

# Concept of Table and its Usage

## 1.1 What is a Table?

A table is an arrangement of data in rows and columns, forming a grid. It's a fundamental HTML element used to display structured information, such as lists, data sets, or any other tabular data.

## 1.2 Usage of Tables

Tables are commonly used to organize and present data in a structured format. They are used for various purposes, including displaying financial data, product specifications, schedules, and more.

## 2. Create Tables

### 2.1 Basic Table Structure

The ``<table>`` element is used to create a table. Rows are defined with ``<tr>``, headers with ``<th>``, and data cells with ``<td>``.

```
<table>
  <tr>
    <th>Header 1</th>
    <th>Header 2</th>
  </tr>
  <tr>
    <td>Row 1, Cell 1</td>
    <td>Row 1, Cell 2</td>
  </tr>
  <tr>
    <td>Row 2, Cell 1</td>
    <td>Row 2, Cell 2</td>
  </tr>
</table>
```

## 3. Format Tables

### 3.1 Table Borders

Use the ``border`` attribute to define the thickness of table borders.

```
<table border="1">
  <!-- Table content goes here -->
</table>
```

### 3.2 Table Width and Alignment

Set the width of the table using the `width` attribute. Align the content using the `align` attribute.

```
<table width="50%" align="center">
  <!-- Table content goes here -->
</table>
```

### 3.3 Cell Padding and Spacing

Adjust the spacing inside and between cells using the `cellpadding` and `cellspacing` attributes.

```
<table cellpadding="10" cellspacing="5">
  <!-- Table content goes here -->
</table>
```

### 3.4 Table Caption

Add a caption to the table using the `<caption>` element.

```
<table>
  <caption>Table Caption</caption>
  <!-- Table content goes here -->
</table>
```

## 4. Table Models, Definitions, and Types

### 4.1 Table Models

**Grid/Table Model:** Represents data in a grid-like structure with rows and columns.

**Entity-Relationship Model:** Represents relationships between different entities.

### 4.2 Definitions

**Row:** A horizontal arrangement of cells.

**Column:** A vertical arrangement of cells.

**Header Row:** The first row containing headers defined by `<th>` elements.

**Data Cell:** A cell containing actual data, defined by `<td>` elements.

### 4.3 Table Types

**Simple Tables:** Basic tables used for general data display.

**Data Tables:** Tables presenting a set of data with headers, rows, and columns.

**Comparison Tables:** Tables used to compare different items or entities.

**Matrix Tables:** Tables representing relationships between two or more entities.

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