



# Internet Programming

By

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# Course Objectives

- To get familiar with the basics of Internet Programming
- To acquire knowledge and skills for creation of web site considering both client and server-side programming
- To gain ability to develop responsive web applications
- To explore different web extensions and web services standards
- To learn characteristics of RIA
- To learn Reactjs

# Course Outcomes:

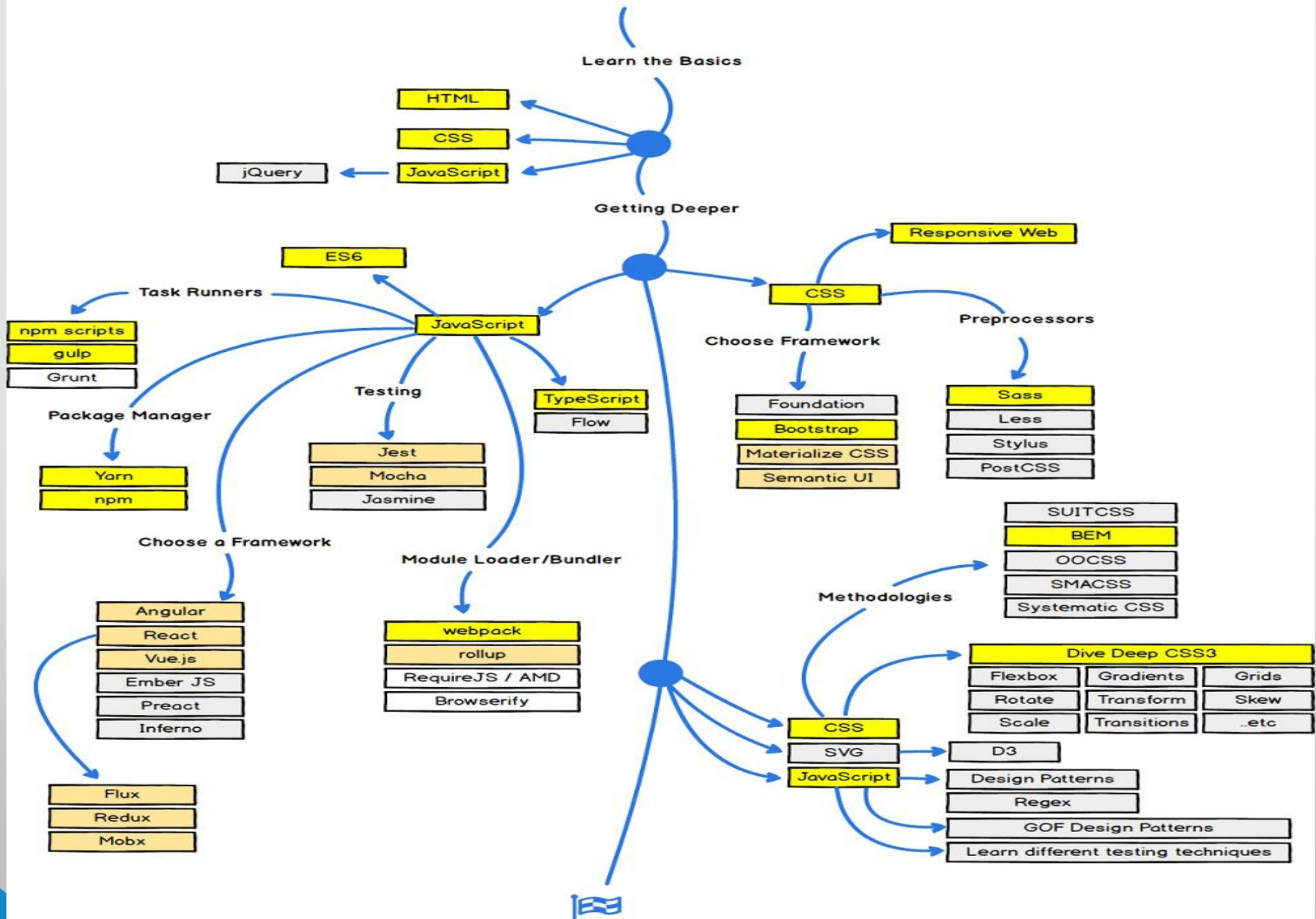
- Implement interactive web page(s) using HTML and CSS.
- Design a responsive web site using JavaScript
- Demonstrate database connectivity using JDBC
- Demonstrate Rich Internet Application using Ajax
- Demonstrate and differentiate various Web Extensions.
- Demonstrate web application using React Js

# Textbooks and Reference books

- Ralph Moseley, M.T. Savliya, “Developing Web Applications”, Willy India, Second Edition, ISBN: 978-81-265-3867-6
- “Web Technology Black Book”, Dremtech Press, First Edition, 978-7722-997
- **Useful Links**
- <https://books.goalkicker.com/ReactJSBook/>
- <https://www.guru99.com/reactjs-tutorial.html>
- [www.nptelvideos.in](http://www.nptelvideos.in)
- [www.w3schools.com](http://www.w3schools.com)
- <https://spoken-tutorial.org/>
- [www.coursera.org](http://www.coursera.org)

