



DÀI HỌC ĐÀ NẴNG

TRƯỜNG ĐẠI HỌC CÔNG NGHỆ THÔNG TIN VÀ TRUYỀN THÔNG VIỆT - HÀN

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NexTGen Web



Chapter 4

Creating Tables

 **Objectives**

- Describe how to create and format tables
- Explain the table size and the width of a column
- Explain the process of merging table cells
- Explain the page layout for tables



Creating and Formatting Tables 1-3

A table is made up of rows and columns. The intersection of each row and column is called as a cell.

A row is made up of a set of cells that are placed horizontally.

A column is made up of set of cells that are placed vertically.

The user can represent the data in a tabular format by using the `<table>` element in HTML.

The `<tr>` element divides the table into rows and the `<td>` element specifies columns for each row.

By default, a table does not have a border.

The `border` attribute of the `<table>` element specifies a border for making the table visible in a Web page.



Creating and Formatting Tables 2-3

- The Code Snippet demonstrates how to create a table.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Languages</title>
  </head>
  <body>
    <h2>Main Languages</h2>
    <table border="1">
      <tr>
        <td>English</td>
        <td>German</td>
      </tr>
      <tr>
        <td>French</td>
        <td>Italian</td>
      </tr>
    </table>
  </body>
</html>
```



Creating and Formatting Tables 3-3

- The code uses the `<table>` element to create a table.
- The `border` attribute of `<table>` element gives a border to the table, which is 1 pixel wide.
- The `<tr>` element within the `<table>` element creates rows.
- The `<td>` element creates two cells with the values English and German in the first row and French and Italian in the second row.
- Following figure displays the table created.

Main Languages

English	German
French	Italian



Table Headings 1-3

- The user can specify the heading for each column in HTML.
- To specify the heading for columns in a table, use the `<th>` element.
- The text included within the `<th>` element appears in bold.
- The Code Snippet demonstrates how to create a table with a heading.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>List of Students </title>
  </head>
  <body>
    <h2>List of Students</h2>
    <table border="1">
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Place</th>
      </tr>
```



Table Headings 2-3

```
<tr>
    <td>Mark</td>
    <td>17</td>
    <td>Madrid</td>
</tr>
<tr>
    <td>John</td>
    <td>19</td>
    <td>London</td>
</tr>
</table>
</body>
</html>
```

- In this code, the `<table>` element creates a table with a border of 1 pixel.
- The `<th>` element provides three column headings namely, **Name**, **Age**, and **Place**.



Table Headings 3-3

- The second and the third row lists the details of the students in the three columns.
- Following figure displays the output of the table with headings.

Name	Age	Place
Mark	17	Madrid
John	19	London



Colspan Attribute 1-3

- Spanning refers to a process of extending a cell across multiple rows or columns.
- To span two or more columns, use the `colspan` attribute of the `<td>` and `<th>` elements.
- The `colspan` attribute allows the user to span a cell along a horizontal row.
- The value of the `colspan` attribute specifies the number of cells across which a specific cell shall be expanded.
- The Code Snippet demonstrates how to create a table and span header cells across two cells vertically.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Employee Details</title>
  </head>
  <body>
    <h2>Employee Details</h2>
    <table border="1">
```



Colspan Attribute 2-3

```
<tr>
    <th colspan="2">IT</th>
    <th colspan="2">Accounts</th>
</tr>
<tr>
    <th>Name</th>
    <th>Location</th>
    <th>Name</th>
    <th>Location</th>
</tr>
<tr>
    <td>David</td>
    <td>New York</td>
    <td>John</td>
    <td>London</td>
</tr>
```



Colspan Attribute 3-3

```
<tr>
    <td>Kathy</td>
    <td>New Jersey</td>
    <td>Peter</td>
    <td>Los Angeles</td>
</tr>
</table>
</body>
</html>
```

- The code creates a table with a border of 1 pixel.
- The **<th>** element specifies two column headings namely, **IT** and **Accounts**.
- Each of these header cells horizontally span across the two cells by setting the **colspan** attribute of the **<th>** element to 2.
- Each of these headings has two sub-headings namely, **Name** and **Location**, which specify the name and location of employees.
- The first and second rows display the details of the employees.



Rowspan Attribute 1-3

- The rowspan attribute spans a data cell across two or more rows.
- It allows the user to span a data cell along a vertical column.
- Like the colspan attribute, the rowspan attribute can be used within the <td> and <th> elements.
- The Code Snippet demonstrates how to span a cell across multiple rows.

