HTML

Module 4

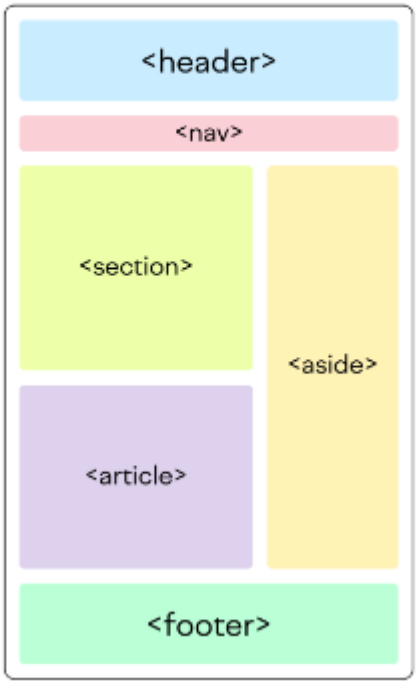
Images, Multimedia and Semantic HTML

Semantic HTML

Semantic HTML refers to the use of HTML elements that clearly describe their meaning in a way that both browsers and developers can understand. These elements not only structure content but also add meaning to it, making web pages more accessible and easier to maintain. Unlike non-semantic elements (like or), semantic elements convey the intended purpose of the content they enclose.

Tag	Description
<article>	Defines independent, self-contained content
<aside>	Defines content aside from the page content
<details>	Defines additional details that the user can view or hide
<figcaption>	Defines a caption for a <figure> element
<figure>	Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc.
<footer>	Defines a footer for a document or section
<header>	Specifies a header for a document or section
<main>	Specifies the main content of a document
<mark>	Defines marked/highlighted text
<nav>	Defines navigation links
<section>	Defines a section in a document
<summary>	Defines a visible heading for a <details> element
<time>	Defines a date/time

Semantic HTML



Semantic HTML best practices

- Do not use Semantic tags for styling, always use CSS.
- Do not use <h1> to <h6> tag for text that is not a heading.
- Do not use <blockquote> that is not a quotation.
- Do not use or just to add bold or italics to text that doesn't need emphasis.
- Always order header elements according to their importance. This will help search engines and readers to better understand and navigate the text.
- Don't just copy your visual layout. Instead, it should always follow the semantic structure of the page.

Advantages of Semantic HTML

- Semantic HTML tags help search engines understand the importance and context of web pages.
- By providing a clear understanding of your context, helps in ranking your pages.
- The pages made with Semantic elements make it easier to read.

- It provides greater accessibility and a better user experience.
- The browser can interpret the code better with the help of Semantic HTML.

Simple Webpage using semantic HTML:

Code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width,
initial-scale=1.0" />
    <title>My Semantic Webpage</title>
    <style>
      body {
        font-family: Arial, sans-serif;
        margin: 0;
        padding: 0;
        background-color: #f4f4f4;
      }
      header,
      footer {
        background-color: #333;
        color: white;
        text-align: center;
        padding: 1em 0;
      }
      nav {
        margin: 0 auto;
        text-align: center;
        background-color: #444;
        padding: 10px;
      }
      nav a {
        color: white;
        margin: 0 15px;
        text-decoration: none;
      }
      main {
        padding: 20px;
```

```
      }
      article {
        background: white;
        margin: 20px 0;
        padding: 20px;
        box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
      }
      aside {
        background: #eee;
        padding: 15px;
        margin-top: 20px;
      }

      h2 {
        color: #333;
      }
    </style>
  </head>
  <body>
    <header>
      <h1>Welcome to My Website</h1>
    </header>

    <nav>
      <a href="#">Home</a>
      <a href="#">About</a>
      <a href="#">Services</a>
      <a href="#">Contact</a>
    </nav>

    <main>
      <section>
        <article>
          <h2>Article Title</h2>
          <p>
            This is a simple article that describes something
interesting.
            Semantic HTML makes it easier to read and understand
the structure
            of a webpage.
          </p>
        </article>
```

```
        <article>
          <h2>Another Article</h2>
          <p>
            Using semantic elements helps search engines
understand the content
            of the webpage and improves SEO.
          </p>
        </article>
      </section>

