Creating Tables

- **Table**: An arrangement of horizontal rows and vertical columns. The intersection of a row and a column is called a cell.

- Used for:
  - displaying tabular data in rows and columns
  - controlling the layout and appearance of a Web page
Creating tables requires organisation.

All tables begin with the `<table>` tag and end with a `</table>` tag.

In between those tags are three other tags to be aware of:
- `<tr>` defines a horizontal row
- `<td>` defines a data cell within that row
- `<th>` specifies a data cell as a table heading (generally, a table heading cell is formatted as centered and bold).
Creating Tables

```html
<html>
<head>
<title>Table</title>
</head>

<body>
<table>
<tr><th>Column 1</th> <th>Column 2</th></tr>
<tr><td>Row 2</td>  <td>Row 2</td></tr>
<tr><td>Row 3</td>  <td>Row 3</td></tr>
</table>

</body>
</html>
```
Creating Tables

- Formatting Tables - Attributes
  - `width` (default: *to fit*)
    Width of table or cells (in pixels or as a % of the page)
  - `border` (default: 0)
    Width of the border (in pixels - `<table>` tag)
Creating Tables

- Formatting Tables - Attributes
  - `cellspacing` (default: depends on browser)
    Space between cells (in pixels - `<table>` tag).
  - `cellpadding` (default: depends on browser)
    Space between border and content (in pixels - `<table>` tag)
Creating Tables

- Formatting Tables - Attributes

  - `valign` (default: `center`)
    Vertical alignment of cell contents (top, bottom, or baseline)

  - `align` (default: `<td>` left, `<tr>` center)
    Horizontal alignment of cell contents (left, right, center, or justify)
<html>
<head>
<title>My first formatted table</title>
</head>

<body>

<table border="1">
<tr><th>Column 1</th> <th>Column 2</th></tr>
<tr><td align="center">Row 2</td><td align="center">Row 2</td></tr>
<tr><td align="center">Row 3</td><td align="center">Row 3</td></tr>
</table>

</body>

</html>
Advanced Tables

The colspan and rowspan attributes are used to create complex tables:

```html
<html>
<head>
<title>My first formatted table</title>
</head>
<body>
<table border="1">
<tr><th colspan="2">Column 1 and Column 2 are combined</th></tr>
<tr><td>Row 2</td><td rowspan="2">Row 2 and Row 3 are combined</td></tr>
<tr><td>Row 3</td></tr>
</table>
</body>
</html>
```
How to start a valid HTML5 page

- There must be a DOCTYPE declaration in the document prior to the root element.

- The HTML layout engines in modern web browsers uses the DOCTYPE for mode selection.

- The DOCTYPE declaration for HTML5 is very simple: `<!DOCTYPE html>`

- This triggers “standards mode” in common browsers.
Character Encoding

- We also need to specify the character encoding for the HTML document.

- You do this by using the `charset` attribute.

- Do this using a `<meta>` tag nested within the `<head>` tag:

- The character encoding (charset) declaration for HTML5 is also very simple:
  
  `<meta charset="UTF-8">`
Charset

- Define the your character set by using the `charset` attribute.

- Do this using a `<meta>` tag nested within the `<head>` tag:

  ```html
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
  ```
What is Character Encoding?

- ASCII was the first character encoding standard (also called character set). ASCII defined 128 different alphanumeric characters that could be used on the internet: numbers (0-9), English letters (A-Z), and some special characters like ! $ + - ( ) @ < >.

- ANSI (Windows-1252) was the original Windows character set, with support for 256 different character codes.

- ISO-8859-1 was the default character set for HTML 4. This character set also supported 256 different character codes.
What is Character Encoding?

- Because ANSI and ISO-8859-1 were so limited, HTML 4 also supported UTF-8.

- UTF-8 (Unicode) covers almost all of the characters and symbols in the world.

- The default character encoding for HTML5 is UTF-8.
So...

<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>Document Title</title>
  </head>
  <body>
    Content of the document......
  </body>
</html>
To Validate...

1. Go to https://validator.w3.org/

2. Choose the ‘Validate by File Upload’ tab.

3. Select ‘Choose File’ and browse to the file you wish to validate.

4. Select ‘More Options’

5. Select ‘HTML5 (experimental) from the ‘Document Type’ dropdown menu.

6. Click on the ‘Check’ button.