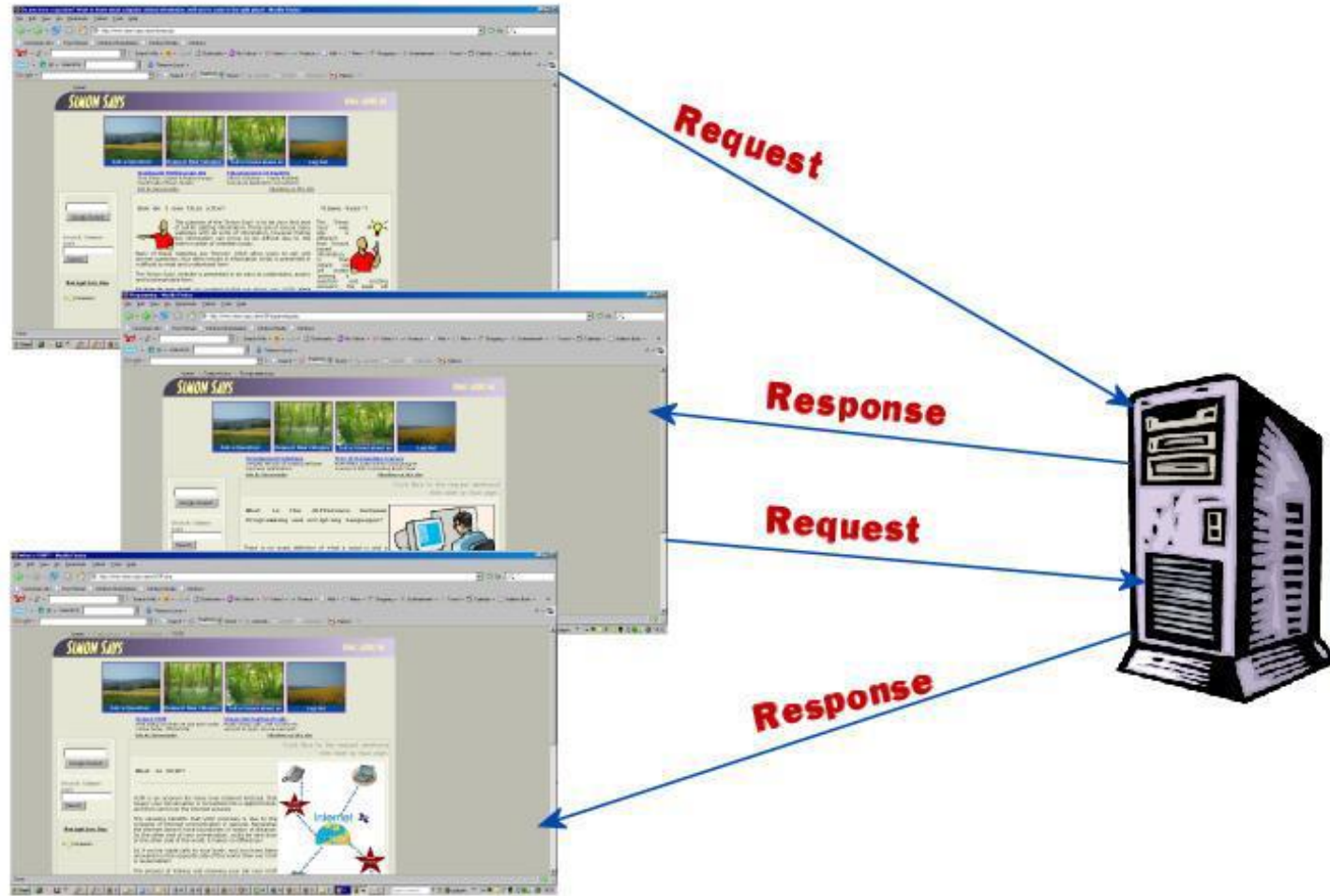
# Module 01

## *Introduction to Web Technology*



# Web Essentials

- World Wide Web Communication
- The World Wide Web is about communication between web **clients** and web **servers**.
- **Clients** - A client is an user program that request to server. They are often browsers (Chrome, Edge, Safari), but they can be any type of program or device.
- **Servers** are most often computers in the cloud.



**Client Side**

**Server Side**



# Internet

- The Internet is essentially a global network of computing resources. You can think of the Internet as a physical collection of routers and circuits as a set of shared resources.
- A network of networks based on the TCP/IP communications protocol.

# What is WWW?

- WWW stands for **World Wide Web**.
- A technical definition of the World Wide Web is – All the resources and users on the Internet that are using the Hypertext Transfer Protocol (HTTP).
- The World Wide Web is a way of exchanging information between computers on the Internet, tying them together into a vast collection of interactive multimedia resources.

# Web Essentials

- **Web Page:** A web page is a **simple document displayable by a browser**. Such documents are written in the HTML language.
- A web page can embed a variety of different types of resources such as: style information — controlling a page's look-and-feel.
- **Web site:** A website consists of many web pages linked together under a common domain name.

# URL

- URL stands for **U**niform **R**esource **L**ocator, and is used to specify addresses on the World Wide Web.
- Without a universal addressing mechanism, it would be impossible to navigate to a site, and page linking would not be feasible
- Uniform Resource Locators (URLs) are used to identify Web pages — basically a URL is a web address
- URLs have 3 components:
- A **Prefix** (usually http:// )
- A **Hostname**: (such as www.cityu.edu.hk)
- A **Path**: (such as /scm/index.htm)

```
protocol://hostname/other_information
```

# Internet Protocol

- Transmission Control Protocol/ Internet Protocol (TCP/IP)
- Hyper Text Transfer Protocol (HTTP)
- Post office Protocol (POP)
- Simple mail transport Protocol (SMTP)
- File Transfer Protocol (FTP)
- Hyper Text Transfer Protocol Secure (HTTPS)
- IMAP

# TCP/IP

- **Transmission Control Protocol (TCP):** TCP is a popular communication protocol which is used for communicating over a network. It divides any message into series of packets that are sent from source to destination and there it gets reassembled at the destination.
- **Internet Protocol (IP):** IP is designed explicitly as addressing protocol. It is mostly used with TCP. The IP addresses in packets help in routing them through different nodes in a network until it reaches the destination system. TCP/IP is the most popular protocol connecting the networks

