

# **Introduction to Web Design**

## **Lecture\_2**

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# HTML Tables

- ▶ HTML tables were created for instances when you need to add tabular material (data arranged into rows and columns) to a web page. Tables may be used to organize schedules, product comparisons, statistics, or other types of information A table is a grid organized into columns and rows, much like a spreadsheet, as shown in following figure:

Books about Computing		
Title	Publisher	Author
IBM PC Assembly Language and Programming	Prentice-Hall	Abel, P
Object-Oriented Analysis and Design	Addison-Wesley	Booch, G
Demonstration of a Fixed Table		

- ▶ In visual browsers, the arrangement of data in rows and columns gives readers an instant understanding of the relationships between data cells and their respective header labels.
- ▶ The elements that make up the basic structure of a table

```
<table>
  <tr> <th>Menu item</th> <th>Calories</th> <th>Fat</th> </tr>
  <tr> <td>Chicken noodle soup</td> <td>120</td> <td>2</td> </tr>
  <tr> <td>Caesar salad</td> <td>400</td> <td>26</td> </tr>
</table>
```

**<table>...</table>**

Tabular content (rows and columns)

**<tr>...</tr>**

Table row

**<th>...</th>**

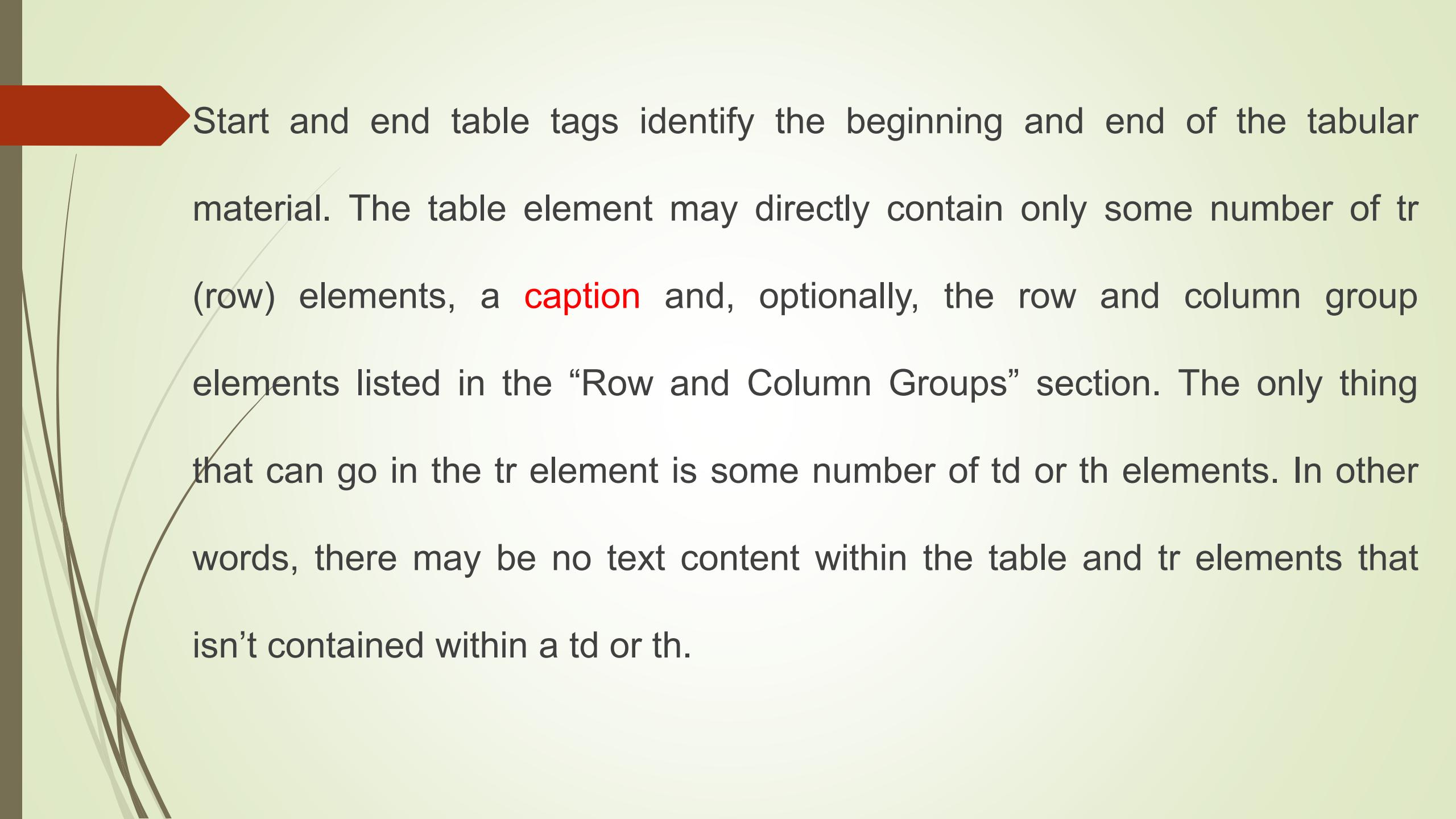
Table header

**<td>...</td>**

Table cell data

# Table Example

```
<table>
  <tr>
    <th>Menu item</th>
    <th>Calories</th>
    <th>Fat (g)</th>
  </tr>
  <tr>
    <td>Chicken noodle soup</td>
    <td>120</td>
    <td>2</td>
  </tr>
  <tr>
    <td>Caesar salad</td>
    <td>400</td>
    <td>26</td>
  </tr>
</table>
```



Start and end table tags identify the beginning and end of the tabular material. The table element may directly contain only some number of tr (row) elements, a **caption** and, optionally, the row and column group elements listed in the “Row and Column Groups” section. The only thing that can go in the tr element is some number of td or th elements. In other words, there may be no text content within the table and tr elements that isn’t contained within a td or th.

# TABLE HEADERS

```
<table>
  <tr>
    <th>Burgers</th>
    <td>Organic Grass-fed Beef</td>
    <td>Black Bean Veggie</td>
  </tr>
  <tr>
    <th>Fries</th>
    <td>Hand-cut Idaho potato</td>
