

2.5 Tables

Creating a table

A **table** is an HTML structure surrounded by the `<table>` opening and closing tags that allows data to be organized in rows and columns. A **cell** is a location in the table at a specific row and column.

- The `<tr>` opening and closing tags create a **table row**, which contains all the row's cells.
- The `<th>` opening and closing tags create a new table cell containing **table header** information about the data. Usually, the browser displays table headers centered with a bold font.
- The `<td>` opening and closing tags create a new table cell containing **table data**.

A table **caption** defines a short descriptive text for a table and is created with `<caption>` tags. The caption opening and closing tags must immediately follow the opening table tag. A web browser typically renders the table caption centered above the table.

PARTICIPATION
ACTIVITY

2.5.1: HTML tables organize data into rows and columns.



Start



2x speed

```
<table>
  <caption>Presidential Nominees</caption>
  <tr>
    <th>Party</th>
    <th>Nominee</th>
  </tr>
  <tr>
    <td>Democratic</td>
    <td>Franklin Pierce</td>
  </tr>
  <tr>
    <td>Whig</td>
    <td>Winfield Scott</td>
  </tr>
</table>
```

Presidential Nominees

Party	Nominee
-------	---------

Democratic	Franklin Pierce
------------	-----------------

Whig	Winfield Scott
------	----------------

Captions ^

1. The `<table>` opening and `</table>` closing tags create a structure to store the table's contents.
2. The `<caption>` opening and `</caption>` closing tags surround the table's caption, which renders above the table.
3. The `<tr>` opening and `</tr>` closing tags create a row inside the table.
4. The `<th>` opening and `</th>` closing tags create two header cells in the same row.

5. Two more rows are added to the table. Each row has two data cells, created with `<td>` opening and `</td>` closing tags.
6. Without CSS, the table renders with no borders around the table cells.

[Feedback?](#)

Table borders

The tables in this section appear with borders for clarity. CSS can be added to a webpage to display table borders. Ex:

```
<style>
table, th, td {
  border: 2px solid gray;
}
</style>
```

CSS, discussed elsewhere, can also be used to increase the table's size, add borders, add background images and color, change the cell text alignment, etc.

PARTICIPATION ACTIVITY

2.5.2: Table structure.



Match the tags to the correct blanks to render the table below.

```
<table>
  __A__ Transistors then and now</caption>
  <tr>
    <th>Attribute</th>
    <th>1975</th>
    <th>2015</th>
  </tr>
  __B__
    <th>Transistor size</th>
    <td>6 &mu;m</td>
    <td>14 nm</td>
  </tr>
  <tr>
    __C__ Transistor count</th>
    <td>6K</td>
    __D__ 1.3G</td>
  </tr>
</table>
```

Transistors then and now

Attribute	1975	2015
Transistor size	6 μm	14 nm
Transistor count	6K	1.3G

If unable to drag and drop, refresh the page.

<caption>

A
The <caption> opening tag starts a descriptive caption "Transistors then and now."

Correct

<tr>

B
The <tr> opening tag starts a table row for the transistor sizes.

Correct

<th>

C
The <th> opening tag starts a table cell for a header: Transistor count.

Correct

<td>

D
The <td> opening tag starts a table cell for a datum: 1.3G.

Correct

[Reset](#)[Feedback?](#)**PARTICIPATION
ACTIVITY**

2.5.3: Creating tables.



Enter the necessary HTML to create the different parts of a table.

- 1) Create a table cell with datum of "open".

[Check](#)[Show answer](#)**Answer**

```
<td> open </td>
```

A table cell is created with the `<td>` opening tag, the cell's content, and the `</td>` closing tag.



- 2) Create a table cell with header of "hours".

[Check](#)[Show answer](#)**Answer**

```
<th> hours </th>
```

A table header is created with the `<th>` opening tag, the header cell's content, and the `</th>` closing tag.



- 3) Create an empty table row with no content.

[Check](#)[Show answer](#)**Answer**

```
<tr> </tr>
```

A table row is created with the `<tr>` opening tag, the row's content, and the `</tr>` closing tag. An empty row will only have opening and closing tags.



- 4) Create an empty table with the caption "Store Information".

[Check](#)[Show answer](#)**Answer**

```
<table><caption>Store Information</caption>  
</table>
```

A table with a caption is started with the `<table>` opening tag followed by the caption. A caption is created with the `<caption>` opening tag, the caption text, and the `</caption>` closing tag. The table ends with the `</table>` closing tag.

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ACTIVITY**

2.5.4: Add table row.



