

HTML 5

1.Introduction to web

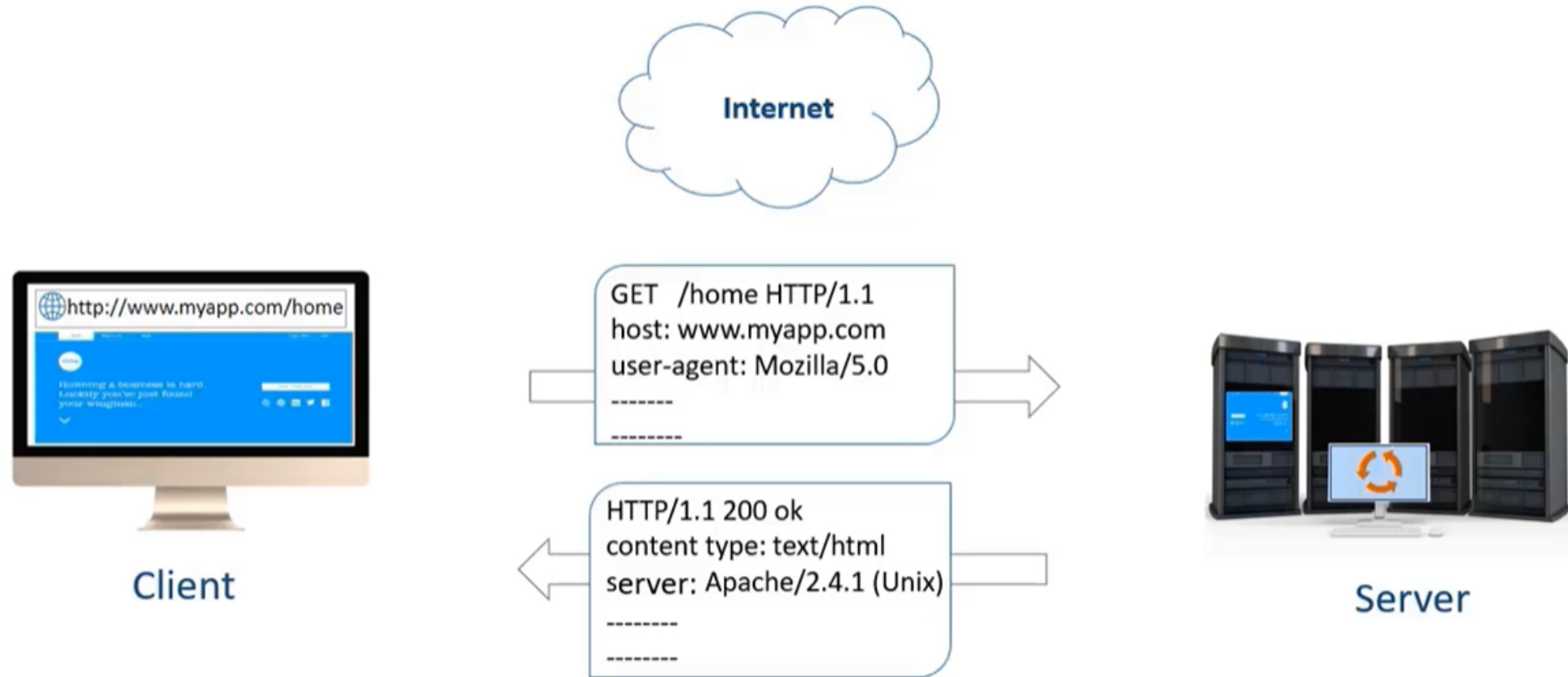
- Client-Server Architecture
- Web Terminologies
 - URL
 - HTTP
 - MIME

Uniform Resource Locator : protocol://host:port/path

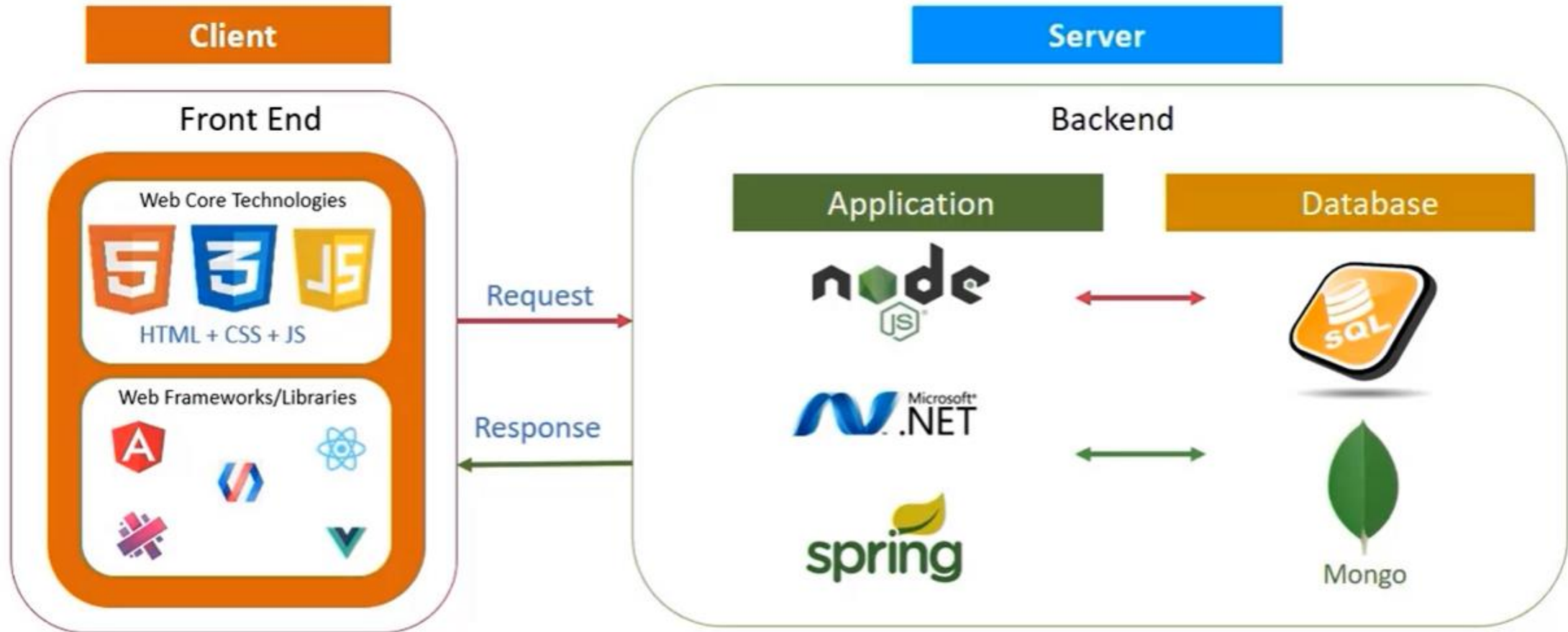
Hyper Text Transfer Protocol : Request/response protocol , stateless