    <td>Seasoned sweet potato</td>
  </tr>
</table>
```

Burgers	Organic Grass-fed Beef	Black Bean Veggie
Fries	Hand-cut Idaho potato	Seasoned sweet potato

# Spanning Columns

- The colspan attribute is used to make a cell span (merge) more than one column.
- HTML code that's spans two columns in the first row, and the output is shown in figure:

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<table border="1" align="center" width="100%" height="400px">
  <tr>
    <th>ID</th>
    <th colspan="2">Name</th>
  </tr>
  <tr>
    <td align="center">1</td>
    <td align="center">Bill</td>
    <td align="center">Gates</td>
  </tr>
</table>

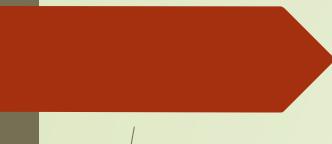
</body>
</html>
```

ID	Name	
1	Bill	Gates

## Spanning Columns example2

```
<table>
  <tr>
    <th colspan="2">Fat</th>
  </tr>
  <tr>
    <td>Saturated Fat (g)</td>
    <td>Unsaturated Fat (g)</td>
  </tr>
</table>
```

Fat	
Saturated Fat (g)	Unsaturated Fat (g)



```
C:\Users\sara.mohamed\Desktop\sara.html
```

# HTML Table with Colspan

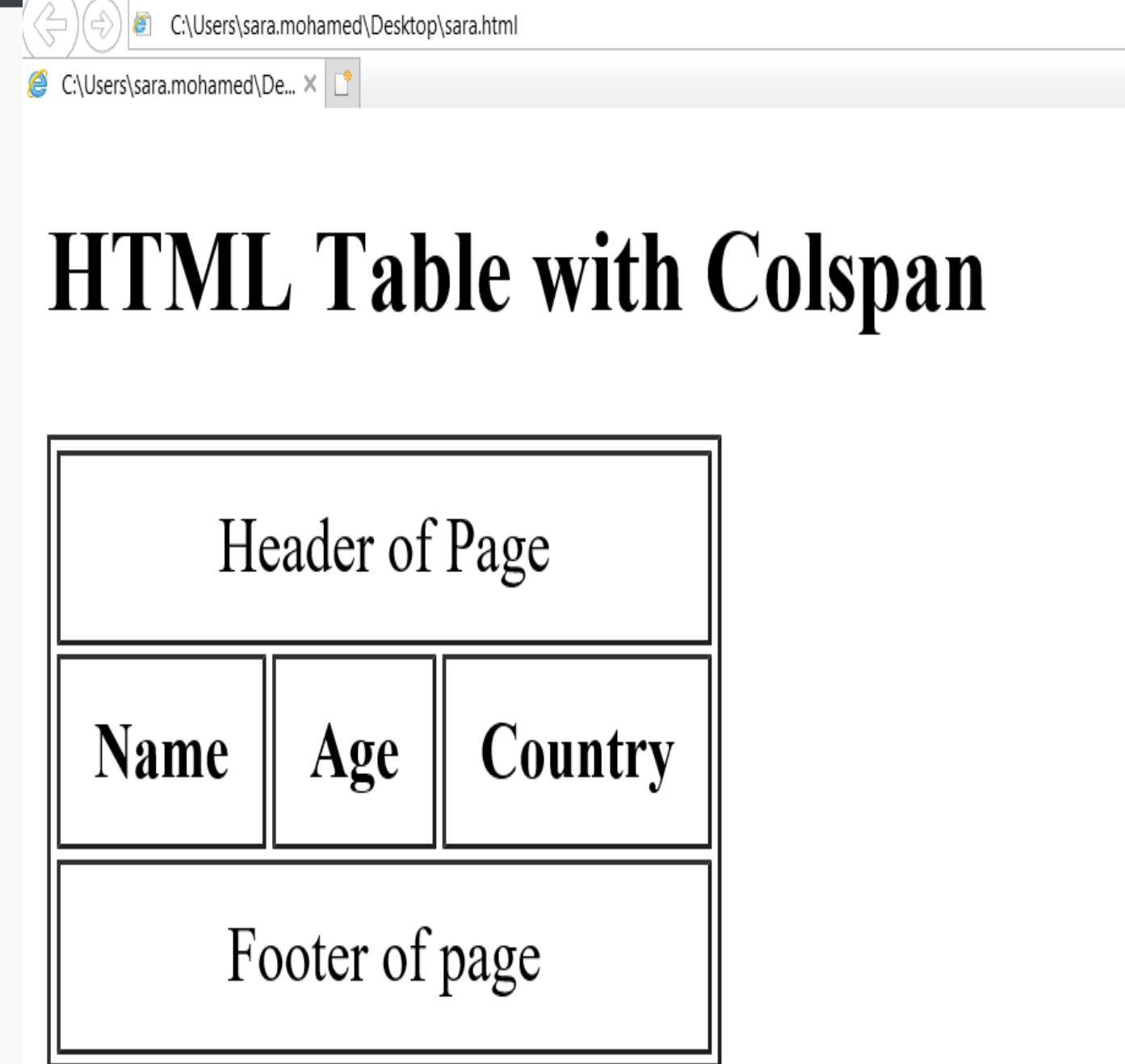
Name	Age	Country
Sarah	22	Egypt
End of Table		