# HTTP

- HTTP is designed for transferring a hypertext among two or more systems. HTML tags are used for creating links.
- HTTP makes use of TCP to open connections between clients and servers and to pass the requests and responses between them.
- When a user clicks a link or types a web address:
  - 1.A TCP connection is opened between browser and server
  - 2.Then requests and responses are sent back and forth using HTTP

# HTTP Request / Response

Communication between clients and servers is done by **requests** and **responses**:

1. A client (a browser) sends an **HTTP request** to the web server
2. A web server receives the request
3. The server runs an application to process the request
4. The server returns an **HTTP response** (output) to the browser
5. The client (the browser) receives the response



# E-mail Protocol

- **Simple mail transport Protocol (SMTP):** SMTP is designed to send and distribute outgoing E-Mail.
- **Post office Protocol (POP):** POP3 is designed for receiving incoming E-mails.
- **File Transfer Protocol (FTP):** FTP allows users to transfer files from one machine to another. Types of files may include program files, multimedia files, text files, and documents, etc.

# IP Addresses

- An IP address is a unique address that identifies a device on the internet or a local network. IP stands for "Internet Protocol," which is the set of rules governing the format of data sent via the internet or local network.
- Every node has a completely unique numeric address.-32 bit binary number
- An IP address is a string of numbers separated by periods.
- IP addresses are expressed as a set of four numbers — an example address might be 192.158.1.38. Each number in the set can range from 0 to 255. So, the full IP addressing range goes from 0.0.0.0 to 255.255.255.255.

# HTTP Messages

- HTTP makes use of the Uniform Resource Identifier (URI) to identify a given resource and to establish a connection. Once the connection is established,
- Two types of HTTP messages can be sent
  - 1.Request : Client to server
  - 2.Response : Server to client

# HTTP request

- An HTTP client sends an HTTP request to a server in the form of a request message which includes following format:

Request-line
General Header
Request/ Response Header
Entity Header
Entity body

- **Request-Line**

The Request-Line begins with a method token, followed by the Request-URI and the protocol version, and ending with CRLF. The elements are separated by space SP characters.

**Request-Line = Method SP Request-URI SP HTTP-Version CRLF**

- **Request Method**

The request **method** indicates the method to be performed on the resource identified by the given **Request-URI**.

**GET** : The GET method is used to retrieve information from the given server using a given URI. Requests using GET should only retrieve data and should have no other effect on the data.

**POST** : A POST request is used to send data to the server, for example, customer information, file upload, etc. using HTML forms.

# Response Message

- A Status-line
- Zero or more header (General | Response | Entity) fields followed by CRLF
- An empty line (i.e., a line with nothing preceding the CRLF) indicating the end of the header fields
- Optionally a message-body

- **Example:**

HTTP/1.1 200 OK

Date: Mon, 27 Jul 2009 12:28:53 GMT

Server: Apache/2.2.14 (Win32)

Last-Modified: Wed, 22 Jul 2009 19:15:56

GMT Content-Length: 88

Content-Type: text/html

Connection: Closed

# HTML

- HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications.
- **Hyper Text:** Hypertext simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.
- **Markup language:** A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.
- **Tim Berners-Lee** is known as the father of HTML.

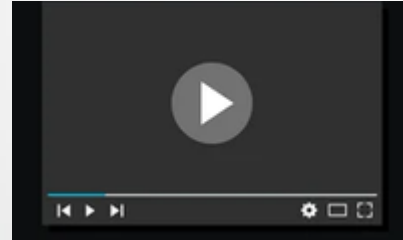
# HTML History

Year	Version
1989	Tim Berners-Lee invented www
1991	Tim Berners-Lee invented HTML
1993	Dave Raggett drafted HTML+
1995	HTML Working Group defined HTML 2.0
1997	W3C Recommendation: HTML 3.2
1999	W3C Recommendation: HTML 4.01
2000	W3C Recommendation: XHTML 1.0
2008	WHATWG HTML5 First Public Draft Web Hypertext Application Technology Working Group
2012	<a href="#">WHATWG HTML5 Living Standard</a>
2014	<a href="#">W3C Recommendation: HTML5</a>
2016	W3C Candidate Recommendation: HTML 5.1
2017	<a href="#">W3C Recommendation: HTML5.1 2nd Edition</a>
2017	<a href="#">W3C Recommendation: HTML5.2</a>



# Features of HTML 5

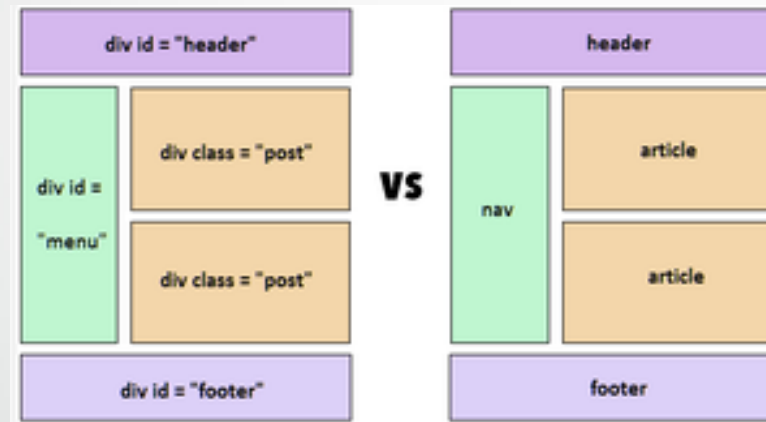
- 1) **Introduction of Audio and video:** Audio and Video tags are the two major addition to HTML5. It allows developers to embed a video or audio on their website. HTML5 video can use CSS and CSS3 to style the video tag. HTML5 makes adding video super-fast and without having to build a video player. This saves time for the developer and offers the client a superior and more affordable solution.