MIME: Multipurpose Internet Mail Extension

1.1 HTTP response cycle



2. Full Stack Application



3. Environment setup for HTML

- .htm .html files
- Notepad++
- Visual Studio Code -> Add Live Server Extension

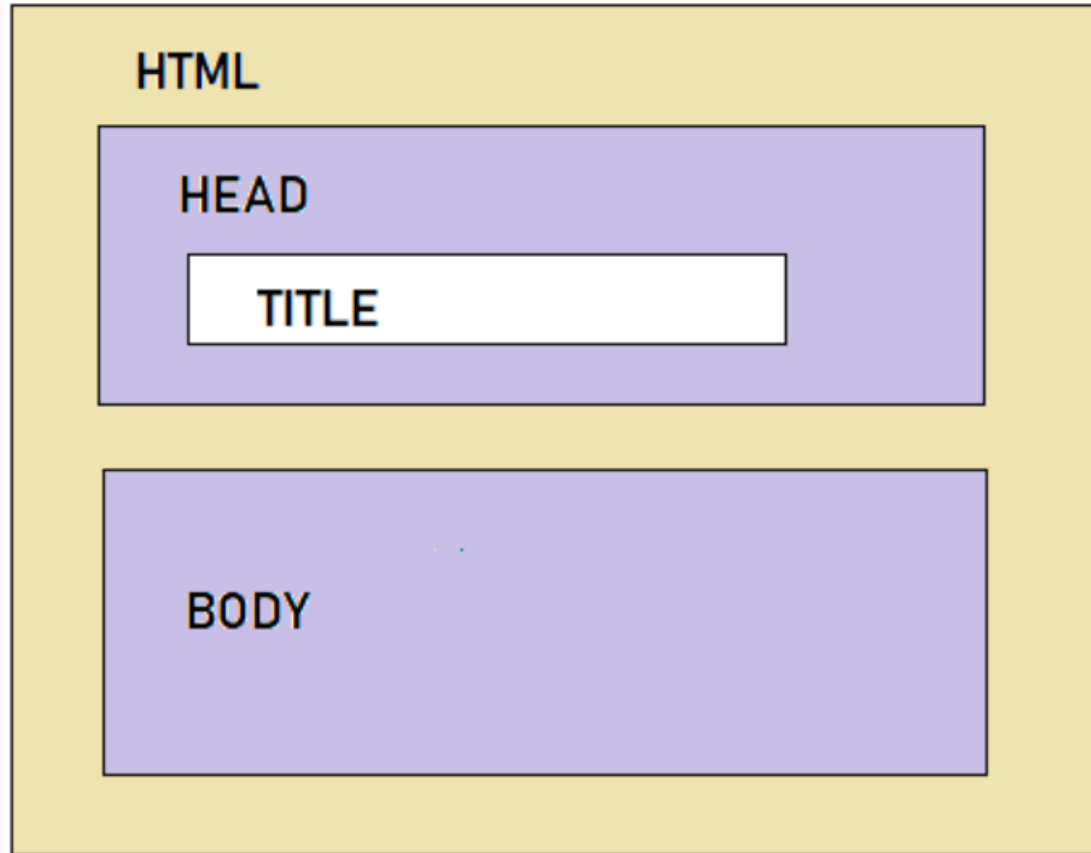
4. HTML Introduction

- **HTML (HyperText Markup Language)** is the most fundamental building block of the Web. It defines the meaning and structure of web content.
- **CSS(Cascading Style Sheet)** is used for styling and giving better presentation to the web pages
- **JavaScript(JS)** is used for implementing behavior required in a web page

4.1 . What is HTML?

- Hyper Text Markup Language (HTML) is a standard markup language to create the structure of a web page.
- It is not a programming language.
- It annotates the content on a web page using HTML elements.
- In a web page, all instructions to the browser are given in the form of HTML tags, also known as HTML elements.
- The content of the web page will be rendered as per the HTML tags in which they are enclosed.

4.2 HTML Document Structure



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


4.2.1 Doctype Declaration

- There are many versions of HTML out there such as - HTML 2.0, HTML 3.0, HTML 3.2, HTML4.0, HTML 4.01 and latest is HTML5.0.
- In each version, some elements and attributes are either added or depreciated.
- The appearance of your .html page depends on how the browser renders HTML elements. And how the browser renders HTML elements depends on how the browser understands them.
- Thus, to ensure that the browser understands all HTML elements specific to a particular version, as a developer you need to tell the browser what version of HTML you have followed while developing your web page.
- This is done by using `<!DOCTYPE>` declaration which stands for Document Type. It tells the browser what version of HTML it should follow for rendering the web page.

HTML 4:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
```

HTML 5:

```
<!DOCTYPE html>
```

4.2.2 What's inside Head Tag

Tags	Description
<title>	Defines the title that should be displayed on the browser tab
<meta>	<p>Metadata is in-general, data about data. Provides metadata about the HTML document. Metadata will not be displayed on the page but will be machine-readable.</p> <p>Used to specify page description, author of the document, last modified, etc.</p> <p>Used by browsers (control how to display content or reload the page), search engines (keywords), or other web services. Post HTML5, meta tag also allows web designers to take control over the viewport by setting the meta viewport tag.</p>
<style>	Defines style information for the web page
<link>	Defines a link to other documents like CSS
<script>	Defines script like JavaScript

4.3 Best practice in HTML

Every HTML document/web page will have only one set of

`<html>...</html>` tag

`<head>...</head>` tag

`<body>...</body>` tag

HTML document/web page is saved with `.htm` or `.html` extension.

4.4 Hello World in HTML

Tryout Hello World in HTML

4.5 Case Insensitivity

HTML elements are case-insensitive. The browser understands the HTML tags irrespective of their cases.

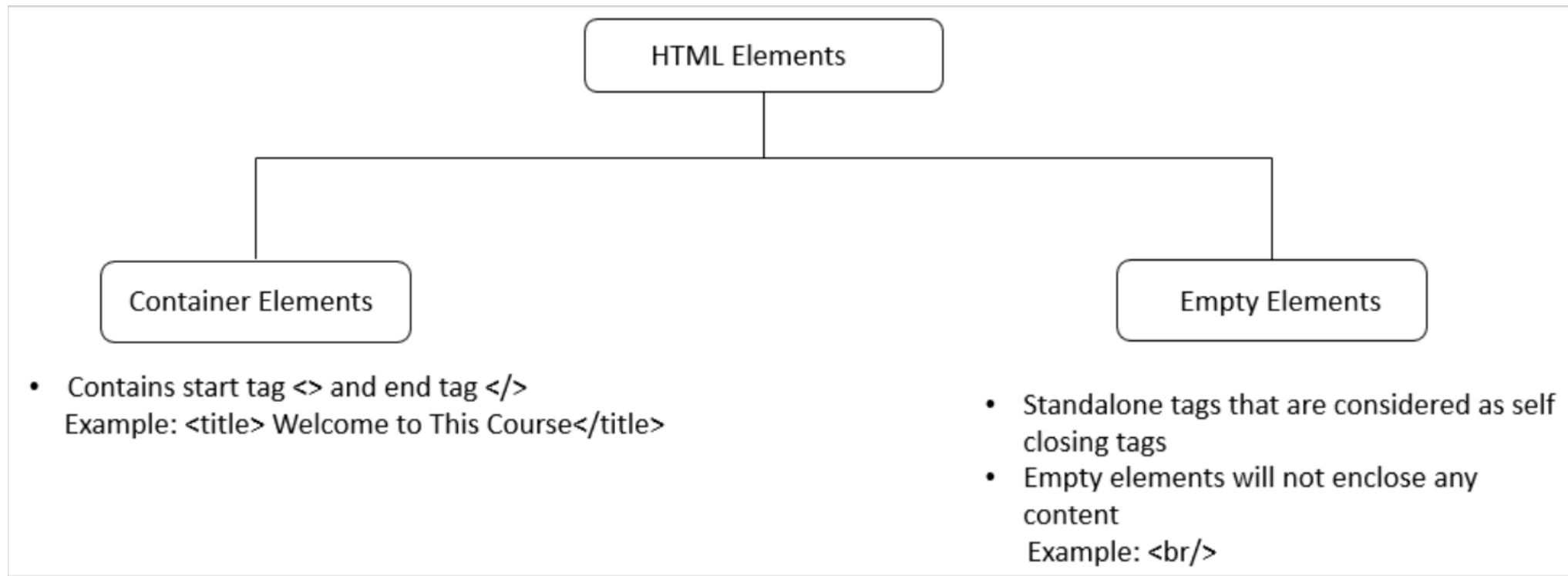
4.6 Platform-independency

HTML Language is platform-independent.

That means the same HTML code can run on different operating systems as shown below.

5. HTML Elements

HTML elements can be broadly categorized into two as below:



5. HTML Elements

HTML elements can be broadly categorized into two as below:

- Semantic Elements
- Non-Semantic Elements

What are Semantic Elements?

A semantic element clearly describes its meaning to both the browser and the developer.

Examples of non-semantic elements: `<div>` and `` - Tells nothing about its content.

Examples of semantic elements: `<form>`, `<table>`, and `<article>` - Clearly defines its content.

5.1 Block/Inline Elements

HTML elements can be broadly categorized into two as below:

HTML elements can be further categorized into two as below:

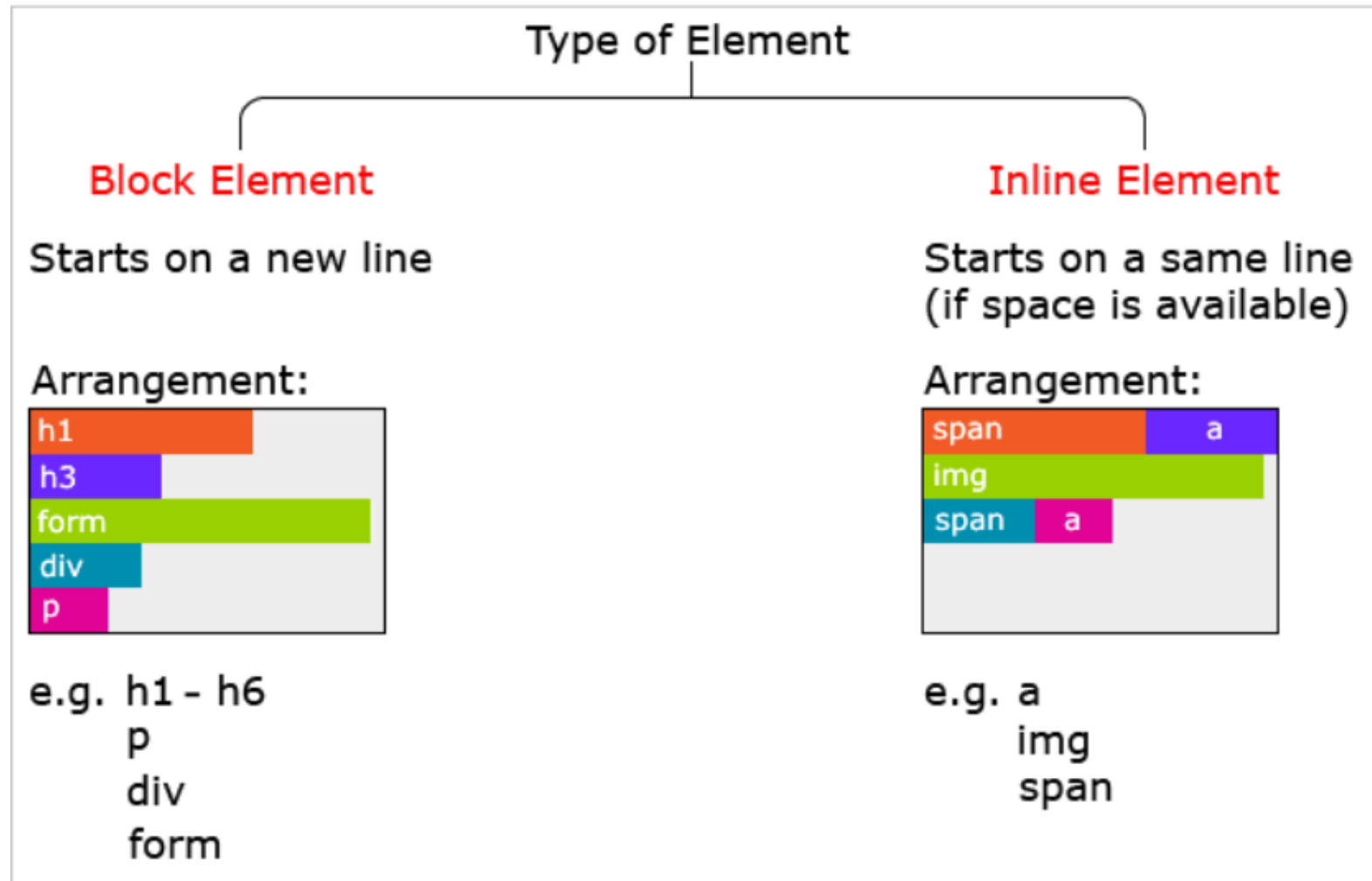
Block Element:

A block element begins on a new line occupying the entire width of the parent tag.

Inline Element:

An inline element occupies the necessary space to accommodate the content in the element. Inline elements can be nested within other inline elements, whereas block elements cannot be nested within inline elements.

5.1 Block/Inline Elements



Tips: How to Comment in HTML

As a developer, you may want to document your code, so that you can easily refer to it in the future.