```
3 <head> </head>
4 ▼ <body>
5   <h2>HTML Table with Colspan</h2>
6
7 ▼ <table border="1" cellpadding="10">
8 ▼   <tr>
9     <th>Name</th>
10    <th>Age</th>
11    <th>Country</th>
12  </tr>
13
14 ▼   <tr>
15     <td>Sarah</td>
16     <td>22</td>
17     <td>Egypt</td>
18   </tr>
19
20 ▼   <tr>
21     <!-- This cell spans across 3 columns -->
22     <td colspan="3" align="center">End of Table</td>
23   </tr>
24 </table>
25
26 </body>
```

```
<!DOCTYPE html>
<html>
  <head> </head>
  <body>
    <h2>HTML Table with Colspan</h2>

    <table border="1" cellpadding="10">
      <tr>
        | <!-- This cell spans across 3 columns -->
        <td colspan="3" align="center">Header of Page</td>
      </tr>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Country</th>
      </tr>

      <tr>
        <!-- This cell spans across 3 columns -->
        <td colspan="3" align="center">Footer of page</td>
      </tr>
    </table>
```



The screenshot shows a Microsoft Edge browser window with the title bar "C:\Users\sara.mohamed\Desktop\sara.html". The main content area displays the following HTML structure:

# HTML Table with Colspan

Header of Page		
Name	Age	Country
Footer of page		

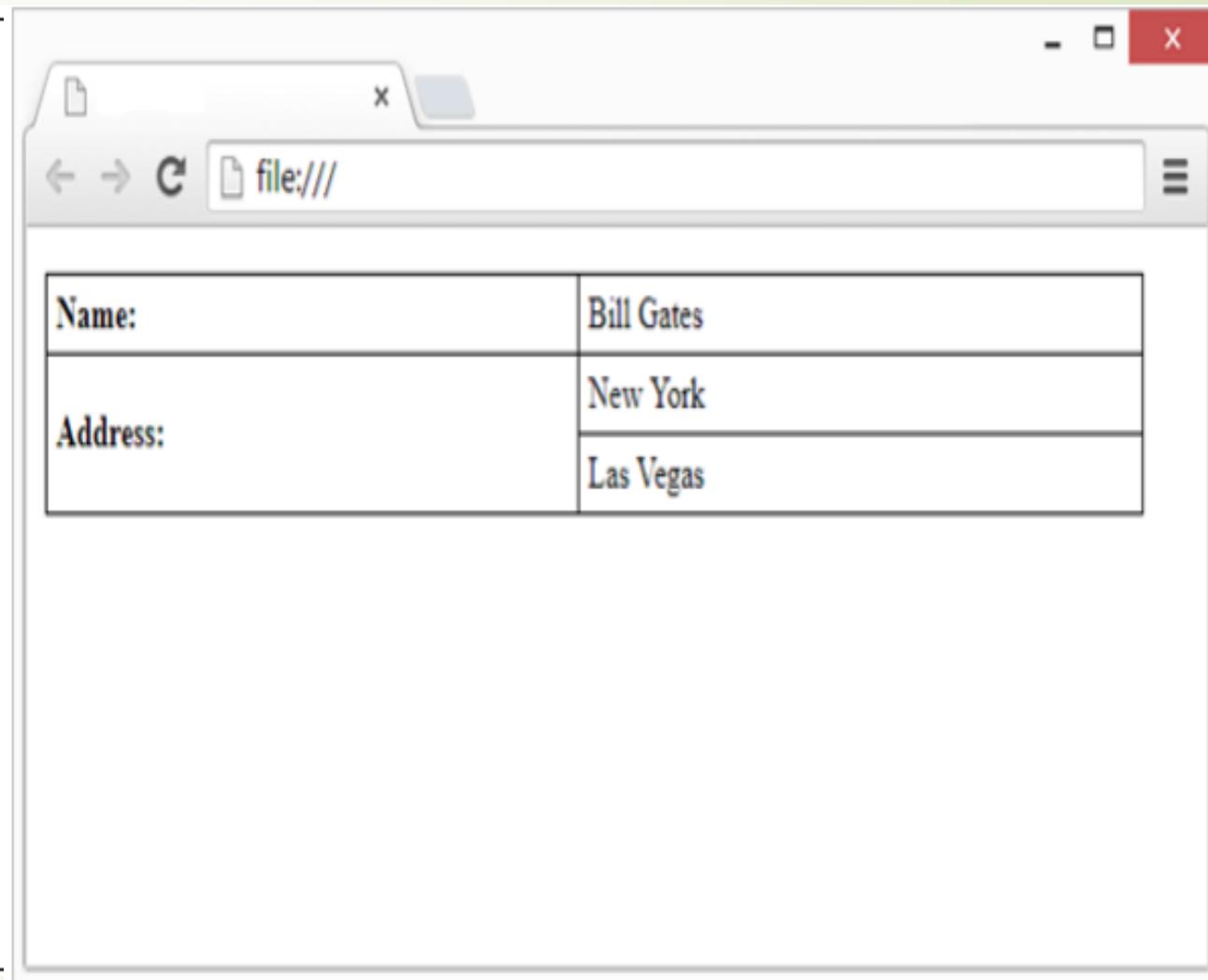
# Spanning Rows

- Row spans, created with the rowspan attribute, work just like column spans, but they cause the cell to span **downward** over several rows:

```
<table border="1" align="center" >
<tr>
<th rowspan="3">Serving Size</th>
<td>Small (8oz.)</td>
</tr>
<tr>
<td>Medium (16oz.)</td>
</tr>
<tr>
<td>Large (24oz.)</td>
</tr>
</table>
```

Serving Size	Small (8oz.)
	Medium (16oz.)
	Large (24oz.)