- 2) **Vector Graphics:** This is a new addition to the revised version which has hugely impacted the use of Adobe Flash in websites. It can be used to draw graphics with various shapes and colors via scripting usually JS. Vector graphics are scalable, easy to create and edit.



- **Header and Footer:** With these new tags, there is no longer a need to identify the two elements with a <div> tag. Footer is placed at the end of the web page while Header is placed at the start of the web page. By using <header> and <footer> HTML5 elements, the browser will know what to load first and what to load later.



- **Figure and Figcaption:** HTML5 allows to use a <figure> element to mark up a photo in a document, and a <figcaption> element to define a caption for the photo. The <figcaption> tag defines a caption for a <figure> element.
- **NAV tag:**
- **Progress tag:**

# HTML Editors

- An HTML file is a text file, so to create an HTML file we can use any text editors.
- There are various types of text editors available which you can directly download, but for a beginner, the best text editor is Notepad (Windows) or TextEdit (Mac).
- Web pages can be created and modified by using professional HTML editors.
- Atom, Notepad ++, Sublime Text, Visual Studio Code, Brackets, Adobe Dreamweaver etc

# Building blocks of HTML

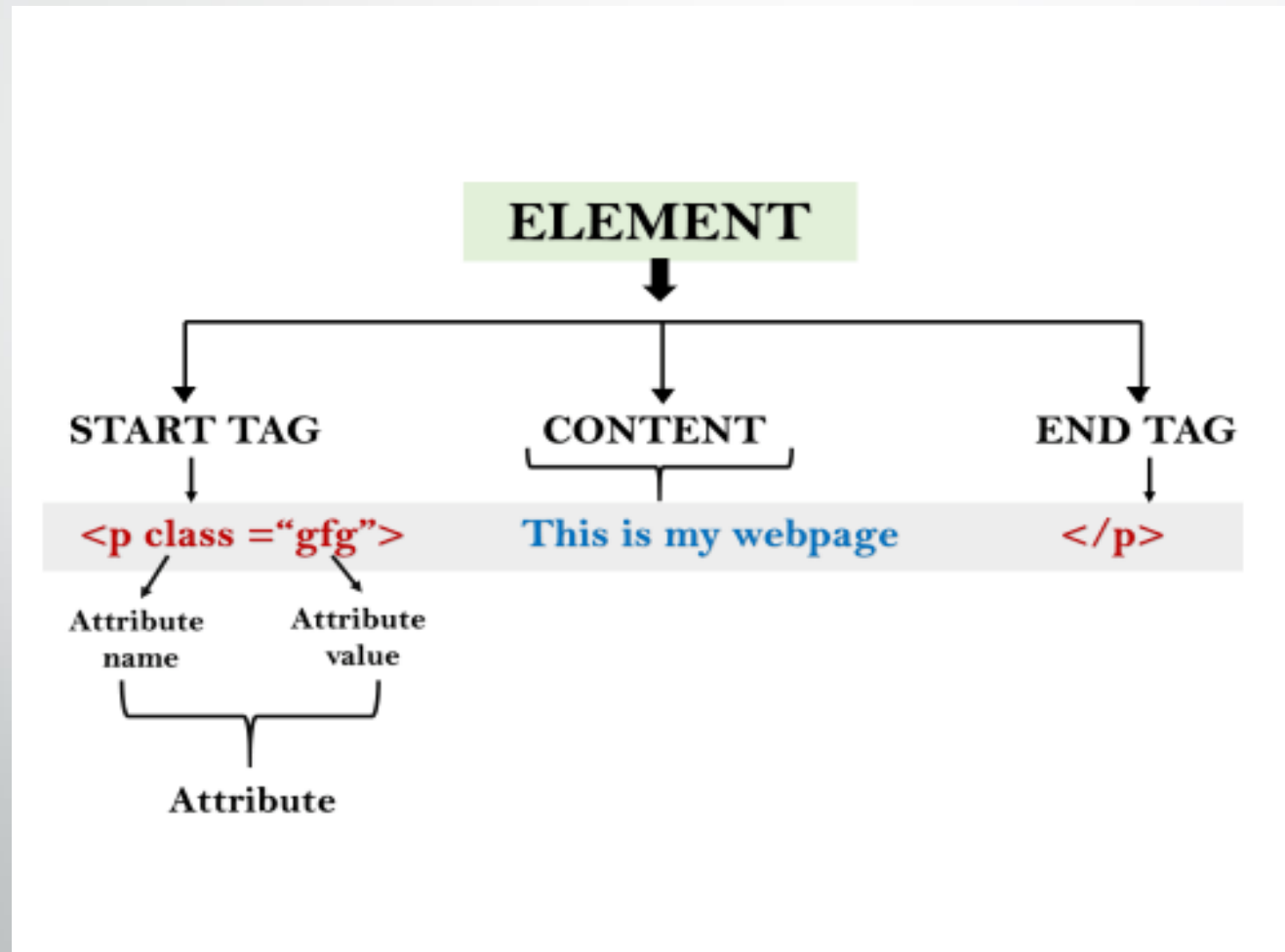
- An HTML document consist of its basic building blocks which are:
- **Tags:** An HTML tag surrounds the content and apply meaning to it. It is written between < and > brackets.
- **Attribute:** An attribute in HTML provides extra information about the element, and it is applied within the start tag. An HTML attribute contains two fields: name & value.