```
<!-- -->
```

VS Keyboard Shortcut: Ctrl + /

Comments are ignored by the browser.

5.2 HTML Element Attributes

- HTML elements can contain attributes that can be considered as an additional feature to set various properties and they are optional.
- Some of the attributes can be used with any of the HTML elements and there can be referred to as 'global attributes. Also, some attributes can be used only with particular elements.

Following are some features of attributes:

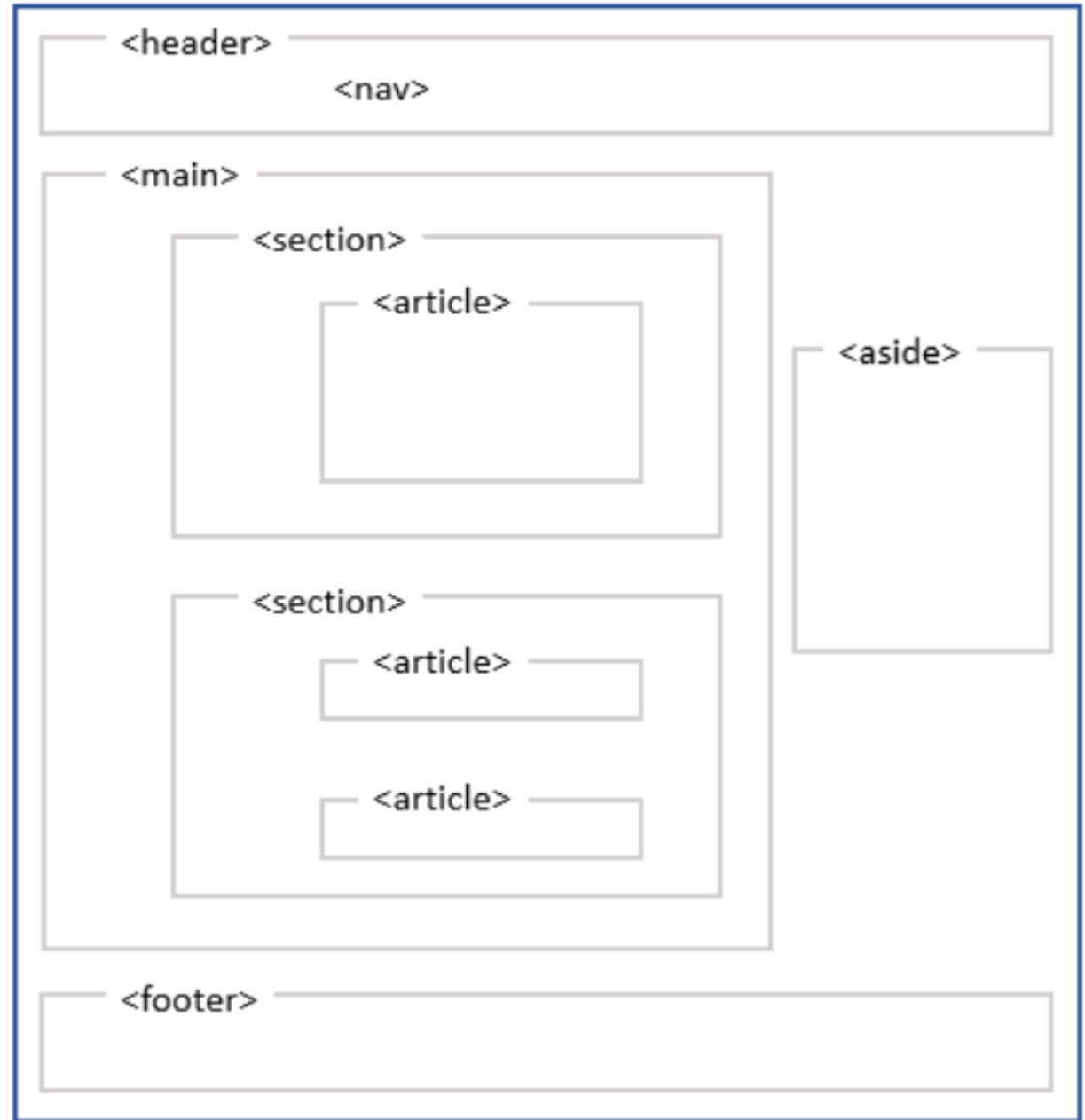
- All the attributes can contain properties like name and value which can be used by a developer to assign respective details for that HTML elements.
- Attributes are to be set only in the start tag of a container HTML element.
- Attributes are case-insensitive, but it is recommended to use lowercase as a best practice.
- The best practice is always to quote attribute value even though we will not get any execution errors if they are not provided in quotes.

5.3 Sectioning Elements

- What is a landing page

The screenshot displays a LinkedIn profile for Dave Johnson. The profile header includes a blue banner with a network diagram, a circular profile picture, and the name 'Dave Johnson'. Below the name is a summary: 'Experienced senior editorial professional with success as a writer, editor, author, speaker, blogger, and leader. Los Angeles, California · 500+ connections · Contact info'. A dropdown menu is open, showing options to 'Add profile section' or 'More...'. The menu lists sections: Intro, About, Background, Work experience (10 positions), Education (3 schools), Licenses & Certifications, Volunteer experience, Skills, Accomplishments, Additional information, and Supported languages. The 'About' section is expanded, showing a bio: 'I'm a tech journalist, professional communicator, writer, editor, and author of technology, photography, and small business. I've published innumerable produced podcasts, and appeared regularly on radio and television. I've had success as the digital managing editor at Robb Report, tech editor at Techwalla, and a content lead on the Windows team at Microsoft. I can speak and write in English, including Protocol 1 and Battlestar Recaptica.' Below the bio are three small images. The 'Your Dashboard' section at the bottom shows '156 Who viewed your profile', '151 Post views', and '31 Search appearances'. The right sidebar contains a search bar, a list of promoted posts (including 'Download 30 day trial' and 'Pepperdine's Online MBA'), and a 'People Also Viewed' section with several profile suggestions.

5.3 Sectioning elements



5.3.1 Header and Footer Element

<header>

The <header> element is used to include header content like web page logo, login link, website settings link, etc. Ideally, every web page has one header. However, multiple headers may also be included as per need.

<footer>

The <footer> element is used to include footer content like copyright, about us, terms and conditions link, etc. One footer is included per page.

5.3.2 Nav Element

<nav>

- The <nav> element is used for navigational content like navigation menu for the website.
- There is no limit to the number of times <nav> tag can be used on a web page.
- As long as there are navigation links, links can be wrapped inside <nav>.

5.3.2 Main Element

<main>

- The <main> tag specifies the main content of a document.
- The content inside the <main> element should be unique to the document. It should not contain any content that is repeated across documents such as sidebars, navigation links, copyright information, site logos, and search forms.
- Note: There must not be more than one <main> element in a document. The <main> element must NOT be a descendant of an <article>, <aside>, <footer>, <header>, or <nav> element.

<section>

- The <section> element is used to organize the web page into different sections.

5.3.2 Article and Aside

Article :

- The <article> tag specifies independent, self-contained content.
- An article should make sense on its own and it should be possible to distribute it independently from the rest of the site.

Note: The <article> element does not render as anything special in a browser. However, you can use CSS to style the <article> element

Aside:

- The <aside> tag defines some content aside from the content it is placed in.
- The aside content should be indirectly related to the surrounding content.
- Tip: The <aside> content is often placed as a sidebar in a document.

Note: The <aside> element does not render as anything special in a browser. However, you can use CSS to style the <aside> element

5.3.2 Address

Address:

- The <address> element helps to semantically organize address details in HTML content.
- The <address> tag defines the contact information for the author/owner of a document or an article.
- The contact information can be an email address, URL, physical address, phone number, social media handle, etc.
- The text in the <address> element usually renders in italic, and browsers will always add a line break before and after the <address> element.

Tryout - Enhance the semantics of content by adding appropriate sectioning elements

```
<!DOCTYPE html>
<html>

  <head>
    <title>Hussian's Shopping</title>
    <meta name="keywords" content="Online, Shopping" />
  </head>

  <body>
    Login | SignUp | Track order Welcome to Hussian's Shopping Clothing |
    Media Hussain's very own one-stop solution for all your shopping needs !
    Dont believe us? Click on the offers and check it out for yourself !!
    Clothing Media About
    Us | Privacy Policy |Contact Us | FAQ | Terms & Conditions Copyright 2018
    | Giri Like and Connect with us
    FB Twitter g+
  </body>