```
<table style="width:100%">
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Address:</th>
    <td>New York</td>
  </tr>
  <tr>
    <td>Las Vegas</td>
  </tr>
</table>
```

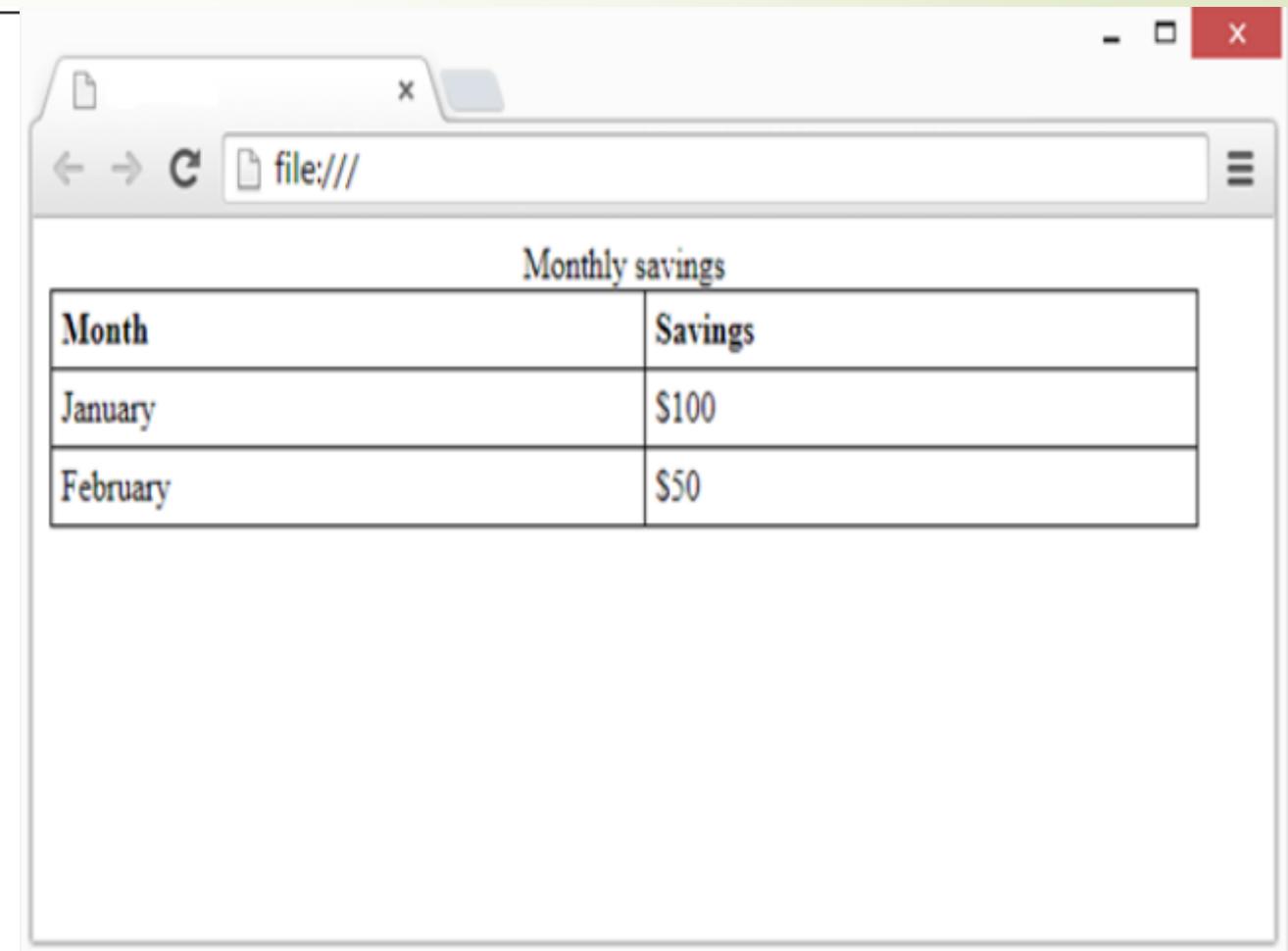


A screenshot of a web browser window displaying the rendered HTML table. The browser interface includes a title bar with minimize, maximize, and close buttons, a toolbar with icons for back, forward, and search, and a status bar indicating 'file:///'. The main content area shows a table with two rows. The first row has one column labeled 'Name:' containing 'Bill Gates'. The second row has one column labeled 'Address:' containing 'New York' in the top half and 'Las Vegas' in the bottom half, demonstrating the use of the 'rowspan' attribute.

Name:	Bill Gates
Address:	New York
	Las Vegas

# Adding a Caption to HTML Tables

```
<table style="width:100%">
  <caption>Monthly savings</caption>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$50</td>
  </tr>
</table>
```



A screenshot of a web browser window displaying a simple HTML table. The browser interface includes a title bar with minimize, maximize, and close buttons, a toolbar with back, forward, and search icons, and a URL bar showing "file:///". The main content area shows a table with a caption "Monthly savings" centered above it. The table has two columns: "Month" and "Savings". It contains two rows of data: January (\$100) and February (\$50).

Month	Savings
January	\$100
February	\$50

# HTML Tables Border and Background

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>
<table border="2" bgcolor="#efefef">
<tr>
<th width="150"> Acount </th>
<th>Withdrawn</th>
<th>Credit</th>
<th width="150">Balance</th>
</tr>
</table>

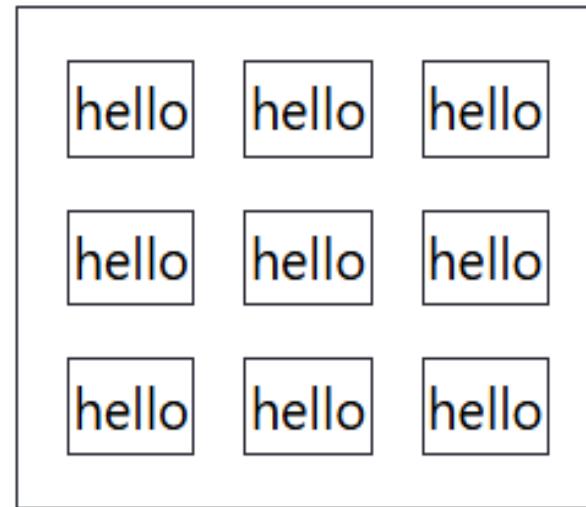
</body>
</html>
```