```
<!DOCTYPE HTML>
<html>
    <head>
        <title>Automobile Gallery</title>
    </head>
    <body>
        <table border="1">
            <tr>
                <th>Manufacturer</th>
                <th>Model</th>
                <th>Price</th>
            </tr>
            <tr>
                <th rowspan="3">Audi</th>
                <td>A4</td>
                <td>34.5</td>
            </tr>
```

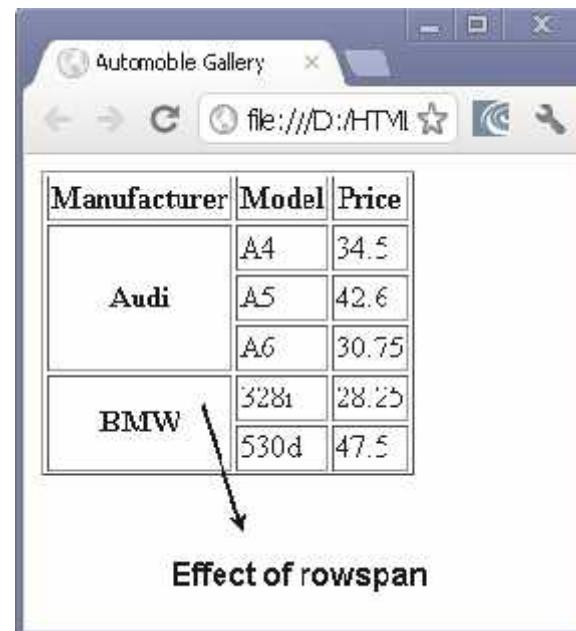


Rowspan Attribute 2-3

```
<tr>
    <td>A5</td>
    <td>42.6</td>
</tr>
<tr>
    <td>A6</td>
    <td>30.75</td>
</tr>
<tr>
    <th rowspan="2">BMW</th>
    <td>328i</td>
    <td>28.25</td>
</tr>
<tr>
    <td>530d</td>
    <td>47.5</td>
</tr>
</table>
</body>
</html>
```

- The code creates a table with a border width of 1 pixel.

- The three <th> elements within the <tr> element specify column headings namely, **Manufacturer**, **Model**, and **Price**.
- The rowspan attribute of the <th> element combines the three rows of the **Manufacturer** column into a common brand namely, **Audi**.
- The three different models and the respective prices of the **Audi** brand are displayed in three different rows.
- Similarly, the rowspan attribute of the <th> element combines the next two rows of the **Manufacturer** column into a common brand called **BMW**.
- Following figure displays the rowspan attribute effect.



The screenshot shows a web browser window titled "Automobile Gallery". The address bar indicates the file is located at "file:///D:/HTML". The browser displays a table with three columns: "Manufacturer", "Model", and "Price". The "Manufacturer" column uses the rowspan attribute to group data for "Audi" and "BMW".

Manufacturer	Model	Price
Audi	A4	34.5
	A5	42.6
	A6	30.75
BMW	328i	28.25
	530d	47.5

Effect of rowspan



Horizontal Alignment 1-4

- Alignment determines the representation of text along the left, right, or center positions.
- In HTML, by default, the data within the table is aligned on the left side of the cell.
- HTML5 has deprecated the align attribute.
- The four possible values for setting the horizontal alignment are as follows:

left:

- Aligns the data within a cell on the left side. This is the default value for table content.

center:

- Aligns the data within the cell on the center. This is the default value for table headings.

right:

- Aligns the data within the cell on the right side.

justify:

- Aligns the data within the cell by adjusting the text at the edges.



Horizontal Alignment 2-4

- To set the alignment with style you can use the text-align attribute to specify the horizontal alignment.
- The Code Snippet demonstrates how to center align the table data.

