**HTML Tables**

**1. What is an HTML Table?**

**Definition:**

* An HTML table is a **structured way to display data in rows and columns**.
* Commonly used for **tabular data**, schedules, reports, and comparison charts.

**Syntax:**

<table>

<!-- table rows and cells go here -->

</table>

**Key Idea:**

Tables organize content **horizontally (rows)** and **vertically (columns)** for easy reading.

**2. Basic Table Structure & Tags**

| **Tag** | **Description** |
| --- | --- |
| <table> | Defines the table container |
| <caption> | Optional; adds a title or description for the table |
| <thead> | Groups table header rows (for semantic and styling purposes) |
| <tbody> | Groups table body rows |
| <tfoot> | Groups table footer rows |
| <tr> | Table row |
| <th> | Table header cell (bold and centered by default) |
| <td> | Table data cell (regular cell) |

**3. Example of a Simple Table**

<table border="1">

<caption>Student Marks</caption>

<thead>

<tr>

<th>Roll No</th>

<th>Name</th>

<th>Maths</th>

<th>Science</th>

</tr>

</thead>

<tbody>

<tr>

<td>101</td>

<td>Alice</td>

<td>85</td>

<td>90</td>

</tr>

<tr>

<td>102</td>

<td>Bob</td>

<td>78</td>

<td>88</td>

</tr>

</tbody>

<tfoot>

<tr>

<td colspan="2">Average</td>

<td>81.5</td>

<td>89</td>

</tr>

</tfoot>

</table>

**Explanation:**

* <caption> → Table title
* <thead> → Header row with <th> cells
* <tbody> → Main content rows with <td> cells
* <tfoot> → Footer row (used for totals or summary)
* colspan → Merges multiple columns (in this case, first two cells)

**4. Table Attributes**

**A. Table Tag Attributes**

| **Attribute** | **Description** |
| --- | --- |
| border | Sets border width of table (deprecated; use CSS) |
| cellpadding | Space inside each cell (deprecated; use CSS) |
| cellspacing | Space between cells (deprecated; use CSS) |
| width | Table width (deprecated; use CSS) |
| height | Table height (deprecated; use CSS) |
| align | Align table (deprecated; use CSS) |
| summary | Optional; describes table content for accessibility |

**Note:** Modern HTML uses **CSS for styling** instead of these attributes.

**B. Cell Tag Attributes**

| **Attribute** | **Description** |
| --- | --- |
| colspan | Merge multiple columns |
| rowspan | Merge multiple rows |
| align | Align cell content (left, center, right) |
| valign | Vertical alignment (top, middle, bottom) |

**Example:**

<td colspan="2" align="center">Total</td>

**5. Styling Tables with CSS**

**Basic CSS Example:**

<style>

table {

width: 80%;

border-collapse: collapse; /\* Removes double borders \*/

}

th, td {

border: 1px solid black;

padding: 8px;

text-align: center;

}

th {

background-color: #f2f2f2;

}

</style>

**Explanation:**

* border-collapse: collapse → merges borders into a single line
* padding → space inside cells
* background-color → differentiate header row

**Example Table with CSS:**

<table>

<thead>

<tr><th>Item</th><th>Price</th></tr>

</thead>

<tbody>

<tr><td>Apple</td><td>$1</td></tr>

<tr><td>Banana</td><td>$0.5</td></tr>

</tbody>

</table>

**6. Advanced Table Features**

1. **Rowspan / Colspan**

<tr>

<td rowspan="2">Group A</td>

<td>Member 1</td>

</tr>

<tr>

<td>Member 2</td>

</tr>

1. **Table with Footer**

* Use <tfoot> to **display totals** or **summary data** at the bottom.
* Often styled differently from <tbody>.

1. **Accessible Tables**

* Use <caption> for table title
* Use <th scope="col"> or <th scope="row"> to define headers for accessibility.

**7. Common Interview Questions**

1. Difference between <th> and <td>?
   * <th> → table header, bold & centered by default
   * <td> → table data, regular cell
2. How to merge cells horizontally and vertically?
   * Horizontal → colspan
   * Vertical → rowspan
3. What are semantic table tags?
   * <table>, <thead>, <tbody>, <tfoot>, <caption>
4. How to style tables using CSS?
   * Use border-collapse, padding, background-color, text-align, etc.
5. What is the importance of <caption>?
   * Provides **title** and **accessibility** info for screen readers.