The following HTML is an example of a table with one row of column headers and one row of data. Try adding the necessary HTML and text to create another row, Average Temperature, at the bottom of the table that shows Alaska as having the lowest average temperature and Florida as having the highest average temperature.

```
1 <table>
2   <caption>State Weather Extremes</caption>
3   <tr>
4     <th></th>
5     <th>Lowest</th>
6     <th>Highest</th>
7   </tr>
8   <tr>
9     <th>Average Rainfall</th>
10    <td>Nevada</td>
11    <td>Hawaii</td>
12  </tr>
13 </table>
```

[Render webpage](#)[Reset code](#)

Your webpage

	Lowest	Highest
Average Rainfall	Nevada	Hawaii

▼ View solution

 Explain

--- START FILE: HTML ---

```
<table>
  <caption>State Weather Extremes</caption>
  <tr>
```

```
<th></th>
<th>Lowest</th>
<th>Highest</th>
</tr>
<tr>
  <th>Average Rainfall</th>
  <td>Nevada</td>
  <td>Hawaii</td>
</tr>
<tr>
  <th>Average Temperature</th>
  <td>Alaska</td>
  <td>Florida</td>
</tr>
</table>
```

--- END FILE: HTML ---

[Feedback?](#)**PARTICIPATION
ACTIVITY**

2.5.5: Add table column.



The following HTML is an example of a table with one column of headers and one column of data. Try adding the necessary HTML and text to create another column, Heaviest, on the right side of the table that shows Ostrich as the heaviest bird and Blue Whale as the heaviest mammal.

```
1 <table>
2   <caption>Weight Extremes</caption>
3   <tr>
4     <th></th>
5     <th>Lightest</th>
6   </tr>
7   <tr>
8     <th>Bird</th>
9     <td>Bee Hummingbird</td>
10  </tr>
11  <tr>
12    <th>Mammal</th>
13    <td>Pygmy Shrew</td>
14  </tr>
15 </table>
16
```

[Render webpage](#)[Reset code](#)

Your webpage

Weight Extremes	
	Lightest
Bird	Bee Hummingbird
Mammal	Pygmy Shrew

[▼ View solution](#)[🔍 Explain](#)

--- START FILE: HTML ---

```
<table>
  <caption>Weight Extremes</caption>
  <tr>
    <th></th>
    <th>Lightest</th>
    <th>Heaviest</th>
  </tr>
  <tr>
    <th>Bird</th>
    <td>Bee Hummingbird</td>
    <td>Ostrich</td>
  </tr>
  <tr>
    <th>Mammal</th>
    <td>Pygmy Shrew</td>
    <td>Blue Whale</td>
  </tr>
</table>
```

--- END FILE: HTML ---

[Feedback?](#)

Note

Web browsers often have to process invalid HTML and attempt to fix errors. However, the resulting behavior is unpredictable. Because web developers commonly do not write the closing `<tr>`, `<th>`, and `<td>` tags, the Living HTML Standard permits not writing those closing tags. Good practice is to always use both the opening and closing tags for the `<tr>`, `<th>`, and `<td>` tags.

Ugly tables

HTML tables are rather plain without CSS. Table columns and rows render just large enough to display the inner content, and usually no table border is displayed. CSS (discussed elsewhere) can be used to increase the table's size, add borders, add background images and color, change the cell text alignment, etc.

Spanning multiple columns and rows

A single table cell occupies a single row and column by default, but a cell may span multiple columns or multiple rows using the **colspan attribute** and **rowspan attribute** to specify how many columns or rows to span. The `colspan` and `rowspan` attributes apply to `<td>` and `<th>` tags.

PARTICIPATION ACTIVITY

2.5.6: Spanning multiple columns and rows.



The following HTML creates a table with a "Warmup" cell that spans 3 columns and a "Scrimmage" cell that spans 2 rows. Add HTML and text to create a "Sat" column and "12:00" row containing cells spanning multiple rows or columns as shown in the expected webpage.


```
1 <table>
2   <caption>Team Schedule</caption>
3   <tr>
4     <th></th>
5     <th>Mon</th>
6     <th>Wed</th>
7     <th>Fri</th>
8   </tr>
9   <tr>
10    <th>9:00</th>
11    <td colspan="3">Warmup</td>
12  </tr>
13  <tr>
14    <th>10:00</th>
15    <td>Drills</td>
16    <td>Skills Test</td>
```

Render webpage

Reset code

Your webpage

	Mon	Wed	Fri
9:00	Warmup		
10:00	Drills	Skills Test	Scrimmage
11:00	Film	Weights	

Expected webpage

	Mon	Wed	Fri	Sat
9:00	Warmup			Games
10:00	Drills	Skills Test	Scrimmage	
11:00	Film	Weights		
12:00			Team Lunch	

