HTML Basics

HTML Document Structure

An HTML document has a basic structure that includes the following main parts:

1. <!DOCTYPE html>: Declares the document type and version of HTML being used.
2. <html>: The root element that contains all other HTML elements.
3. <head>: Contains meta-information about the document, such as the title and links to stylesheets.
4. <title>: Sets the title of the document, which appears in the browser tab.
5. <body>: Contains the content of the document, such as text, images, and links.

Basic Tags and Elements

HTML provides various tags and elements to define the structure and content of a webpage. Here are some of the most commonly used ones:

Headings
HTML provides six levels of headings, from <h1> to <h6>, with <h1> being the highest (or most important) level and <h6> the lowest.
```html
<h1>This is a Heading 1</h1>
<h2>This is a Heading 2</h2>
<h3>This is a Heading 3</h3>
```

Paragraphs
Paragraphs are defined with the <p> tag.
```html
<p>This is a paragraph.</p>
```

Links
Links are created using the <a> tag with the href attribute.
```html
<a href="https://www.example.com">Visit Example.com</a>
```

Images
Images are embedded using the <img> tag with the src attribute to specify the image source

and the alt attribute for alternative text.
```html
<img src="image.jpg" alt="Description of the image">
```

Lists
HTML supports ordered (numbered) lists and unordered (bulleted) lists.

Ordered List:
```html
<ol>
 <li>First item</li>
 <li>Second item</li>
 <li>Third item</li>
</ol>
```

Unordered List:
```html
<ul>
 <li>First item</li>
 <li>Second item</li>
 <li>Third item</li>
</ul>
```

Tables
Tables are created using the <table> tag, with rows defined by <tr>, and headers and cells defined by <th> and <td>, respectively.
```html
<table>
 <tr>
  <th>Header 1</th>
  <th>Header 2</th>
 </tr>
 <tr>
  <td>Data 1</td>
  <td>Data 2</td>
 </tr>
</table>
```

Forms

Forms collect user input and are created using the <form> tag. Various input elements like text fields, radio buttons, and submit buttons are used within the form.
```html
<form action="/submit" method="post">
  <label for="name">Name:</label>
  <input type="text" id="name" name="name">
  <input type="submit" value="Submit">
</form>
```

Meta Tags

Meta tags provide metadata about the HTML document. They are placed inside the <head> element.
```html
<meta charset="UTF-8">
<meta name="description" content="A description of the page">
<meta name="keywords" content="HTML, CSS, JavaScript">
<meta name="author" content="Your Name">
```

Comments

Comments are used to explain the code and are not displayed in the browser.
```html
<!-- This is a comment -->
```

Character Entities

Special characters in HTML are represented by character entities.
```html
&lt; for <
&gt; for >
&amp; for &
&quot; for "
&apos; for '
```

```
```

HTML Attributes

Attributes provide additional information about HTML elements. They are always included in the opening tag and usually come in name/value pairs like name="value".

For example:
```html
<a href="https://www.example.com" target="_blank">Visit Example.com</a>
```
Here, href is an attribute that specifies the link's destination, and target is an attribute that specifies where to open the linked document.

Conclusion

HTML is the foundation of web development, providing the essential structure for web pages. Understanding these basics is the first step towards creating and designing websites.