```
<!DOCTYPE HTML>
<html>
    <head>
        <title>Automobile Gallery</title>
    </head>
    <body>
        <table border="1">
            <tr>
                <th>Sr.No.</th>
                <th>Medicine Name</th>
                <th>Price</th>
            </tr>
            <tr style="text-align: center;">
                <td>1</td>
                <td>Captopril</td>
                <td>12.45</td>
            </tr>
```



Horizontal Alignment 3-4

```
<tr style="text-align: center;">
    <td>2</td>
    <td>Ceftriaxone</td>
    <td>6.94</td>
</tr>
<tr style="text-align: center;">
    <td>3</td>
    <td>Ciprofloxacin</td>
    <td>56.21</td>
</tr>
</table>
</body>
</html>
```

- The code aligns the data within the row using a style within the `<tr>` element.
- The table content is center aligned by setting the value of the `text-align` attribute to center.



Horizontal Alignment 4-4

- Following figure displays the horizontal alignment.

The screenshot shows a web browser window titled "Medicine Products". The address bar displays "file:///D:/HTML". The browser interface includes standard buttons for back, forward, search, and refresh. Below the header is a table with three rows and three columns. The columns are labeled "Sr.No.", "Medicine Name", and "Price". The data rows are:

Sr.No.	Medicine Name	Price
1	Captopril	12.45
2	Ceftriaxone	6.94
3	Ciprofloxacin	56.21

An arrow points from the text "Center-align data" at the bottom left to the third column of the table, indicating the target for center alignment.

Center-align data



Vertical Alignment 1-4

- Users can vertically align the position of data earlier by using the valign attribute.
- HTML5 has deprecated the valign attribute.
- The possible values of vertical alignment are as follows:

top:

- Vertically aligns the data within the cell at the top.

middle:

- Vertically aligns the data within the cell at the center.

bottom:

- Vertically aligns the data within the cell at the bottom.

- To set the alignment with the style, you can use the text-align attribute to specify the vertical alignment use the following syntax:

Syntax:

```
<td style= "text-align: center; vertical-align: middle">  
Aptech Web site </a>
```



Vertical Alignment 2-4

- The style can also be applied to individual rows, cells, or to the entire table.
- The Code Snippet demonstrates how to align the data vertically within the table using the `style` attribute.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>CelinaBatteries</title>
  </head>
  <body>
    <table border="1">
      <tr>
        <th>Sr.No.</th>
        <th>Product Id</th>
        <th>Product Description</th>
      </tr>
      <tr>
        <td style="text-align: center; vertical-align: middle">1
        </td>
        <td style="text-align: center; vertical-align: middle">P101
        </td>
        <td>1.5 Volts AA Ultra Alkaline</td>
      </tr>
```



Vertical Alignment 3-4

```
<tr>
    <td style="text-align: center; vertical-align: middle">2
    </td>
    <td style="text-align: center; vertical-align: middle">
        M105
    </td>
    <td>9 Volts pp3 Super Alkaline</td>
</tr>
</table>
</body>
</html>
```

- The `text-align` attribute is set to the value `center`, which specifies that the data within the rows are centrally aligned.
- The `vertical-align` is used to specify the vertical alignment in the table.



Vertical Alignment 4-4

- Following figure displays the vertical alignment.

The screenshot shows a web browser window titled "CelinaBatteries". The address bar displays "file:///D:/HTML". The browser contains a table with three columns: "Sr.No.", "Product ID", and "Product Description". The table has two rows. An arrow points from the text "Effect of vertical alignment" at the bottom to the second row of the table, specifically to the "M105" entry in the "Product ID" column.

Sr.No.	Product ID	Product Description
1	P101	1.5 Volts AA Ultra Alkaline
2	M105	9 Volts PP3 Super Alkaline

Effect of vertical alignment



Margin Attributes

- The data in a table might appear cluttered, which may affect the readability.
- This might make it difficult to comprehend data as the data.
- To overcome this issue, use the cell margin attributes.
- Cell padding allows the user to control the look of the content on a page.