Syntax:

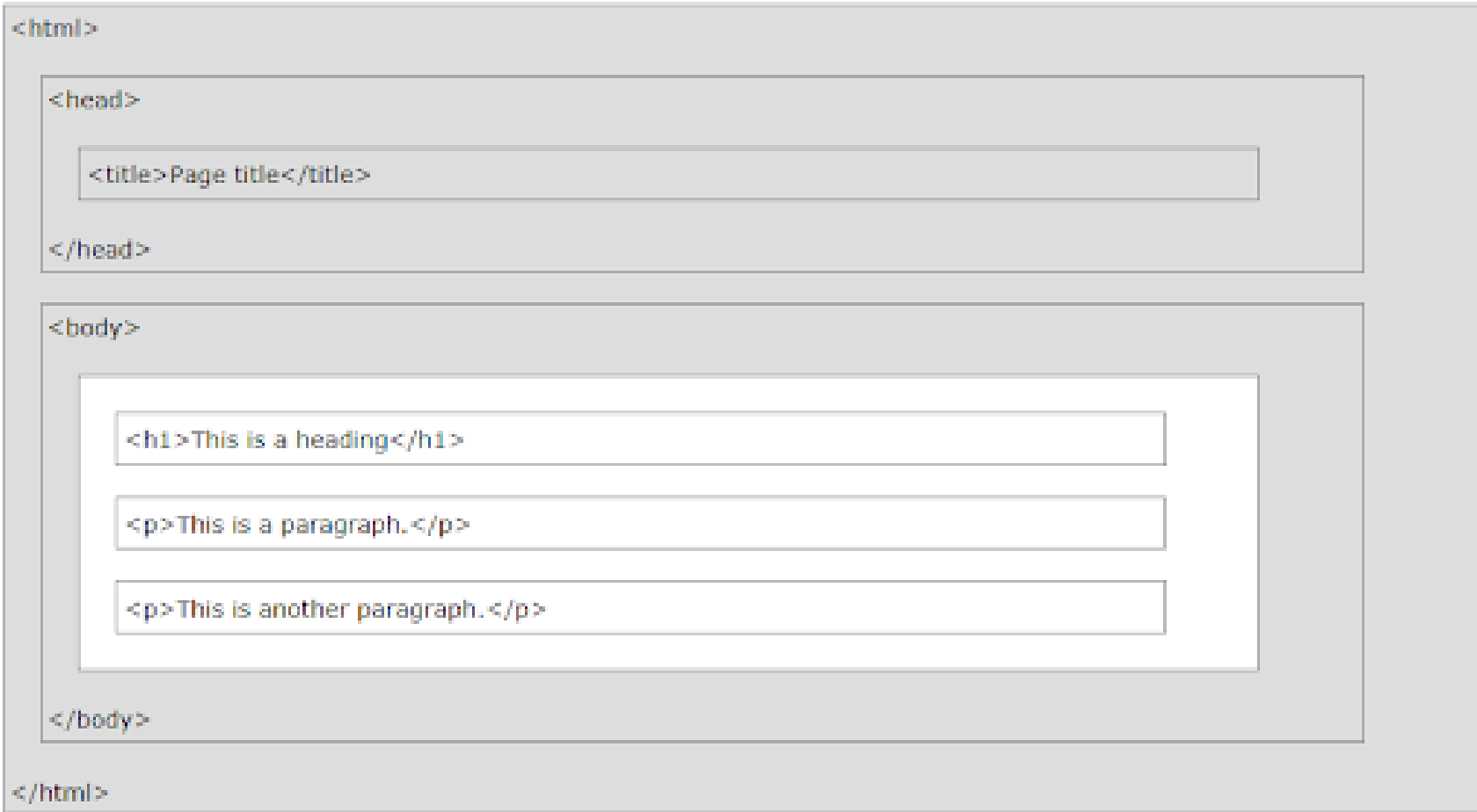
`<tag name attribute_name= " attr_value"> content </ tag name>`

- **Elements:** An HTML element is an individual component of an HTML file. In an HTML file, everything written within tags are termed as HTML elements.

# HTML



# HTML Page Structure



# A Simple HTML Document

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

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

- The `<!DOCTYPE html>` declaration defines that this document is an HTML5 document
- The `<html>` element is the root element of an HTML page
- The `<head>` element contains meta information about the HTML page
- The `<title>` element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)
- The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph



# HTML Documents

- The <!DOCTYPE> Declaration
- The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.
- It must only appear once, at the top of the page (before any HTML tags).
- The <!DOCTYPE> declaration is not case sensitive.
- <!DOCTYPE html> for HTML5
- HTML is Not Case Sensitive

# Writing your first HTML code

- Step 1: Open Notepad (PC)
- Step 2: Write Some HTML
  - `<!DOCTYPE html>`  
`<html>`  
`<body>`  
  
`<h1>My First Heading</h1>`  
  
`<p>My first paragraph.</p>`  
  
`</body>`  
`</html>`
- Step 3: Save the HTML Page
- You can use either .htm or .html as file extension. There is no difference, it is up to you.
- Step 4: View the HTML Page in Your Browser

# HTML Headings

- HTML headings are defined with the `<h1>` to `<h6>`
- `<h1>` defines the most important heading. `<h6>` defines the least important heading
- HTML Paragraphs
- HTML paragraphs are defined with the `<p>` tag.
- `<p>`This is a paragraph.`</p>`  
`<p>`This is another paragraph.`</p>`

- HTML Links
- HTML links are defined with the <a>tag.
- `<a href="https://www.google.com">This is a link</a>`
- The link's destination is specified in the<href> attribute.
- Attributes are used to provide additional information about HTML elements.
- HTML Images
- HTML images are defined with the<img>tag.
- ``

The source file (`src`), alternative text (`alt`), `width`, and `height` are provided as attributes:

# Example of tags

- **Unclosed HTML Tags**
- Some HTML tags are not closed, for example br and hr.
- **<br> Tag:** br stands for break line, it breaks the line of the code.
- **<hr> Tag:** hr stands for Horizontal Rule. This tag is used to put a line across the webpage.
- **HTML Meta Tags**
- DOCTYPE, title, link, meta and style
- **HTML Text Tags**
- <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <strong>, <em>, <abbr>, <acronym>, <address>, <bdo>, <blockquote>, <cite>, <q>, <code>, <ins>, <del>, <dfn>, <kbd>, <pre>, <samp>, <var> and <br>