</html>
```

5.6 Grouping Elements

- Why Grouping?
 - The need to associate mandatory visual spacing between logical portions of the textual description to improve text readability.
 - The need to group various portions of a web page for various reasons like applying some common styling

Terms and Conditions

Welcome to the WayFar Ltd. website. Please read these Terms and Conditions carefully before using this site. By using this site you agree to comply with these Terms and Conditions.

- **Limited License**

The information, images and videos displayed on this website is the property of WayFar Ltd. Commercial uses are strictly prohibited. You must not modify, copy, display or reproduce any of the content displayed in the website.

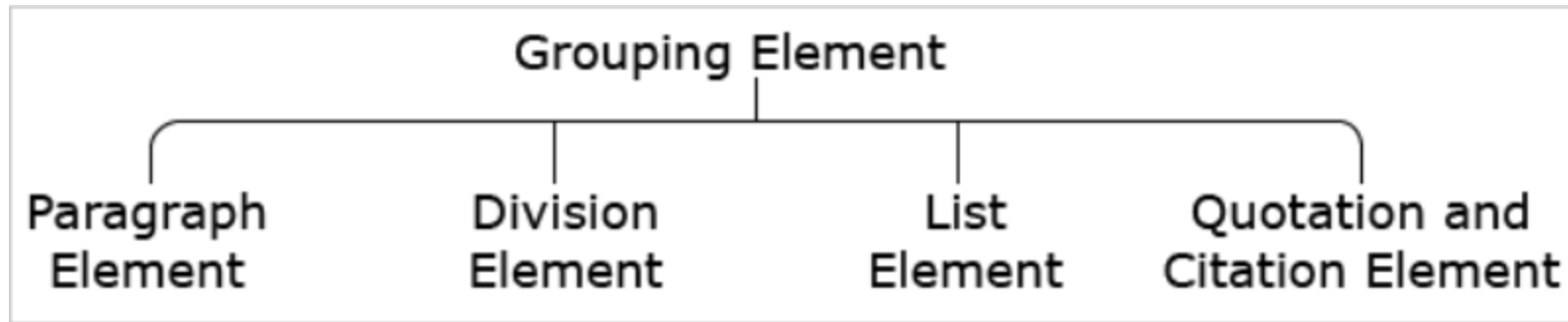
- **Copyright**

Our website content is protected by copyright and trademark laws. Exchange of information for commercial purposes is prohibited.

- **Terms Policy**

We reserve the right to revise, amend or modify our TERMS policy at any time and in any manner it pleases. Any change or revision will be posted here.

5.6.1 Grouping Elements



<p>

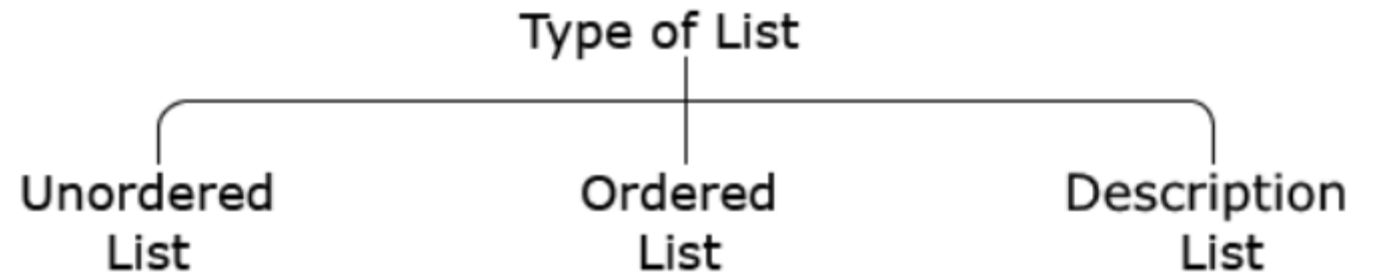
- The <p> tag defines a paragraph.
- Browsers automatically add a single blank line before and after each <p> element.

<div>

- The division element is used to group various other HTML tags.
- This element helps us in organizing the web page into different sections.
- If any common rule or style needs to be added to a particular section, the same can be applied to the corresponding division.
- The rule or style gets applied to all the contents of the division thereby.
- It is defined using <div>...</div> tag.

5.6.2 List Element

HTML lists come in three basic flavors and each one has a specific implementation.



Unordered list

- An unordered list is used to create a list of related items, in no specific order, like in the Terms and Conditions page where there is more focus on ensuring the readability of content by listing out points but not much concern about the specific order of points.
- An unordered list starts with the `` tag.
- Each item within the list technically referred to as 'list-item' enclosed within the `` tag.

Possible Values of list-style-type property	Type of Bullet
disc	•
circle	○
square	■

5.6.2

Tryout

- Recreate

Courses Offered:

- Markup
 - Basics of HTML
 - First level course on HTML
 - Adaptive HTML
- Styling
 - CSS3
 - Latest version of CSS

5.6.2 List Element

- **Ordered List:**

- An ordered list is used when the order of items is important and we want to create a list of related items, in a specific order.
- An ordered list starts with the `` tag.
- Each item within the list technically referred to as 'list-item' enclosed within the `` tag.

Some of the possible values of the list-style-type property	Type of bullet
1,2,3,4 ...	decimal
I, II,III,IV,..	upper-roman
I,ii,iii,iv,..	lower-roman
A,B,C,D,..	upper-latin
a,b,c,d,..	lower-latin

By default, the 'decimal' value will be set to the CSS property. We can also have 'none' value for the list-style-type property if we do not need any bullets to be present in the list.

5.6.2 List Element

- **Ordered List Attributes:**

Some of the attributes which can be used with this element are:

Name	Description
start	Specifies the initial value of the list.
reversed	Specifies the pattern to be rendered in reversed order.
type	Specifies the different numbering values like : <ul style="list-style-type: none">• 1 for number (default).• a for lowercase alphabets.• A for uppercase alphabets.• i for lowercase roman numeral value.• I for uppercase roman numeral value.

5.6.2

Tryout

- Recreate

Courses Offered:

1. Markup

1. Basics of HTML

- First level course on HTML

2. Adaptive HTML

2. Styling

1. CSS3

- Latest version of CSS

5.6.2 List Element

Description List:

- Description lists are used to contain name-value groups, where names can be a list of terms and values can be their related descriptions.
- The description list otherwise called definition list arranges items in the same way as the meaning associated with each word is arranged in a dictionary

The God of Small Things

The story is authored by Arunthathi Ry and is set in Kerala and revolves around the lives of two children Rahel and Esthepa and how they weave and imagine their childhood experiences.

Shadow Lines

Shadow Lines is an invigorating story by Amitav Ghosh about the borders that mark and limit our imaginations and memories.

The Lord of The Rings

An epic high fantasy book by the English author and scholar J.R.R. Tolkien

- Description lists are created with the <dl> tag.
- The term is placed within <dt>.. </dt>
- Description is placed between <dd>...</dd> tag.

5.7

Quotation Element

- While designing a website, we might include quotations or blocks of text from another source on our web page.
- Visually, such quotes if included, should be identifiable. Also, the browser needs to render this appropriately. Therefore, the quotation and citation element is introduced in HTML.
- The quotation element helps to display the quotation texts with an alignment such that it looks unique and different from the remaining textual content.
- By default, the quotation element is rendered visually with indentation by the browsers.
- The quotation element also helps to include the citation, i.e., the URL from where the quote has been picked. This helps to retain the reference courtesy to the original site.
- Quotation element is defined using **<blockquote>...</blockquote>** tag.

5.8 Link Element

A website necessarily is a collection of related web pages, where each web page is typically created for a particular purpose.

When developing any website:

- Each web page is necessarily coded in individual HTML files.
- To see a particular web page, the respective HTML file must be opened in a browser.

Need for link element:

- If you are trying to access the website over a network as a regular user, then also you will not be able to view the individual web pages unless you know the exact HTML file name and path.

Advantages if hyperlinks are used:

- We can create connections or links between HTML documents/web pages and users can navigate from one web page to another by clicking on "hyperlinks".
- We would now feel that we have a website which is a collection of interconnected web pages.

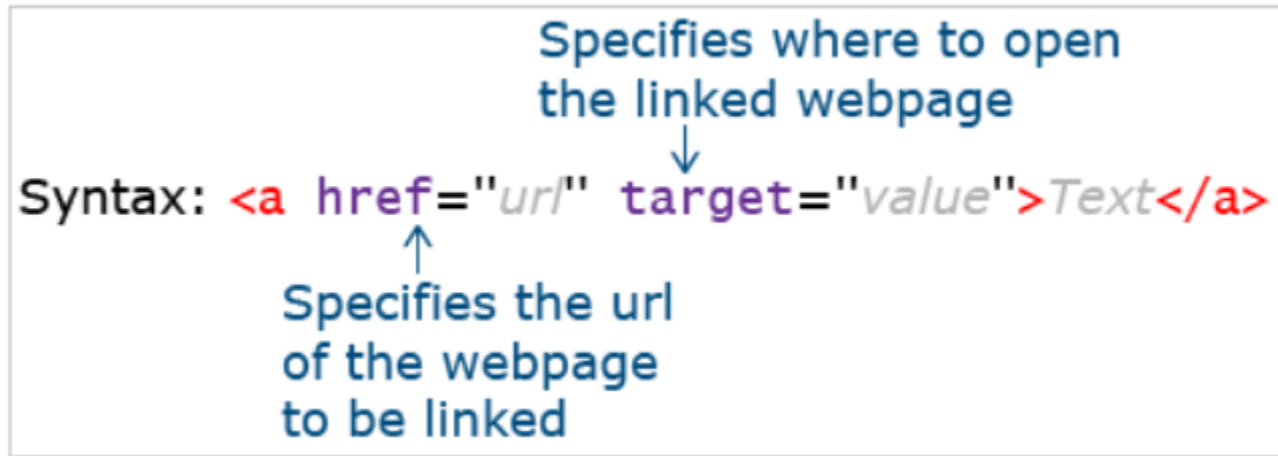
5.8.1 Anchor Tags

Link elements are defined using <a> .. tag

Syntax: `Text`

Specifies where to open the linked webpage

Specifies the url of the webpage to be linked

A diagram illustrating the syntax of the HTML anchor tag. The text 'Syntax: Text' is shown. The opening tag '<a' is in red, 'href="url"' is in purple, 'target="value"' is in purple, and the closing tag '' is in red. An arrow points from the text 'Specifies where to open the linked webpage' to the 'target' attribute. Another arrow points from the text 'Specifies the url of the webpage to be linked' to the 'href' attribute.

5.8.1 Anchor Tags

A hyperlink is a prime way in which users can navigate from one web page to another. A hyperlink can point to another web page, or website, or files, or even specific locations on the same web page.

Hyperlinks can be of any of the below types:

Text hyperlink:

- A clickable text is used to take the user to another web page. Largely, we use text-based hyperlinks.
- This text usually appears with an underline and in a different color.
- This color mapping is automatically done by the browser for all text hyperlinks.

Image hyperlink:

- A clickable image is used to take the user to another web page.

Bookmark hyperlink:

- A clickable text/image is used to take the user to another part of the same web page.

Email hyperlink:

- It allows users to send an email by clicking on that link.

Contact number hyperlink:

- It allows the user to call a number by clicking on that link.

5.8.1 Anchor Tags Target attribute

The possible value of "target"	Description
_blank	Opens a web page in a new window or tab
_self	Opens a web page in the same window (default)
_parent	Opens a web page in the parent frame
_top	Opens a web page in the full body of the window
frame-name	Opens a web page in a named frame

5.9 Text Level Semantic Elements

Element	Description
abbr	Defines abbreviation or acronym
q	Represents text quoted from another source by adding quotation mark (" ")
small	Displays text in relatively smaller font-size
mark	Highlights text
strong	Displays text in bold
em	Displays text in the italic or emphasized format
sub	Displays text as subscript
sup	Displays text as superscript
span	Provides styling to text
br	Breaks line of text

5.10 Character Entities

- Some characters are reserved in HTML.
- **For example:** If you use the less than (<) or greater than (>) sign in your content, the browser may mix them with HTML tags.
- Also, some characters are unavailable on the keyboard.
- **For example:** ©
- Character entities are used to include such character content on a web page.

Character	Description	Entity Name	Entity Number
	Non-breaking space	 	
<	Less than	<	<
>	Greater than	>	>
&	Ampersand	&	&
©	Copyright	©	©
€	Euro	€	€
£	Pound	£	£
®	Registered trademark	®	®

Syntax: **&entity_name;**

OR

&#entity_number;

5.11 Global Attributes

- Attributes that can be used with all HTML elements are called "Global attributes".

Attribute	Description
contenteditable	Allows the user to edit content. Possible values are true/false.
dir	Specifies text direction. Possible values are ltr/ rtl.
title	Displays the string message as a tooltip.
spellcheck	Specifies whether the spelling of an element's value should be checked or not. Possible values are true/false.
id	Gives a unique id to an element.

5.12 Table Elements

- It is quite difficult to comprehend this information from this display. We will need to go line by line and find out yes/no by looking at the order of data displayed in each line. If we miss the correct order of data in each line, there is a possibility of miscalculating the required information. If this data is displayed in a 'tabular format', we can quickly get the required data.
- With a tabular format of data display, the information we need can be easily interpreted by making visual associations between row and column headers.
- Therefore, we need HTML Tables. HTML Tables provide a means by which we can create a tabular format of data on the web.

Places, Jan-Mar, Apr-Jun, Jul-Sep, Oct- Dec
Ooty, No, Yes, Yes, No
Kodaikanal, Yes, No, No, Yes
Yercaud, Yes, Yes, No, Yes
Coonoor, Yes, No, No, Yes

Places to Visit	Best time to Visit			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Ooty	No	Yes	Yes	No
Kodaikanal	Yes	No	No	Yes
Yercaud	Yes	Yes	No	Yes
Coonoor	Yes	No	No	Yes

5.12 Table Elements Syntax

- The table element is defined in HTML using <table>...</table> tag
- It contains table header <thead> and table body <tbody>.
- The table header is for adding header information like column headers and the table body is for table contents.

Element	Description
caption	Defines table heading
tr	Defines row of the table
th	Defines heading of the column
td	Defines data of column
thead	Defines header part of the table
tbody	Defines the content part of the table
colgroup	Helps to logically group two or more consecutive columns

