Title:

* The title element is used to define the title of the document or webpage.
* It is placed inside the head section of an HTML document.
* The title is displayed in the title bar of the browser and is used by search engines to display a page's title in search results.

Example:

<!DOCTYPE html>

<html>

<head>

<title>My Website</title>

</head>

<body> <!-- Content goes here --> </body>

</html>

Headings and Paragraphs:

* Headings are used to define the structure of a webpage and to make it easier to read and navigate.
* There are six levels of headings in HTML, with h1 being the most important and h6 being the least important.
* Paragraphs are used to group text content together.

Example:

<!DOCTYPE html> <html> <head> <title>My Website</title> </head> <body> <h1>Heading Level 1</h1> <p>This is a paragraph.</p> <h2>Heading Level 2</h2> <p>This is another paragraph.</p> </body> </html>

Images and Anchors:

* The img element is used to display images on a webpage.
* The anchor element is used to create hyperlinks that can be clicked to navigate to another webpage or part of the same webpage.

Example:

<!DOCTYPE html> <html> <head> <title>My Website</title> </head> <body> <h1>My Favorite Photos</h1> <a href="photo-1.jpg"> <img src="photo-1-thumb.jpg" alt="Photo 1"> </a> <a href="photo-2.jpg"> <img src="photo-2-thumb.jpg" alt="Photo 2"> </a> </body> </html>

## Lists and Tables

### Lists

* Lists are used to group items together and can be ordered (numbered) or unordered (bulleted).
* Ordered lists use the **<ol>** tag and each item is marked with the **<li>** tag.
* Unordered lists use the **<ul>** tag and each item is also marked with the **<li>** tag.

Example:

<ul>

<li>Item 1</li>

<li>Item 2</li>

<li>Item 3</li>

</ul>

<ol>

<li>First</li>

<li>Second</li>

<li>Third</li>

</ol>

### Tables

* Tables are used to display data in rows and columns.
* Tables use the **<table>** tag to define the table.
* Table rows are defined with the **<tr>** tag.
* Table data/cells are defined with the **<td>** tag.
* Table headings are defined with the **<th>** tag.

Example:

<table>

<thead>

<tr>

<th>Column 1</th>

<th>Column 2</th>

<th>Column 3</th>

</tr>

</thead>

<tbody>

<tr>

<td>Row 1, Column 1</td>

<td>Row 1, Column 2</td>

<td>Row 1, Column 3</td>

</tr>

<tr>

<td>Row 2, Column 1</td>

<td>Row 2, Column 2</td>

<td>Row 2, Column 3</td>

</tr>

</tbody>

</table>

* Also use colspan row span

## Forms & Input

HTML forms are used to collect user input. Form elements include input fields, radio buttons, checkboxes, select boxes, and buttons. The form data can be sent to a server for processing using a server-side scripting language like PHP or Python.

### Form structure

The basic structure of an HTML form includes the **<form>** tag, which is used to create the form, and one or more input fields, which are used to collect user input. The form can be styled using CSS.

Example:

<form action="submit-form.php" method="POST">

<label for="name">Name:</label>

<input type="text" id="name" name="name" required>

<label for="email">Email:</label>

<input type="email" id="email" name="email" required>

<label for="message">Message:</label>

<textarea id="message" name="message" rows="4" cols="40"></textarea>

<input type="submit" value="Submit">

</form>

### Input fields

Input fields are used to collect user input. There are several types of input fields, including text, email, password, checkbox, radio button, select box, and file upload.

Example:

<label for="username">Username:</label>

<input type="text" id="username" name="username" required>

<label for="password">Password:</label>

<input type="password" id="password" name="password" required>

<label for="remember-me">Remember me:</label>

<input type="checkbox" id="remember-me" name="remember-me">

<label for="gender">Gender:</label>

<input type="radio" id="male" name="gender" value="male">

<label for="male">Male</label>

<input type="radio" id="female" name="gender" value="female">

<label for="female">Female</label>

<label for="color">Favorite color:</label>

<select id="color" name="color">

<option value="red">Red</option>

<option value="green">Green</option>

<option value="blue">Blue</option>

</select>

<label for="profile-picture">Profile picture:</label>

<input type="file" id="profile-picture" name="profile-picture">

### Validations

HTML5 introduced several new input types and attributes that can be used to validate user input. These include required, pattern, min, max, and step.

Example:

<label for="age">Age:</label>

<input type="number" id="age" name="age" required min="18" max="100" step="1">

<label for="zipcode">Zipcode:</label>

<input type="text" id="zipcode" name="zipcode" pattern="[0-9]{5}">

In the above example, the **age** input field is required and must be between 18 and 100, with a step value of 1. The **zipcode** input field must match the pattern **[0-9]{5}**, which means it must be a five-digit number.

Overall, HTML forms and input fields provide a powerful toolset for collecting user input and sending it to a server for processing. With the introduction of new HTML5 input types and attributes, it is easier than ever to create forms that are both easy to use and validate user input.

## HTML Entities

HTML entities are special characters that are used to represent reserved characters, such as **<**, **>**, and **&**. They are used to ensure that these characters are displayed correctly in the browser, rather than being interpreted as HTML code.

There are two types of HTML entities: named entities and numeric entities. Named entities use a name to represent the character, while numeric entities use a numerical code.

Example:

<p>This is an example of a named entity: &copy; </p>

<p>This is an example of a numeric entity: &#8364; </p>

In the above example, **&copy;** represents the copyright symbol, while **&#8364;** represents the euro symbol.

## Semantic Tags in HTML

Semantic tags in HTML are used to provide meaning to the content on a web page. They are used to describe the structure of the page, rather than its appearance. Semantic tags are important for accessibility and SEO, as they help screen readers and search engines understand the content of the page.

Some examples of semantic tags in HTML include:

* **<header>**: Defines the header of a section or page.
* **<nav>**: Defines a section of the page that contains navigation links.
* **<main>**: Defines the main content of the page.
* **<section>**: Defines a section of the page.
* **<article>**: Defines an article or piece of content on the page.
* **<aside>**: Defines content that is related to the main content, but not a part of it.
* **<footer>**: Defines the footer of a section or page.