➤ Padding

- Padding is the amount of space between the content and its outer edge.
- For tables, padding is referred as a space between the text and the cell border.
- Suppose, if the user wants to set the padding attribute for the individual cells then padding attribute can be used in a style as follows:

```
<td style="padding: 4px">
```



Caption Element 1-3

- To specify the main heading for the table, use the `<caption>` element.
- The `<caption>` element defines a caption for the table. It is a sub-element of the `<table>` element.
- It must be present immediately after the `<table>` tag.
- The `<caption>` element allows the user to specify a title for your entire table.
- There can be only one caption for a table.
- The Code Snippet demonstrates how to specify a heading for a table.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Travel Expense Report</title>
  </head>
  <body>
    <table border="1">
      <caption>Travel Expense Report</caption>
      <tr>
        <th>&nbsp;</th>
        <th>Meals</th>
        <th>Hotels</th>
        <th>Transport</th>
      </tr>
```



Caption Element 2-3

```
<tr>
    <td>25-Apr</td>
    <td>37.74</td>
    <td>112.00</td>
    <td>45.00</td>
</tr>
<tr>
    <td>26-Apr</td>
    <td>27.28</td>
    <td>112.00</td>
    <td>45.00</td>
</tr>
<tr>
    <td>Totals</td>
    <td>65.02</td>
    <td>224.00</td>
    <td>90.00</td>
</tr>
</table>
</body>
</html>
```

VKLJ Caption Element 3-3

- The code creates a table of border width of 1 pixel. The `<caption>` element that is used inside the `<table>` element specifies a caption to the entire table as Travel Expense Report.

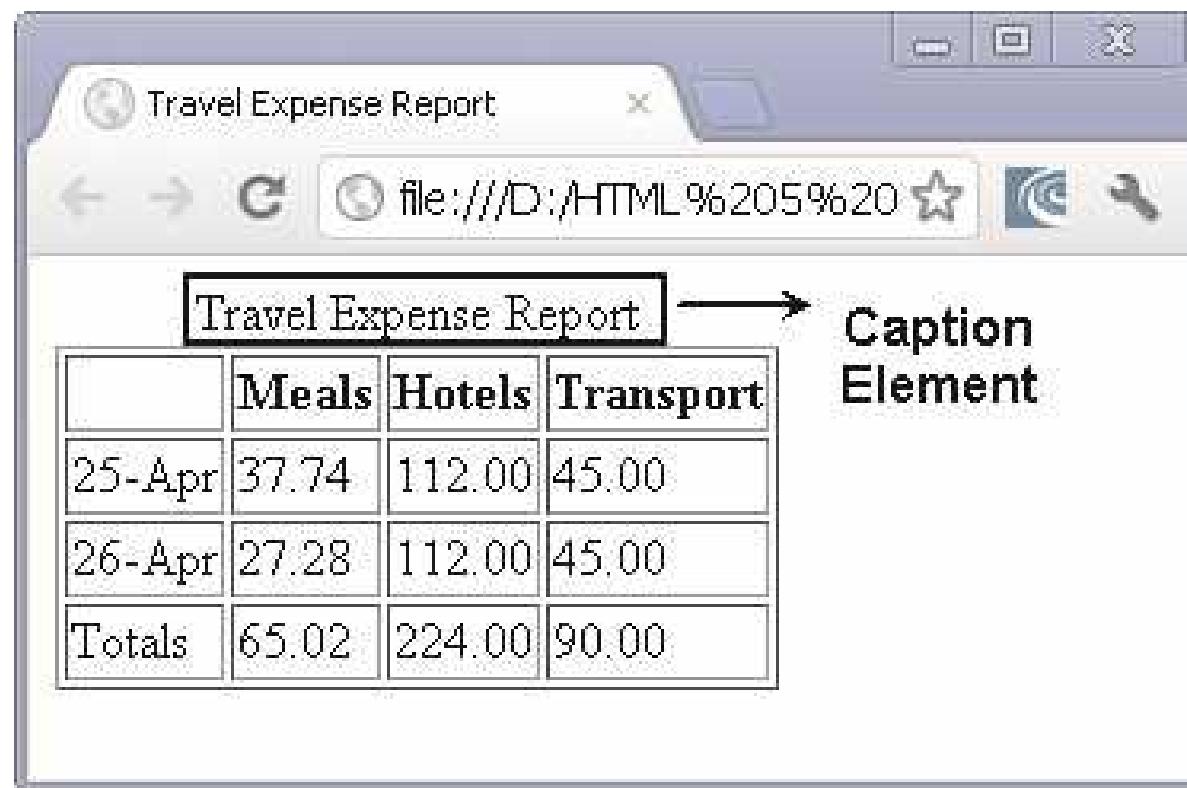




Table Size and Width of a Column 1-2

- The table size can be expanded when the user wants to add rows and columns in the table.
- The user can use the `<style>` section to set the default width for the table to 100% of the browser window.
- To set the width of a column in pixels, one can use style attribute in the `<td>` tag.
- The Code Snippet demonstrates how to create a table with specific width for a column.