      <aside>
        <h3>Related Links</h3>
        <ul>
          <li><a href="#">Link 1</a></li>
          <li><a href="#">Link 2</a></li>
          <li><a href="#">Link 3</a></li>
        </ul>
      </aside>
    </main>

    <footer>
      <p>&copy; 2024 My Website. All Rights Reserved.</p>
    </footer>
  </body>
</html>
```

Browser Output:

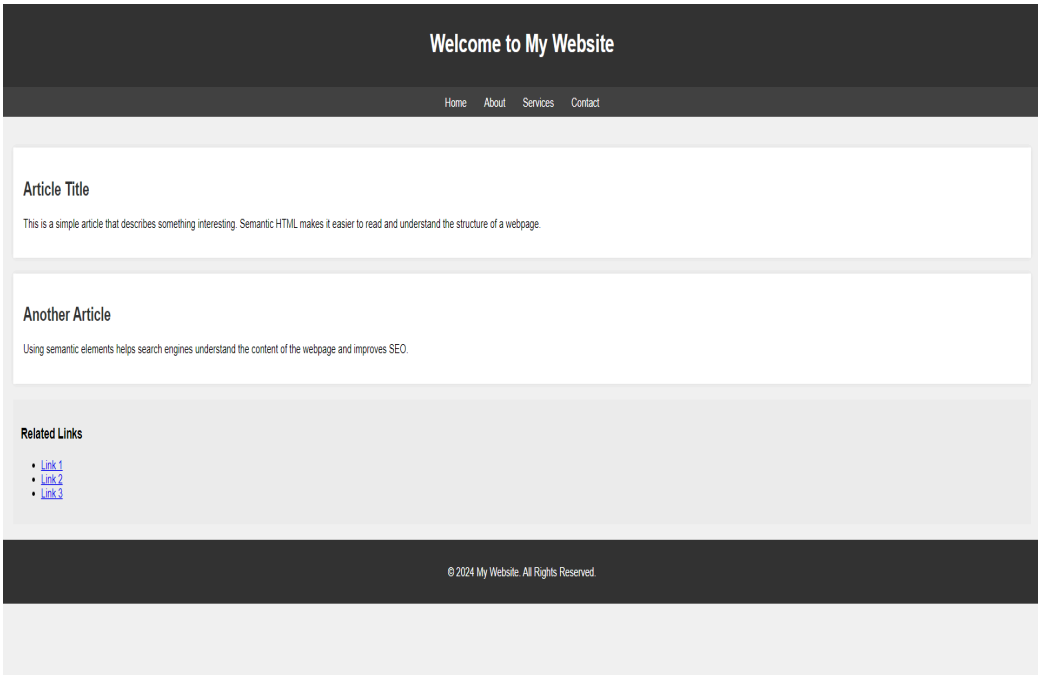


Image in HTML:

The HTML <img> tag is used to embed an image in web pages by linking them. It creates a placeholder for the image, defined by attributes like src, width, height, and alt, and does not require a closing tag.

There are two ways to insert the images into a webpage:

- By providing a full path or address (URL) to access an internet file.
- By providing the file path relative to the location of the current web page file.

Syntax:

```
<img src="url" alt="some_text" width="" height="">
```

Images Attributes:

src - Specifies the path to the image file.
Alt - Provides alternate text for the image, useful for accessibility and when the image cannot be displayed.
width - Specifies the width of the image.
height - Specifies the height of the image.

Audio in HTML

To embed audio in HTML, we use the <audio> tag. Before HTML5, audio cannot be added to web pages in the Internet Explorer era. To play audio, we used web plugins like Flash. After the release of HTML5, it is possible. This tag supports Chrome, Firefox, Safari, Opera, and Edge in three audio formats – MP3, WAV, OGG. Only Safari browser doesn't support OGG audio format.

Syntax:

```
<audio>
    <source src="file_name" type="audio_file_type">
</audio>
```

Video in HTML:

To embed video in HTML, we use the <video> tag. It contains one or more video sources at a time using <source> tag. It supports MP4, WebM, and Ogg in all modern browsers. Only Ogg video format isn't supported in Safari browser.

Syntax:

```
<video>
    <source src="file_name" type="video_file_type">
</video>
```

Multimedia Attributes:

controls: Displays playback controls (play, pause, volume).
autoplay: Starts playing the audio as soon as it is loaded.
loop: Repeats the audio/video when it ends.
muted: Starts the audio/video muted.