the standard language for creating web pages. It provides the structure of a webpage and is used alongside CSS for styling and JavaScript for interactivity. With HTML, you can create headings, paragraphs, links, images, lists, forms, and more.

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## HTML Editors

To write HTML code, you can use various text editors or Integrated Development Environments (IDEs). Some popular options include:

### 1. Text Editors:

- **Notepad (Windows):** A simple, built-in editor for writing HTML.
- **TextEdit (Mac):** Can be used in plain text mode for HTML.

### 2. Code Editors:

- **Visual Studio Code:** A powerful, free editor with many extensions for web development.
- **Sublime Text:** Lightweight and user-friendly with syntax highlighting.
- **Atom:** Open-source and customizable, great for web development.

### 3. Web IDEs "integrated development environment":

- **CodePen:** An online code editor for HTML, CSS, and JavaScript.
  - **JSFiddle:** Another platform to experiment with web code in real time.
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## HTML Elements, Tags, and Attributes

- **Elements:** An HTML element consists of a start tag, content, and an end tag.

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

- Here, `<p>` is the start tag, and `</p>` is the end tag.

- **Tags:** HTML tags are enclosed in angle brackets and are used to define elements.

```
<h1>This is a heading</h1>
```

- **Attributes:** Attributes provide additional information about an element. They are always in the form of `name="value"` and are added inside the opening tag.

```
<a href="https://www.example.com">Click here to visit Example</a>
```

- `href` is an attribute of the `<a>` tag.

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## Basic HTML Structure

This code sets up a basic HTML page.

```
<!DOCTYPE html>
<html>
<head>
  <title>My First HTML Page</title>
</head>
<body>
  <h1>Welcome to My Page!</h1>
  <p>This is a paragraph of text.</p>
</body>
</html>
```

**Try It:** Change the text inside `<h1>` and `<p>` to see how the content updates.

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## Adding Comments

Comments are ignored by the browser and are used to add notes.

```
<!DOCTYPE html>
<html>
<body>
  <!-- This is a comment. It will not be displayed in the browser. -->
  <h1>Hello World!</h1>
  <p>This is a paragraph with a comment above.</p>
</body>
</html>
```

**Try It:** Add more comments throughout your HTML code to organize it better.

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## Page Title

The **title** of a webpage is displayed in the browser tab and is important for search engine optimization (SEO).

```
<head>
  <title>My Web Page</title>
```

```
</head>
```

- **Explanation:** The `<title>` element is placed inside the `<head>` section and describes the page content.
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## Favicon

A **favicon** is a small icon displayed in the browser tab next to the page title. To add a favicon:

```
<link rel="icon" href="favicon.ico" type="image/x-icon">
```

- **Explanation:** The `href` attribute specifies the path to your favicon file. The favicon can be in formats like `.ico`, `.png`, or `.svg`.
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## Adding Headings and Paragraphs

Learn how to use different heading tags.

```
<!DOCTYPE html>
<html>
<body>
  <h1>Heading 1</h1>
  <h2>Heading 2</h2>
  <h3>Heading 3</h3>
  <p>This is a paragraph under headings.</p>
</body>
</html>
```

**Try It:** Add more headings (`<h4>`, `<h5>`, `<h6>`) and observe the size differences.

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## Adding Links

Make a clickable link to another website.

```
<!DOCTYPE html>
<html>
<body>
  <p>Visit <a href="https://www.google.com">Google</a> for more information.</p>
</body>
</html>
```

**Try It:** Change the URL and link text to link to different websites.

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## Inserting Images

Include an image on your page.

```
<!DOCTYPE html>
<html>
<body>
  <h1>My Favorite Image</h1>
  
</body>
</html>
```

**Try It:** Replace the `src` URL with your own image link and adjust the `width` attribute.

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## Using Lists

Create ordered and unordered lists.

```
<!DOCTYPE html>
<html>
<body>
  <h2>My Hobbies</h2>
  <ul>
    <li>Reading</li>
    <li>Coding</li>
    <li>Traveling</li>
  </ul>

  <h2>Steps to Bake a Cake</h2>
  <ol>
    <li>Preheat the oven.</li>
    <li>Mix the ingredients.</li>
    <li>Bake for 30 minutes.</li>
  </ol>
</body>
</html>
```

**Try It:** Add more items to the lists or create your own lists.

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## Adding a Table

Create a simple table to display data.

```
<!DOCTYPE html>
<html>
```

```
<body>
  <h2>My Favorite Movies</h2>
  <table border="1">
    <tr>
      <th>Title</th>
      <th>Year</th>
    </tr>
    <tr>
      <td>Inception</td>
      <td>2010</td>
    </tr>
    <tr>
      <td>Avatar</td>
      <td>2009</td>
    </tr>
  </table>
</body>
</html>
```

**Try It:** Add more rows to the table or change the movie titles and years.

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## Quotation Elements

HTML provides elements for adding quotations and citations:

1. **Blockquote** (<blockquote>): Used for long, block-level quotations.

```
<blockquote cite="https://www.example.com">
  This is a long quote from another source.
</blockquote>
```

2. **Quote** (<q>): Used for short, inline quotations.

```
<p>She said, <q>HTML is easy to learn!</q></p>
```

3. **Cite** (<cite>): Used to reference the source of a quote or citation.

```
<p><cite>The Great Gatsby</cite> by F. Scott Fitzgerald</p>
```

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