# Example of tags

- HTML List Tags
  - <ul>, <ol>, <li>, <dl>, <dt> and <dd>
- HTML Table Tags
  - table, tr, td, th, tbody, thead, tfoot, col, colgroup and caption
- HTML Form Tags
  - form, input, textarea, select, option, optgroup, button, label, fieldset and legend
- HTML Scripting Tags
  - script and noscript

# HTML Elements

- Never Skip the End Tag
- Some HTML elements will display correctly, even if you forget the end tag
- Empty HTML Elements
- HTML elements with no content are called empty elements.
- The `<br>` tag defines a line break, and is an empty element without a closing tag
- Ex. `<p>`This is a `<br>` paragraph with a line break.`</p>`

# Types of elements

- For the default display and styling purpose in HTML, all the elements are divided into two categories:
- Block-level element
- Inline element
- **Block-level element:**
- These are the elements, which structure main part of web page, by dividing a page into coherent blocks.
- A block-level element always start with new line and takes the full width of web page, from left to right.
- These elements can contain block-level as well as inline elements.
- Following are the block-level elements in HTML.
- <address>, <article>, <aside>, <blockquote>, <canvas>, <dd>, <div>, <dl>, <dt>, <fieldset>, <figcaption>, <figure>, <footer>, <form>, <h1>-<h6>, <header>, <hr>, <li>, <main>, <nav>, <noscript>, <ol>, <output>, <p>, <pre>, <section>, <table>, <tfoot>, <ul> and <video>.



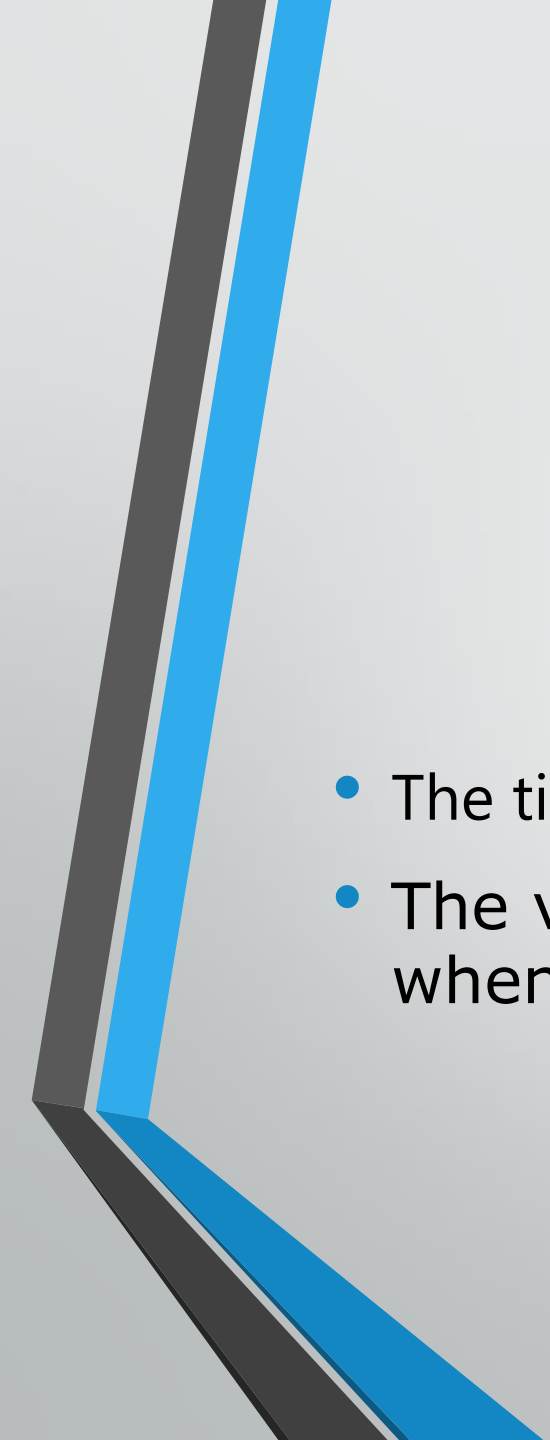
# Inline elements

- **Inline elements:**
- Inline elements are those elements, which differentiate the part of a given text and provide it a particular function.
- These elements does not start with new line and take width as per requirement.
- The Inline elements are mostly used with other elements.
- `<a>`, `<abbr>`, `<acronym>`, `<b>`, `<bdo>`, `<big>`, `<br>`, `<button>`, `<cite>`, `<code>`, `<dfn>`, `<em>`, `<i>`, `<img>`, `<input>`, `<kbd>`, `<label>`, `<map>`, `<object>`, `<q>`, `<samp>`, `<script>`, `<select>`, `<small>`, `<span>`, `<strong>`, `<sub>`, `<sup>`, `<textarea>`, `<time>`, `<tt>`, `<var>`.

# HTML Attributes

- All HTML elements can have **attributes**
- Attributes provide **additional information** about elements
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name="value"**
- The href Attribute
- The src Attribute
- The width and height Attributes
- The alt Attribute

- **The style Attribute**
- The style attribute is used to add styles to an element, such as color, font, size, and more.
- **The lang Attribute**
- tag, to declare the language of the Web page. This is meant to assist search engines and browsers.
- ```
<!DOCTYPE html>
<html lang="en">
<body>
...
</body>
</html>
```
- Country codes can also be added to the language code
- ```
<!DOCTYPE html>
<html lang="en-US">
<body>
...
</body>
</html>
```

- 
- The title Attribute
  - The value of the title attribute will be displayed as a tooltip when you mouse over the element

# HTML Headings

- Headings Are Important
- Search engines use the headings to index the structure and Bigger Headings
- Each HTML heading has a default size. However, you can specify the size for any heading with the <style>attribute.
- `<h1 style="font-size:60px;">Heading 1</h1>`

## **My First Heading**

My first paragraph.