▼ View solution

 Explain

--- START FILE: HTML ---

```
<table>
  <caption>Team Schedule</caption>
  <tr>
    <th></th>
    <th>Mon</th>
    <th>Wed</th>
    <th>Fri</th>
    <th>Sat</th>
```

```

</tr>
<tr>
  <th>9:00</th>
  <td colspan="3">Warmup</td>
  <td rowspan="3">Games</td>
</tr>
<tr>
  <th>10:00</th>
  <td>Drills</td>
  <td>Skills Test</td>
  <td rowspan="2">Scrimmage</td>
</tr>
<tr>
  <th>11:00</th>
  <td>Film</td>
  <td>Weights</td>
</tr>
<tr>
  <th>12:00</th>
  <td colspan="2"></td>
  <td colspan="2">Team Lunch</td>
</tr>
</table>

```

```

--- END FILE: HTML ---

```

```

--- START FILE: CSS ---

```

```

table,th,td {
  border: 2px solid gray;
}

```

```

--- END FILE: CSS ---

```

[Feedback?](#)

PARTICIPATION ACTIVITY

2.5.7: Spanning multiple columns and rows.



Refer to the table below.

alpha	
beta	gamma

epsilon

1) What HTML creates the "alpha" table cell?

- ☐ `<tr colspan="2">alpha</tr>`
- ☒ `<td colspan="2">alpha</td>`
- ☐ `<td cols="2">alpha</td>`

Correct

The `colspan` attribute indicates the number of columns the table cell spans.

2) What HTML creates the second row?

- ☐ `<tr>
 <td>beta</td>
 <td rowspan="2">gamma</td>
</tr>`
- ☒ `<tr>
 <td>beta</td>
</tr>`
- ☐ `<tr>
 <td>beta</td>
 <td>gamma</td>
</tr>`

Correct

The "beta" cell spans a single row, but "gamma" spans two rows.

3) What HTML creates the third row?

- ☐ `<tr>
 <td>epsilon</td>
 <td rowspan="2">gamma</td>
</tr>`
- ☐ `<tr>
 <td>epsilon</td>
 <td></td>
</tr>`
- ☒ `<tr>
 <td>epsilon</td>
</tr>`

Correct

The "epsilon" cell spans a single row and column on the last row.

[Feedback?](#)**CHALLENGE
ACTIVITY**

2.5.1: Modifying a table.

530096.4000608.qx3zqy7

Start

Create another row for Sam, at the bottom of the table with a lowest score of 83 and highest of 96. **SHOW EXPECTED**

```

1 <table>
2   <caption>Exam scores</caption>
3   <tr>
4     <th></th>
5     <th>Lowest</th>
6     <th>Highest</th>
7   </tr>
8   <tr>
9     <th>Tim</th>
10    <td>80</td>
11    <td>90</td>
12  </tr>
13
14 <!-- Your solution goes here -->
15
16 </table>

```

1

2

3

4

5

Check

Next

View your last submission ▼

[Feedback?](#)

Header, body, and footer

Three optional table tags specify each part of a table:

- The **<thead>** tag specifies the table header.
- The **<tbody>** tag specifies the table body.
- The **<tfoot>** tag specifies the table footer.

The **<thead>**, **<tbody>**, and **<tfoot>** tags do not affect the layout of the table, but browsers may use the tags to enable the table body to scroll independently of the header and footer or to print the header and footer on each page of a multi-page table printout.

PARTICIPATION ACTIVITY

2.5.8: Head, body, footer.



Match the tags to the correct blanks to render the table below.

```
<table>
  __A__
  <tr>
    <th>Movie</th>
    <th>Rate</th>
    <th>Price</th>
  </tr>
</thead>
  __B__
  <tr>
    <td>Finding Dory</td>
    <td>Adult</td>
    <td>$10</td>
  </tr>
  <tr>
    <td>Finding Dory</td>
    <td>Child</td>
    <td>$6</td>
  </tr>
</tbody>
  __C__
  <tr>
    <th colspan="2">Total</th>
    <th>$16</th>
  </tr>
</tfoot>
</table>
```

Movie	Rate	Price
Finding Dory	Adult	\$10
Finding Dory	Child	\$6
Total		\$16

If unable to drag and drop, refresh the page.

<thead>

A
The <thead> tags surround the rows that define the table header.

Correct

<tbody>

B
The <tbody> tags surround the rows that define the table body.

Correct

<tfoot>

C

Correct

The `<tfoot>` tags surround the rows that define the table footer.

Reset

Feedback?

Exploring further:

- [HTML tables](#) from W3Schools.com

How was
this
section?



Provide section feedback