```
<table>
  <caption>Table heading</caption>
  <thead>
    <tr>
      <th>Column 1 heading</th>
      <th>Column 2 Heading</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Column 1 data</td>
      <td>Column 2 data</td>
    </tr>
  </tbody>
</table>
```

5.12 Col group, col span, row span

<colgroup>

- The <colgroup> element in HTML helps us to group the related columns specially to provide some common CSS property.

Colspan Rowspan

- The elements <td> and <th> supports the attributes namely **colspan** and **rowspan** which helps to merge the table cells accordingly.
- The colspan attribute accepts a numeric value and merges specified numeric value of columns together whereas, the rowspan attribute accepts a numeric value and merges specified numeric value of rows together.

	C1	C2	C3	C4
R1				
R2				
R3				
R4				

	C1	C2	C3	C4
R1	A	B	C	D
R2				
R3				
R4				

	C1	C2	C3	C4
R1	A		B	C
R2				
R3				
R4				

5.12 Tables

Recreate

Mobile Inventories Available at Hussain's Shopping!		
Product Name	Product Details	
	Price	Description
Asus Zenfone	11599	an economical phone by Asus
Redmi Note 2	8599	an economical phone by Xiaomi
Moto G turbo	8599	an economical phone by Moto
Lenovo Vibe X3	19999	a high end phone by Lenovo
iphone 8 plus	19999	a high end phone by Apple

5.13 Form Elements

- HTML Forms, also known as Web Forms, help in capturing information from the user of a web application.
- Users can key-in the details such as name, email, phone numbers, comments, dates, and other needed values using the HTML form inputs. Users can also select from a predefined set of values.

☒ Graduation
☐ Post-Graduation
☐ Doctorate

Residential Address

H. No. 270, 7th B Main Road, Mysore, Karnataka

Contact No.

+91-3587045285

9479663805

Email Id

Jones@yahoo.com

SUBMIT

Never submit passwords through Google Forms.

5.13 Form Elements - Syntax

- The form can be created using **<form>...</form>** tag of HTML.
- The **<form>** tag has the below attributes:
 - **method**: Defaults to HTTP "get" method of submission to the server. To use HTTP "post", use **method="post"**
 - **action**: The URL to which the form data must be submitted
 - **target**: Specifies if the submitted result will open in the current window, a new tab, or on a new frame

Used for accessing form data by the scripting language
↓
Syntax: **<form** **name**="Name of form" **action**="Link to server-side program" **method**="HTTP Request method">
 <!-- All form elements will come here -->
 </form>

Specifies the server-side program that will be executed when the form is submitted
↓

↑
Specifies HTTP request method that will be used to submit form data to the server-side program

5.13. Form Input Elements - Syntax

Specifies type of element
↓
Syntax: `<input type="input type" value="element value">`
↑
Specifies the element's value that will be send to the server program

- The form input element is used to collect details from the user.

text	Creates textbox
password	Creates textbox that accepts the only password
checkbox	Creates checkbox
radio	Creates a radio button
button	Creates button
submit	Creates a button that submits values of all form elements to the server
reset	Creates a button that resets values of all form elements to their default value
image	Creates a graphical version of a button
file	Creates control to upload the file to the server
hidden	Creates a hidden text field
email	Creates textbox that accepts only valid email id
number	Creates spinbox that accepts only whole numbers
range	Creates a range slider
search	Creates a search bar
URL	Creates textbox that accepts only valid URL
color	Creates color picker
date	Creates date picker to select date
month	Creates date picker to select a month
week	Creates date picker to select week

5.13 Form Elements – Text/Password/Email

Input type - text:

A single-line text field. The value attribute defines the value of the input field.

Name: `<input type="text" value="">`

Name :

Input type - password:

An input field can be used to enter a password.

Password :

Input type - email:

An input field that accepts email addresses.

It has in-built validation for an email.

Email-Id :

! Please include an '@' in the email address. 'abc' is missing an '@'.

5.13 Form Elements – Number/Checkbox/Radio

Input type - number:

Defines an input text box, where the user can enter only numerical input.

Gives an error on form submission if the value entered goes beyond the min and max limits and includes built-in validation to reject non-numerical values.

Attributes min and max can be used to define a boundary and step attribute value which can be used for defining the difference between consecutive numbers.

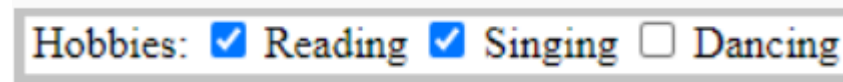
A screenshot of a web form element labeled "Age :". It features a text input box containing the number "18". To the right of the input box is a small, vertical spinner control with up and down arrows, indicating it is a number input with step functionality.

Input type - checkbox:

Defines a checkbox.

The checked attribute checks that particular checkbox value.

Also, multiple checkboxes can be checked at a time.

A screenshot of a web form element labeled "Hobbies:". It contains three checkboxes followed by their respective labels: "Reading" (checked), "Singing" (checked), and "Dancing" (unchecked). Each checkbox is represented by a small square box with a checkmark or an empty space.

Input type - radio:

Defines a radio button.

The name attribute specifies the associated name of that radio button.

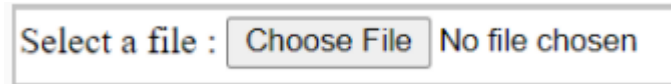
Radio buttons in a group should have the same name.

A screenshot of a web form element labeled "Gender :". It contains two radio buttons followed by their respective labels: "Male" and "Female". The "Female" radio button is selected, indicated by a blue dot inside the circle, while the "Male" radio button is unselected, shown as an empty circle.

5.13 Form Elements – File/Button/URL

Input type - file:

Creates a control to upload a file to the server.

A file input control consisting of a text label "Select a file :", a button labeled "Choose File", and a status text "No file chosen".

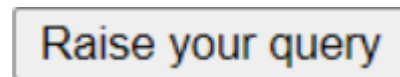
Select a file : No file chosen

<button> element:

Defines a clickable button that can be used to submit the form.

The button can be of 3 types:

- submit (default with <button> tag)
- reset (to reset the form)
- button (just a clickable button)

A simple rectangular button with the text "Raise your query".

Input type - URL:

Defines a text input that can capture any input value starting with http:// or https://. If there is a pattern mismatch, it shows an error on form submission.

A form element for a URL input. It includes a label "Enter the website URL :", a text input field containing "google", and a red error message box below it that says "Please enter a URL." with an exclamation mark icon.

Enter the website URL :

! Please enter a URL.

5.13 Form Elements – Textarea/Hidden