Acount	Withdrawn	Credit	Balance
--------	-----------	--------	---------

With Padding



With Spacing



# cellspacing and cellpadding

- The **cellspacing** attribute in HTML defines the space between table cells.
- Defines the space between table cells (the **outer** gap).
- **Cell padding** is the space between the cell edges and the cell content. HTML tables can adjust the padding inside the cells

```
1  <!DOCTYPE html>
2  ▼ <html>
3      <head> </head>
4  ▼ <body>
5      <h2>HTML Table with Colspan</h2>
6  ▼ <TABLE style= "width: 30%" border=3 align = "center"
7      cellpadding= 10 cellspacing = 15>
8      <tr>
9          <td colspan=2 height=100 bgcolor="red">red cell</td>
10     </tr>
11     <tr >
12         <td bgcolor = "silver" height =100> silver cell</td>
13         <td bgcolor = "gold" height =100> gold cell</td>
14     </tr>
15
16
17     </body>
18
19     </html>
```

# Output

The screenshot shows a Microsoft Internet Explorer window displaying an HTML page. The address bar indicates the file is located at C:\Users\sara.mohamed\Desktop\sara.html. The title of the page is "HTML Table with Colspan". The content of the page is an HTML table with three rows. The first row contains a single cell colored red, labeled "red cell". The second row contains two cells: one silver-colored cell labeled "silver cell" and one gold-colored cell labeled "gold cell". All three cells are enclosed within a single large black border.

red cell	
silver cell	gold cell



## **► ROW AND COLUMN GROUPS**

# Row Group Elements

- ▶ You can describe rows or groups of rows as belonging to a header, footer, or the body of a table by using the **thead**, **tfoot**, and **tbody** elements, respectively. Some user agents (another word for a browser) may repeat the header and footer rows on tables that span multiple pages. For example, the head and foot rows may print on every page of a multipage table. Authors may also use these elements to apply styles to various regions of a table

```
<h1>The thead, tbody, and tfoot elements</h1>
```

```
<table>
  <thead>
    <tr>
      <th>Month</th>
      <th>Savings</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>January</td>
      <td>$100</td>
    </tr>
    <tr>
      <td>February</td>
      <td>$80</td>
    </tr>
  </tbody>
  <tfoot>
    <tr>
      <td>Sum</td>
      <td>$180</td>
    </tr>
  </tfoot>
</table>
</body>
</html>
```

# The thead, tbody, and tfoot elements

Month	Savings
January	\$100
February	\$80
Sum	\$180

# Using Tables in Page Design

- ▶ Tables are useful for laying out text and images on in Web page.
- ▶ While a Web browser can manage to layout a document at any resolution, different resolutions do affect the layout and presentation of an HTML document. Resolution is measured in picture elements, called **pixels**.
- ▶ Resolution and monitor size are independent of one another: a large monitor can have a low resolution, while a small monitor may have a high resolution. Resolution is determined by the hardware, the user, and the video card driver installed on the computer.
- ▶ A single monitor may have a choice of resolutions.
- ▶ By default, all Web pages are designed with flexibility in mind.
- ▶ Flexibility can be defined as a Web page's ability to resize and adapt to the available resolution, monitor and window sizes.