## **Welcome 1**

## **Welcome 2**

## **Welcome 3**

## **Welcome 4**

## **Welcome 5**

## **Welcome 6**

- HTML Display

- `<p>`  
This paragraph  
contains a lot of lines  
in the source code,  
but the browser  
ignores it.  
`</p>`

- `<p>`  
This paragraph  
contains           a lot of spaces  
in the source       code,  
but the           browser  
ignores it.  
`</p>`

- The HTML `<pre>` Element defines preformatted text.

- `<pre>`  
Welcome.  
  
Oh, everyone.  
`</pre>`

# HTML Styles

- Setting the style of an HTML element, can be done with the <style> attribute.
- `<tagname style="property:value;">`
- The **property** is a CSS property. The **value** is a CSS value.
- **Background Color :**
- The CSS property Background Color defines the background color for an HTML element.
- Set background color for two different elements.
- **Text Color:**
- **HTML used** to recognize 16 **color** names ("black", "white", "gray", "silver", "maroon", "red", "purple", "fushsia", "green", "lime", "olive", "yellow", "navy", "blue", "teal", and "aqua")
- but new browsers can recognize 147 CSS3 **color** names.

- `<!DOCTYPE html>`
- `<html>`
- `<body style="background-color:powderblue;">`
- `<h1>Internet Programming</h1>`
- `<p>Hello everyone!!.</p>`
- `</body>`
- `</html>`

# Internet Programming

Hello everyone!!.



- `<!DOCTYPE html>`
- `<html>`
- `<body>`
- `<h1 style="background-color:powderblue;">This is a heading</h1>`
- `<p style="background-color:tomato;">This is a paragraph.</p>`
- `</body>`
- `</html>`

**This is a heading**

This is a paragraph.

- **Fonts**

- The CSS `font-family` property defines the font to be used for an HTML element

- `<h1 style="font-family:verdana;">This is a heading</h1>`  
`<p style="font-family:courier;">This is a paragraph.</p>`

- **Text Size**

- The CSS `font-size` property defines the text size for an HTML element.

- `<h1 style="font-size:300%;">This is a heading</h1>`  
`<p style="font-size:160%;">This is a paragraph.</p>`

- **Text Alignment**

- The CSS `text-align` property defines the horizontal text alignment for an HTML element

- `<h1 style="text-align:center;">Centered Heading</h1>`  
`<p style="text-align:center;">Centered paragraph.</p>`

# HTML Text Formatting

- HTML contains several elements for defining text with a special meaning.
- HTML Formatting Elements
  - `<b>` - Bold text
  - `<strong>` - Important text The content inside is typically displayed in bold.
  - `<i>` - Italic text
  - `<em>` - Emphasized text The content inside is typically displayed in italic.
  - `<mark>` - Marked text defines text that should be marked or highlighted
  - `<small>` - Smaller text
  - `<del>` - Deleted text browsers will usually strike a line through deleted text
  - `<ins>` - Inserted text Browsers will usually underline inserted text
  - `<sub>` - Subscript text
  - `<sup>` - Superscript text
- **This text is bold**
- *This text is italic*
- This is <sub>subscript</sub> and <sup>superscript</sup>

# Quotation and Citation Elements

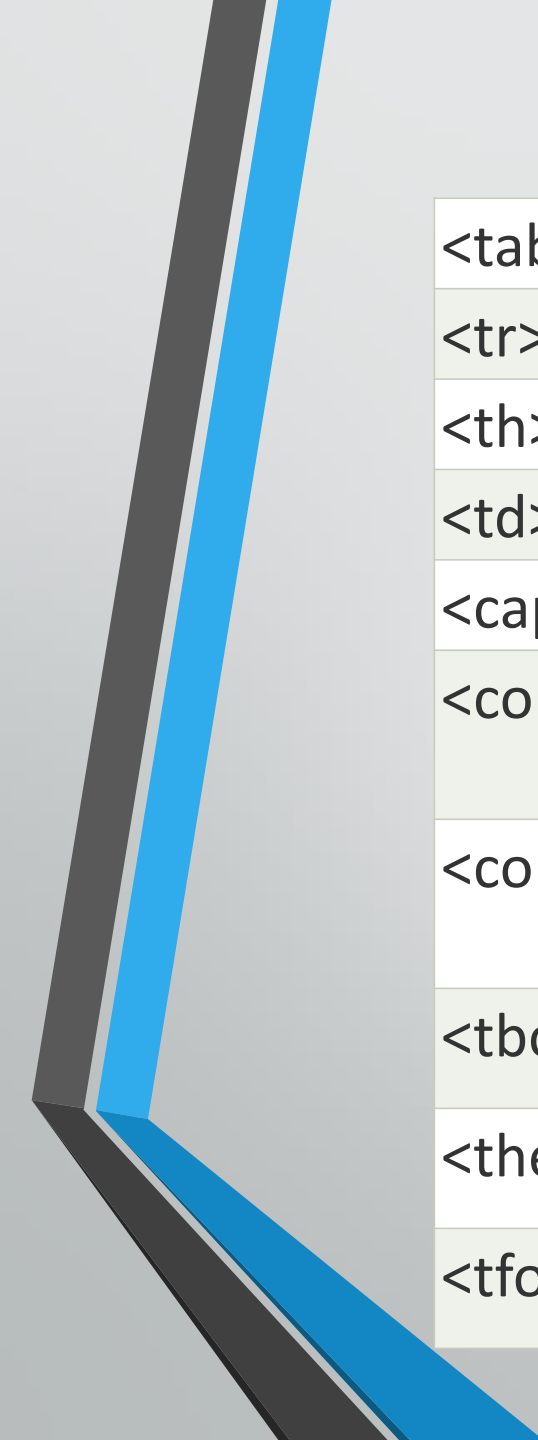
- HTML <blockquote> for Quotations- element defines a section that is quoted from another source.
  - HTML <q> for Short Quotations
  - "Hello"
  - HTML <abbr> for Abbreviations
  - `<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>`
  - HTML <address> for Contact Information- The contact information can be an email address, URL, physical address, phone number, social media handle, etc
  - HTML <cite> for Work Title
- `<p><cite>The Scream</cite> by Edvard Munch. Painted in 1893.</p>`