```
<!DOCTYPE HTML>
<html>
  <head>
    <title>Tables</title>
  </head>
  <body>
    <h2>Table</h2>
    <table border="1">
      <tr>
        <td style ="width: 200px">Flowers</td>
        <td style ="width: 80px">Fruits</td>
      </tr>
```

Table Size and Width of a Column 2-2

```
<tr>
    <td style = "width: 200px">Vegetables</td>
    <td style = "width: 80px">Trees</td>
</tr>
</table>
</body>
</html>
```

- The code creates a table of border width of 1 pixel.
- The `<style>` element is used to set table width to 100%.
- The width of the columns is set by using the style attribute.
- Following figure displays the table size and column width.





Merging Table Cells 1-3

- To change the cells of a table to different height and width, colspan and rowspan attributes can be used.
- Consider a scenario, where the user wants to merge a cell into adjacent cells to the right-hand side.
 - The colspan attribute can be used to specify the number of columns to span.
 - The rowspan attribute can be used to specify the number of rows.
- The Code Snippet demonstrates creating a table having five columns and five rows, but many of the cells span multiple columns or rows.

```
<!DOCTYPE HTML >
<html>
  <head>
    <title>Favorite Destination</title>
  </head>
  <body>
    <h2>Report</h2>
    <table border="1" width="100%" height="100%">
      <tr>
        <td colspan="2" rowspan="2">Results</td>
        <td colspan="3">Range</td>
      </tr>
      <tr>
        <td>1</td>
        <td>2</td>
        <td>3</td>
      </tr>
    </table>
  </body>
</html>
```



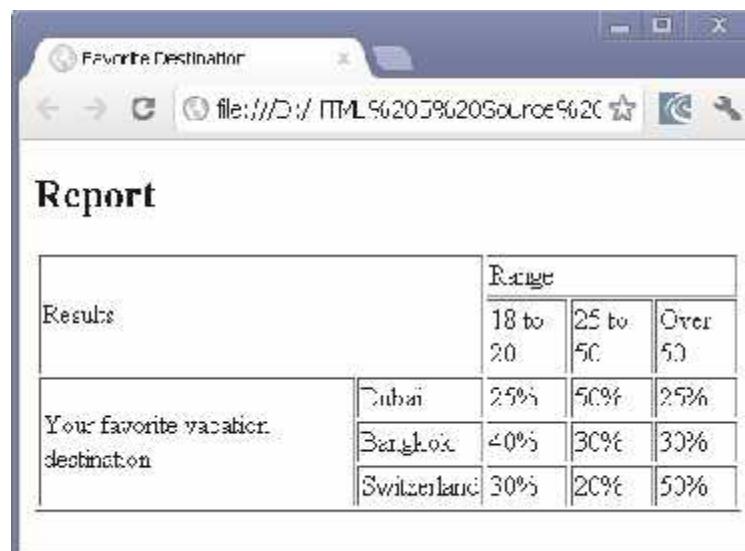
Merging Table Cells 2-3

```
<tr>
    <td>18 to 20</td>
    <td>25 to 50</td>
    <td>over 50</td>
</tr>
<tr>
    <td rowspan="3">Your favorite vacation destination</td>
    <td>Dubai</td>
    <td>25%</td>
    <td>50%</td>
    <td>25%</td>
</tr>
<tr>
    <td>Bangkok</td>
    <td>40%</td>
    <td>30%</td>
    <td>30%</td>
</tr>
```

Merging Table Cells 3-3