<textarea> element:

Defines a multi-line text field.

It is not possible to set a default text using the value attribute. Hence, default text can be placed into <textarea>...</textarea> tag.



Input type: Hidden:

You may want to submit supplementary data (such as users' language of user input) to the server, without any user interaction. This can be done using a hidden element.

Note: While the value is not displayed to the user in the page's content, it is visible (and can be edited) using any browser's developer tools or "View Source" functionality. Do not use hidden inputs as a form of security!

5.13 Form Elements - Label

Label:

The `<label>` element is used to associate a text label with a form `<input>` field.

Additionally, the "for" attribute of the label can point to the "id" of input control. This ensures the cursor focuses on the respective input control on the click of the label.

Refers to *id* attribute
of an *input* element
↓
Example: `<label for="Username">Enter Username</label>`
`<input type="text" id="Username">`

5.13 Form Elements - Syntax

Input type - color:

Defines a color picker.

Input type – datetime-local:

Defines a date-time picker, where the user can pick a date as well as time

Input type – week:

Defines a date picker, where the user can pick a week.

Input type – month:

Defines a date picker, where the user can pick a month.

Choose a date and time: mm/dd/yyyy --:-- --

The screenshot shows a date and time picker interface. On the left is a calendar for June 2020 with the 10th selected. On the right is a time selection interface with hour (04), minute (39), and period (PM) buttons. Below the minutes are additional minute options from 05 to 45. A 'Today' link is at the bottom right of the calendar.

Choose a color :

The screenshot shows a color picker interface. It features a large color selection area with a gradient from black to red. Below this is a color bar with a red dot indicating the selected color. At the bottom are three input fields for RGB values, each containing '0', and labels 'R', 'G', and 'B' below them.

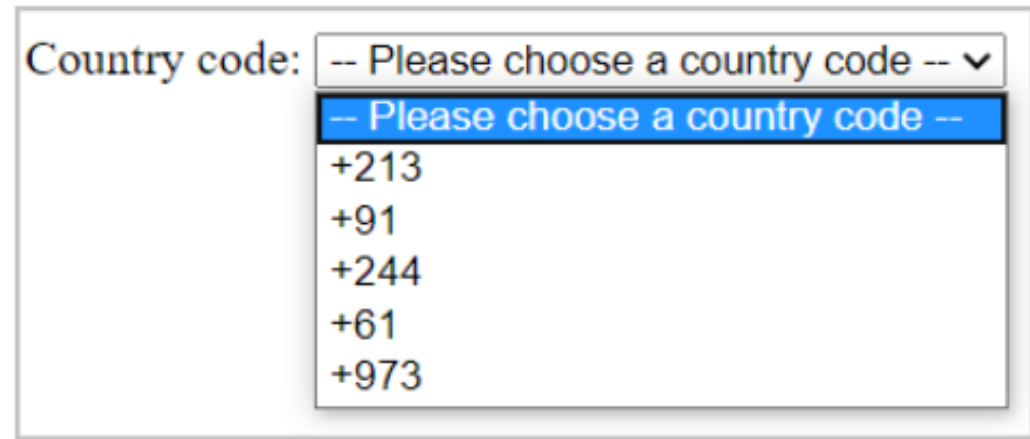
5.13 Form Elements – Select/Datalist

<select> element :

- Defines a drop-down list.
- The "multiple" attribute can be used for having a multi-select dropdown menu.

<datalist> element:

- Defines a set of pre-defined options available to choose for an <input> element.
- In the below example list attribute holds lists of possible options, the value assigned to the list attribute of the input element and id attribute of datalist attribute should be the same and the value sent to the server should be assigned to the option element value attribute



Country code: -- Please choose a country code -- v

-- Please choose a country code --

+213

+91

+244

+61

+973



Country: v

India

France

Singapore

Thailand

United Arab Emirates

United States of America

5.13 Form Elements – Range/Meter/Progress/Output

Input type – range:

Defines a range slider, where the user can select input.

Meter:

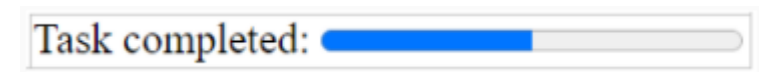
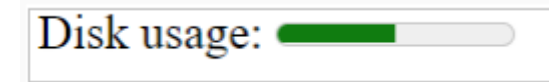
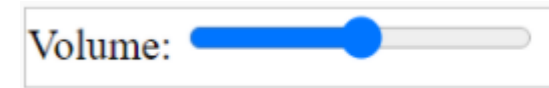
Can be used to represent a scalar measurement within a known range.

Progress:

Can be used to represent the progress of a task.

Output:

The 'oninput' attribute carries the logic of generating the output, and the 'for' attribute of <output> tag specifies the control for which output has to be calculated.



13	+	10	= 23
----	---	----	------

5.13 Form Elements

– Tryout

Sign Up!

Username:	<input type="text"/>
Password:	<input type="password"/>
Gender:	Male <input type="radio"/> Female <input type="radio"/>
DOB:	<input type="text" value="mm/dd/yyyy"/>
Phone number:	<input type="text"/>
Email ID:	<input type="text"/>
Languages Known:	<input checked="" type="checkbox"/> English <input type="checkbox"/> Hindi <input type="checkbox"/> French
Profile pic:	<input type="button" value="Choose File"/> No file chosen
<input type="button" value="Register"/> <input type="button" value="Reset"/>	

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5.13 Form Elements

– Tryout

[Login](#) | [SignUp](#) | [Track order](#)

Track your order

Rate your shopping experience:

Delivery of product on time :

Product quality :

How friendly the site is :

Were you able to find the product which you were looking for?:

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5.14 Form Element - Attributes

Placeholder:

The placeholder attribute specifies a value that appears in the textbox .

Pattern:

The pattern attribute creates a custom pattern validator.

The value entered by the user is checked for validity against a specified pattern.

If the user input value does not match with a specified pattern, an error message appears.

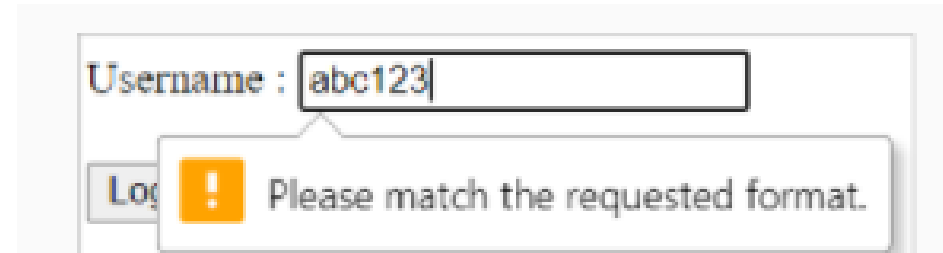
Min, Max, and Step:

The following are some of the attributes which are used only with range and number input types

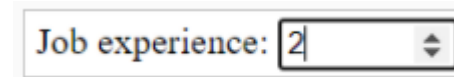
- min: Specifies a minimum acceptable value.
- max: Specifies maximum acceptable value.
- step: Specifies a difference of consecutive values when the user uses the range/number input element.



A text input field with the label "First name:" and placeholder text "Enter your first name".



A text input field with the label "Username :" and the value "abc123". Below the field is an error message box with an orange exclamation mark icon and the text "Please match the requested format.".



A number input field with the label "Job experience:" and the value "2".

5.14 Form Element - Attributes

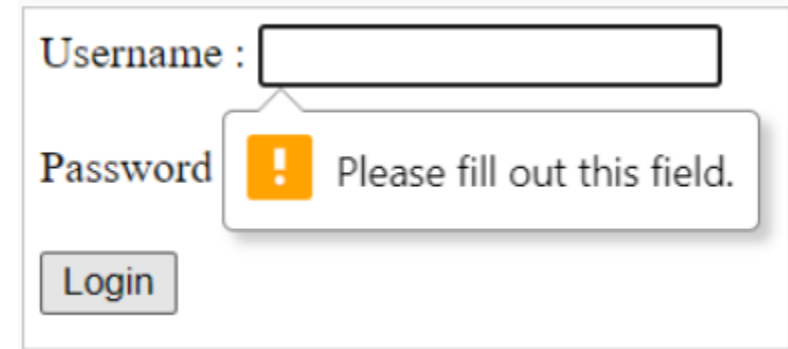
Required:

The required attribute specifies that user input is a must.

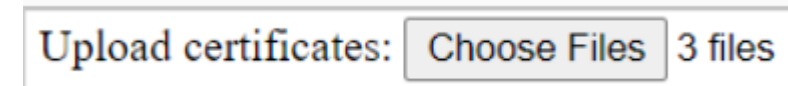
If the user does not enter any value in the input field which is associated with this attribute, a default error message appears on the screen.

Multiple:

The multiple attribute value allows the user to enter/select/upload more than one value.



A form element with two input fields. The first field is labeled "Username :" and is empty. The second field is labeled "Password" and is also empty. A red error message box with a white exclamation mark icon is displayed next to the Password field, containing the text "Please fill out this field." Below the Password field is a "Login" button.



A form element for uploading certificates. It consists of the text "Upload certificates:" followed by a "Choose Files" button and the text "3 files".

5.14 Form Element - Attributes

Form-override attribute

formaction

formnovalidate

formmethod

formtarget

Description

Overrides the form action attribute

Overrides the form novalidate attribute

Overrides the form method attribute

Overrides the form target attribute

Form Method:

In the below example, you can observe that the default form submission method 'GET' has been overridden to the 'POST' method due to the usage of 'formmethod' attribute in the submit input tag.