# HTML Comment Tags

- `<!-- Write your comments here -->`

# HTML Table Tag

- **HTML table tag** is used to display data in tabular form (row \* column). There can be many columns in a row.
- We can create a table to display data in tabular form, using `<table>` element, with the help of `<tr>`, `<td>`, and `<th>` elements.
- In Each table, table row is defined by `<tr>` tag, table header is defined by `<th>`, and table data is defined by `<td>` tags.



<code>&lt;table&gt;</code>	It defines a table.
<code>&lt;tr&gt;</code>	It defines a row in a table.
<code>&lt;th&gt;</code>	It defines a header cell in a table.
<code>&lt;td&gt;</code>	It defines a cell in a table.
<code>&lt;caption&gt;</code>	It defines the table caption.
<code>&lt;colgroup&gt;</code>	It specifies a group of one or more columns in a table for formatting.
<code>&lt;col&gt;</code>	It is used with <code>&lt;colgroup&gt;</code> element to specify column properties for each column.
<code>&lt;tbody&gt;</code>	It is used to group the body content in a table.
<code>&lt;thead&gt;</code>	It is used to group the header content in a table.
<code>&lt;tfooter&gt;</code>	It is used to group the footer content in a table.

- <!DOCTYPE html>
- <html>
- <body>
- <h2>Basic HTML Table</h2>
- <table style="width:100%">
- <tr>
- <th>Firstname</th>
- <th>Lastname</th>
- <th>Age</th>
- </tr>
- <tr>
- <td>Jill</td>
- <td>Smith</td>
- <td>50</td>
- </tr>
- <tr>
- <td>Eve</td>
- <td>Jackson</td>
- <td>94</td>
- </tr>
- <tr>
- <td>John</td>
- <td>Doe</td>
- <td>80</td>
- </tr>
- </table>

## Basic HTML Table

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94
John	Doe	80



# HTML Table with Border

- There are two ways to specify border for HTML tables.

1. By border attribute of table in HTML

2. By border property in CSS

- HTML Table - Collapsed Borders

- ```
table, th, td {  
    border: 1px solid black;  
    border-collapse: collapse;  
}
```

# Cellpadding

Cell padding specifies the space between the cell content and its borders.

| Employee Details |          |     |
|------------------|----------|-----|
| Firstname        | Lastname | Age |
| Jill             | Smith    | 50  |
| Eve              | Jackson  | 94  |
| John             | Doe      | 80  |

# HTML Table - Add Cell Padding

- Cell padding specifies the space between the cell content and its borders.
- If you do not specify a padding, the table cells will be displayed without padding.
- HTML Table - Left-align Headings
- ```
th {  
    text-align: left;  
}
```
- HTML Table - Add Border Spacing
- Border spacing specifies the space between the cells.
- To set the border spacing for a table, use the CSS Border spacing property.
- ```
table {  
    border-spacing: 5px;  
}
```

# HTML Table

- HTML Table - Cell that Spans Many Columns

- ```
<table style="width:100%">
  <tr>
    <th>Name</th>
    <th colspan="2">Telephone</th>
  </tr>
  <tr>
    <td>Bill Gates</td>
    <td>55577854</td>
    <td>55577855</td>
  </tr>
</table>
```

- HTML Table - Cell that Spans Many Rows

- ```
<table style="width:100%">
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Telephone:</th>
    <td>55577854</td>
  </tr>
  <tr>
    <td>55577855</td>
  </tr>
</table>
```

# HTML Table - Add a Caption

- `<table style="width:100%">`  
    `<caption>Monthly savings</caption>`
- A Special Style for One Table
- To define a special style for one particular table, add an `id` attribute to the table.

# HTML Lists

- HTML lists allow web developers to group a set of related items in lists.
- An unordered HTML list:
  - Item
  - Item
  - Item
  - Item
- An ordered HTML list:
  1. First item
  2. Second item
  3. Third item
  4. Fourth item

# Unordered HTML List

- An unordered list starts with the `<ul>` tag. Each list item starts with the `<li>` tag.
- The list items will be marked with bullets (small black circles) by default.
- ```
<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>
```

# Ordered HTML List

- An ordered list starts with the `<ol>` tag.
- The list items will be marked with numbers by default.
- `<ol>`
  - `<li>Coffee</li>`
  - `<li>Tea</li>`
  - `<li>Milk</li>``</ol>`



# HTML Description Lists

- HTML also supports description lists.
- A description list is a list of terms, with a description of each term.
- The `<dl>`, `<dt>` and `<dd>` tags are used to define description list.
- The 3 HTML description list tags are given below:
  1. **`<dl>` tag** defines the description list.
  2. **`<dt>` tag** defines data term.
  3. **`<dd>` tag** defines data definition (description).

## **Unordered List**

- Coffee
- Tea
- Milk

## **ordered List**

1. Coffee
2. Tea
3. Milk

## **A Description List**

Coffee

- black hot drink

Milk

- white cold drink

# HTML Unordered Lists-Choose List Item Marker

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square
none	The list items will not be marked

```
<ul style="list-style-type:disc;">
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```