```
<tr>
    <td>Switzerland</td>
    <td>30%</td>
    <td>20%</td>
    <td>50%</td>
</tr>
</table>
</body>
</html>
```

- The code creates a table having a border of 1 pixel, table with five columns and five rows, and uses the `colspan` and `rowspan` attributes respectively.
- Following figure displays the merging table cells.



A screenshot of a web browser window titled "Favorite Destination". The address bar shows the URL "file:///D:/HTML%203%20Source%20". The main content area is titled "Report". It contains a table with the following data:

Results	Range		
	18 to 20	25 to 50	Over 50
Dubai	25%	50%	25%
Bangkok	40%	30%	30%
Switzerland	30%	20%	50%



Apply Borders by Using Styles 1-2

- CSS can be used for applying borders as it is the best reliable and flexible method.
- One can format the table by using style based border for <table> and <td> tags.
- To evaluate the attributes used are as follows:

border-width:

- Used to control the thickness of the border and the values are specified in pixels.

border-color:

- Used to control the color of the border and specifies the color by either name, or RGB value, or hexadecimal number.

border-style:

- Used to control the line style. Users can choose between solid, dashed, groove, dotted, outset, ridge, inset, or none.



Apply Borders by Using Styles 2-2

To set all these attributes at one time, the user can use the border attribute and place the settings in the order of width, color, and style respectively.

To format the sides of the border individually, replace the border attribute with border-bottom, border-top, border-right, or border-left attribute.

The user can apply these attributes to the entire table or individual cells and also create rules in the <style> area.



Tables for Page Layout 1-5

- Tables are used for structuring the content and to organize the data in an appropriate manner.
- Tables allow the user to arrange the data horizontally or vertically according to the requirement.
- Each and every Web site has a unique way of presenting data to their customers or users.
- Many Web sites use pop-ups for providing information to their customers.
- The Code Snippet demonstrates a simple example of using table for structuring the content of a Web page.

```
<!DOCTYPE HTML>
<html>
<head>
    <title>Page Layout </title>
</head>
<style>
```



Tables for Page Layout 2-5

```
#navlayout {  
    width: 100%;  
    float: left;  
    margin: 0 0 3em 0;  
    padding: 0;  
    list-style: none;  
    background-color: #f2f2f2;  
    border-bottom: 1px solid #ccc;  
    border-top: 1px solid #ccc; }  
  
#navlayout li {  
    float: left; }  
  
#navlayout li a {  
    display: block;  
    padding: 8px 15px;  
    text-decoration: none;  
    font-weight: bold;  
    color: #069;  
    border-right: 1px solid #ccc; }  
  
#navlayout li a:hover {  
    color: #c00;  
    background-color: #fff; }  
  
</style>
```



Tables for Page Layout 3-5

```
<body>
  
  <h1>Blossoms Gallery</h1>
  <h5><i>The Best sellers for flowers since 1979</i></h5>
  <navlayout>
    <hr>
    <ul id="navlayout">
      <li><a href="#">Home</a></li>
      <li><a href="#">Contact Us</a></li>
      <li><a href="#">About Us</a></li>
      <li><a href="#"> FAQs</a></li>
    </ul>
  </navlayout>
```



Tables for Page Layout 4-5

```
<table>
  <tr>
    <td>
      <b>Flowers are now in stock! </b>
      <i> We have just received a large shipment of flowers
      </i> with prices as low as $19.
    </td>
  </tr>
</table>
</body>
</html>
```

- The code creates a page layout for a Web site. The data is arranged in a tabular format and an embedded style is used for defining the style.
- The style is defined using the `style` element placed immediately after the `<head>` section.
- Defining a style in this manner helps to reuse the style in the same Web page .



Tables for Page Layout 5-5

- The style is set using the ID selector methodology and is identified as navlayout.
- This will enable to apply the style to the content of all those elements whose id attribute has been set to navlayout.
- Following figure displays the example of a page layout for using tables.





VKU Summary

- Tables allow the user to view your data in a structured and classified format.
- Padding is the amount of space between the content and its outer edge.
- The caption element defines a caption for a table. It is a sub-element of the <table> element.
- Spanning refers to a process of extending a cell across multiple rows or columns.
- The rowspan attribute spans a data cell across two or more rows.
- The colspan attribute allows the user to specify the number of columns a cell should span.
- The border attribute of the table element allows the user to specify a border for making the table visible in a Web page.
- Tables allow the user to organize the data. It enables the developer to design a Web page having an attractive page layout.



Q & A