# The ways for web layout design

- Flexible Design
- Fixed Design

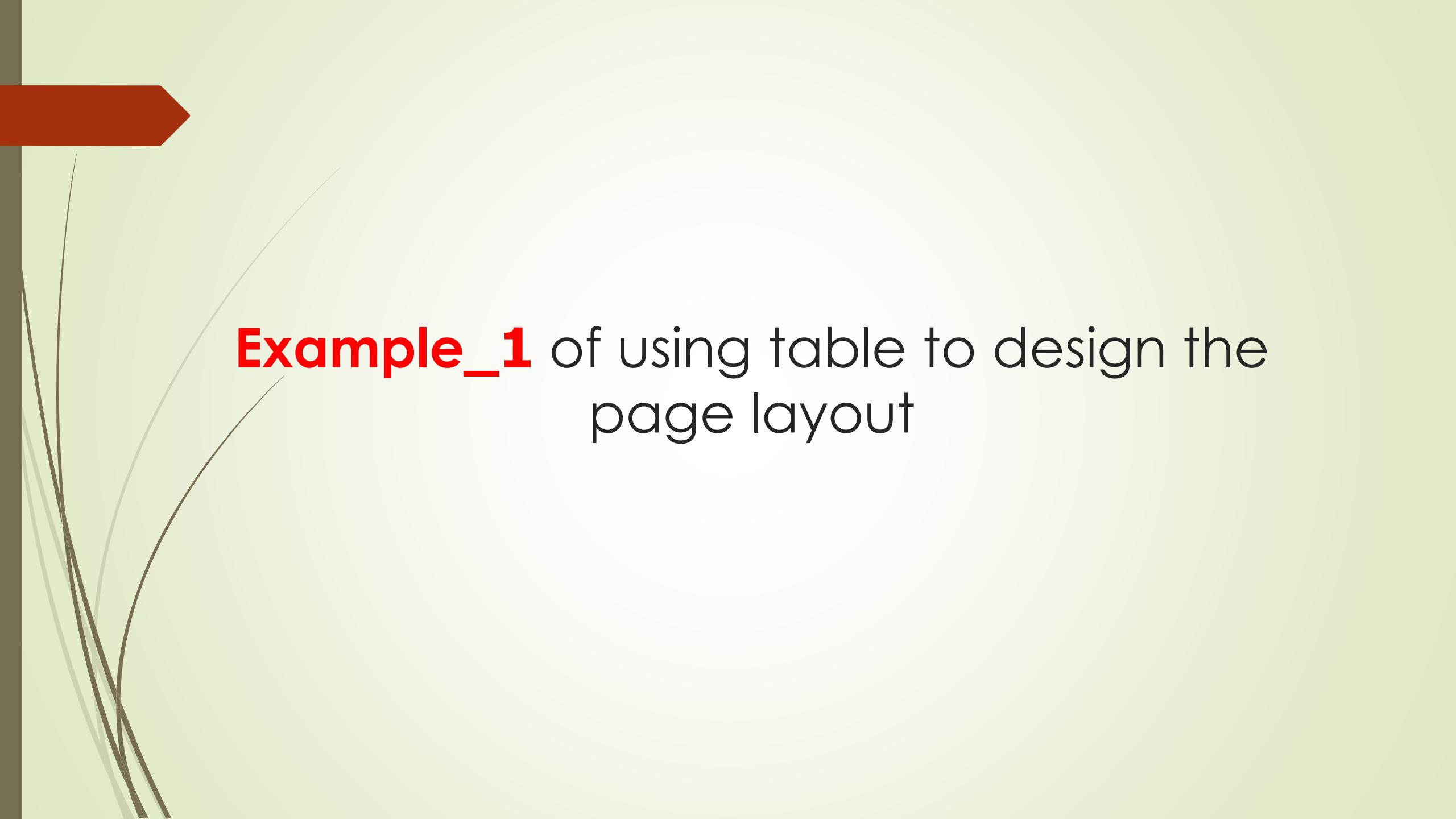
# Flexible Design

- ▶ While HTML is flexible by default, it should not be confused with thinking a flexible document is disorganised, poorly managed with an unstructured layout. A flexible HTML document can still be structured and organised by using, for instance, tables to create columns of text (as in newspapers), and provide layout design.
- ▶ **Flexible** layout can be achieved by using percentage measurements for table dimensions. As an example, view the table by changing the size of your browser's window (i.e. the live space). **Observe that as the window size changes, so does the table size.** The table measurements used in this example are called '**relative**' measurements, as the sizes are expressed in terms of a percentage of the screen space.



## Fixed Design

- ▶ Fixed design expresses all dimensions in pixels: the dimensions remain fixed regardless of the size of the device it is viewed on. Such an approach has advantages and disadvantages.
- ▶ The chosen fixed size may be too large for a user's available live space, causing the user to scroll in order to view the whole page; a fixed Web page may also appear too small, leaving unsightly blank spaces.
- ▶ To develop a fixed Web page using tables, supply all measurements in **pixels**.



