Understanding HTML: A Beginner's Guide

What is HTML?

HTML stands for **HyperText Markup Language**. It's the standard language used to create and structure content on the **web**. Every website you visit is built with HTML at its core.

Think of HTML as the **skeleton** of a web page. It tells the web browser (like Chrome, Safari, or Firefox) what to display and how to structure it — like titles, paragraphs, images, links, lists, and more.

Why is HTML Important?

Without HTML:

- A web page would have no structure.

- Text and images would not appear in a useful way.

- Browsers wouldn't know what content is important or how to display it.

With HTML:

- You can build basic websites.

- You can organize content neatly.

- You lay the foundation for styling (with CSS) and interactivity (with JavaScript).

How Does HTML Work?

HTML uses **tags** to structure a web page. Tags usually come in **pairs**:

- An **opening tag** like <p>

- A **closing tag** like </p>

Anything between the tags is the **content**.

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

Here's what this means:

- <p> is the opening tag for a paragraph.

- </p> is the closing tag.

- The sentence in between is the paragraph content.

Common HTML Tags and Their Uses

Here are some of the most commonly used tags and what they do:

1. <html>

Wraps the **entire HTML document**.

```
<html>
  <!-- All content goes here -->
</html>
```

2. <head> and <body>

- <head> contains **metadata** (info about the page like the title).
- <body> contains the **visible content**.

```
<html>
 <head>
  <title>My First Page</title>
 </head>
 <body>
  <p>Hello, world!</p>
 </body>
</html>
```

3. <h1> to <h6> – Headings

Used for titles and subheadings. <h1> is the biggest, <h6> is the smallest.

```
<h1>Main Title</h1>
<h2>Subtitle</h2>
```

4. <p> – Paragraph

Creates a paragraph of text.

<p>This is a paragraph of information.</p>

---

5. <a> – Link (Anchor)

Creates a clickable link.

Go to Google

- href stands for "hyperlink reference" — the destination URL.

---

6. <img> – Image

Inserts an image.

<img src="image.jpg" alt="A description of the image">

- src is the image file's path.
- alt is the text shown if the image can't load.

---

7. , <ol>, and <li> – Lists

- creates an **unordered list** (bullets).
- creates an **ordered list** (numbers).
- is a **list item**.

 Apples
 Bananas

 Wake up
 Brush teeth

---

8. <div> – Division

Used to group elements. Think of it like a box or container.

```
<div>
  <h2>Section Title</h2>
  <p>This is some text in a section.</p>
</div>
```

9.
 – Line Break

Breaks the line, like pressing "Enter".

```
<p>Hello<br>World</p>
```

---

10. <strong> and <em> – Emphasis

- <strong> makes text bold (important).
- <em> makes text italic (emphasized).

```
<p>This is <strong>very important</strong>.</p>
<p>Please <em>pay attention</em> to this detail.</p>
```

Putting It All Together: A Simple HTML Page

```
<!DOCTYPE html>
<html>
  <head>
    <title>My First Web Page</title>
  </head>
  <body>
    <h1>Welcome to My Website</h1>
    <p>This is my first web page. I'm learning HTML!</p>


    <h2>My Hobbies</h2>
```

```html
<ul>
  <li>Reading</li>
  <li>Drawing</li>
  <li>Learning to code</li>
</ul>

<p>Visit my <a href="https://example.com">favorite website</a>.</p>

<img src="myphoto.jpg" alt="A picture of me">
</body>
</html>
```

Understanding CSS: A Beginner's Guide

What is CSS?

CSS stands for **Cascading Style Sheets**. It's the language used to **style** and **design** websites. While **HTML** gives a web page structure, **CSS makes it look good**.

Think of CSS as the **clothing** for the skeleton (HTML). It adds colors, layouts, spacing, fonts, and more.

Why is CSS Important?

Without CSS:

- Websites would look plain and boring.
- Everything would be black-and-white, left-aligned, and hard to navigate.

With CSS:

- You can add colors, change fonts, position elements, and create modern designs.
- Websites become visually attractive and easier to use.

How Does CSS Work?

CSS works by **selecting** HTML elements and applying **styles** to them.

A CSS rule has:

- A **selector** (what you want to style)
- A **property** (what you want to change)
- A **value** (what you want to change it to)

```
p {
  color: blue;
}
```

This means: "Make all <p> (paragraph) elements have blue text."

Ways to Add CSS to HTML

1. Inline CSS (inside an HTML tag)

```
<p style="color: red;">This is red text.</p>
```

2. Internal CSS (in a <style> tag inside the HTML file)

```
<head>
  <style>
    h1 {
      color: green;
    }
  </style>
</head>
```

3. External CSS (in a separate .css file)

This method is the most common and recommended for larger websites because it keeps the style separate from the content. You link your HTML file to a CSS file stored in the same project or on the web.

In your HTML file:

```
<head>
  <link rel="stylesheet" href="styles.css">
</head>
```

In your styles.css file:

```
body {
  background-color: lightgray;
  font-family: Arial;
}

h1 {
  color: navy;
}

p {
  color: darkgreen;
```

```
}
```

This approach makes your code easier to manage, especially when multiple pages share the same styling.

Common CSS Properties and Examples

1. Color and Background

```
h1 {

  color: darkblue;

  background-color: yellow;

}
```

2. Font Styling

```
p {

  font-family: Arial;

  font-size: 16px;

  font-weight: bold;

}
```

3. Text Alignment and Decoration

```
div {

  text-align: center;

  text-decoration: underline;

}
```

4. Margins and Padding

```
.container {

  margin: 20px;

  padding: 10px;

}
```

- **Margin** = space outside the element.
- **Padding** = space inside the element (around the content).

5. Borders

```
img {
  border: 2px solid black;
  border-radius: 10px;
}
```

6. Width and Height

```
.box {
  width: 300px;
  height: 200px;
}
```

7. Hover Effects

```
a:hover {
  color: red;
}
```

This changes the link color when the mouse hovers over it.

Grouping and Reusing Styles

Class Selector

Apply the same style to many elements.

```
<p class="note">This is a note.</p>
```

```
.note {
  color: purple;
}
```

ID Selector

Use for a unique element.

```
<p id="header">Welcome!</p>
```

```
#header {
  font-size: 24px;
```

```
}
```

Putting It All Together: Simple HTML + CSS Example

```
<!DOCTYPE html>

<html>

<head>

  <title>Styled Page</title>

</head>

<body>

  <h1>Welcome!</h1>

  <p>This is a simple web page styled with CSS.</p>

  <p class="highlight">This paragraph has a yellow background.</p>

</body>

</html>
```

An Example of CSS file:

```
/* General body styles */

body {

  background-color: #f9f9f9;

  font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;

  margin: 0;

  padding: 0;

  color: #333;

}


/* Header styles */

h1 {
```

```css
  color: #004080;

  text-align: center;

  margin-top: 20px;

}


/* Paragraph styles */

p {

  font-size: 16px;

  line-height: 1.6;

  padding: 10px 20px;

}


/* Class selector for highlighted sections */

.highlight {

  background-color: yellow;

  font-weight: bold;

}


/* ID selector for a unique element */

#main-content {

  padding: 20px;

  background-color: #ffffff;

  border-radius: 8px;

  box-shadow: 0 2px 4px rgba(0,0,0,0.1);

  width: 80%;

  margin: 20px auto;

}
```

```css
/* Styling for links */
a {
  color: #0066cc;
  text-decoration: none;
}


a:hover {
  text-decoration: underline;
  color: #003366;
}
```