```
<form method="GET" action="">  
  <input type="submit"  
formmethod="POST">  
</form>
```

Form NoValidate:

To test the form's functionality we may want to temporarily by-pass in-built validations done by form input type elements. This can be done by novalidate attribute.

For example, if we want to bypass an email validation, you can use the below code:

```
<form novalidate action='xyz.html'>  
<input type="email"/>  
<input type="submit">  
</form>
```

5.14 Form Element - Attributes

autocomplete:

It allows the browser to predict user input value.

When the user starts typing, the browser displays possible options, based on earlier typed values.

Possible values of autocomplete are on and off where the default value is "on"

autofocus:

Specifies that an element should automatically get focus when a web page loads.

5.14 Tryout - Form Element - Attributes

Recreate

Sign Up!

Username:	<input type="text" value="Enter your username"/>
Password:	<input type="password" value="Enter your password"/>
Gender:	Male <input type="radio"/> Female <input type="radio"/>
DOB:	<input type="text" value="mm/dd/yyyy"/>
Phone number:	<input type="text" value="Enter your contact number"/>
Email ID:	<input type="text" value="Enter your email ID"/>
Languages Known:	<input checked="" type="checkbox"/> English <input type="checkbox"/> Hindi <input type="checkbox"/> French
Profile pic:	<input type="button" value="Choose File"/> No file chosen
<input type="button" value="Register"/> <input type="button" value="Reset"/>	

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