**Example\_1** of using table to design the page layout

```
<!DOCTYPE html>
<html>

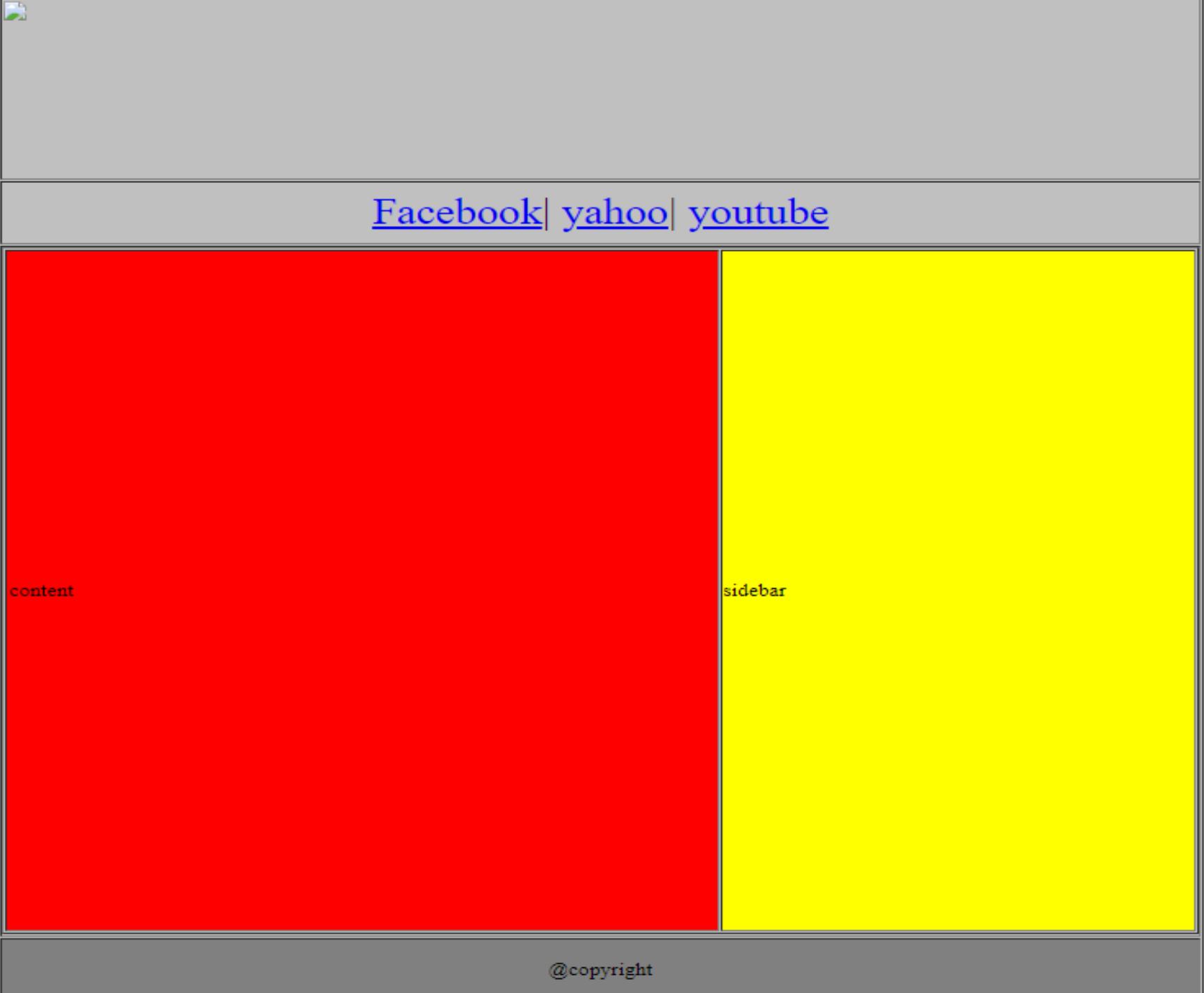
<head> <title>home</title></head>
<body>

    <table border="1" bgcolor="silver" align="center" width="100%" >
        <!--banner-->
        <tr>

            <td height="150" > </td>
        </tr>

        <!--navigation bar-->
        <tr>
            <td height="50" >
                <nav align="center">
                    <font size="6">
                        <a href="http://www.facebook.com" target="_blank"> Facebook</a> |
                        <a href="http://www.yahoo.com" target="_blank"> yahoo</a> |
                        <a href="http://www.youtube.com" target="_blank"> youtube</a>
                    </font>
                </nav>
            </td>
        </tr>
    </table>
    <!--content and sidebar-->
    <tr>
        <td>
            <table width="100%" height="600" border="1" align="center">
                <tr>
                    <td width="60%" bgcolor="red">content</td>
                    <td width="40%" bgcolor="yellow">sidebar</td>
                </tr>
            </table>
        </td>
    </tr>
    <tr>
        <td height="50" bgcolor="gray" align="center">@copyright</td>
    </tr>
</table>
</body>
</html>
```

# Output



# Do the following task



The screenshot shows a web browser window with the following details:

- Address Bar:** C:\Users\sara.mohamed\Desktop\sara.html
- Search Bar:** Search...
- Toolbar:** Includes icons for back, forward, search, and other browser functions.
- Content Area:** A light blue header section contains the text "My Website Header".
- Left Sidebar:** A grey sidebar titled "Navigation" contains a bulleted list:
  - Home
  - About
  - Contact
- Main Content Area:** A white section titled "Welcome to My Page" contains the text: "This is the main content area of the page. You can write articles, display images, or add forms here."
- Footer:** A light blue footer section contains the copyright text "Â© 2025 My Website".

# References

- ▶ Jennifer Niederst Robbins, **LEARNING WEB DESIGN A BEGINNER'S GUIDE TO HTML, CSS, JAVASCRIPT, AND WEB GRAPHICS**, O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol 2018.
- ▶ Lance Douglas Jackson, **INTRODUCTION TO THE INTERNET AND WEB PAGE DESIGN**, Master of Arts in Professional Communication 2009.
- ▶ [https://www.w3schools.com/html/html\\_table\\_padding\\_spacing.asp](https://www.w3schools.com/html/html_table_padding_spacing.asp)
- ▶ [https://www.cs.uct.ac.za/mit\\_notes/web\\_programming/pdfs/chp04.pdf](https://www.cs.uct.ac.za/mit_notes/web_programming/pdfs/chp04.pdf)