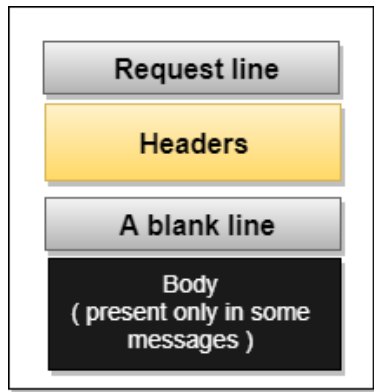


Chapter 1

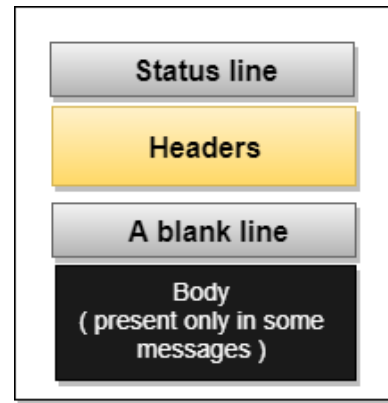
Keyword / Term	Description
WWW and Internet	World wide Web (web) is a collection of information that can be accessed using the Internet, whereas the Internet is a global network of networks that offers access to almost all types of information. A program that utilizes the internet is called the WWW.
HTML	HyperText Markup Language
HTTP	HyperText Transfer Protocol
HTTPS	HyperText Transfer Protocol Secure
URL	Uniform Resource Locator
DNS	Domain Name System
IP	Internet Protocol
TCP/IP	Transmission Control Protocol / Internet Protocol
W3C	World Wide Web Consortium
ARPANET	Advanced Research Projects Agency Network
MIME	Multipurpose Internet Mail Extensions
FTP	File Transfer Protocol
SSL	Secure Socket Layer
TLS	Transport Layer Security
DOM	Document Object Model
JIT	Just-In-Time Compiler
SEO	Search Engine Optimization

Request & Response



Request Line (Client → Server):

GET /path/to/file/index.html HTTP/1.0



Response Line (Server → Client):

HTTP/1.0 200 OK

HTTP/1.0 404 Not Found

Status Code	Description
200	OK – Success
301	Moved Permanently – Redirect
400	Bad Request – Client error
401	Unauthorized – Need authentication
403	Forbidden – No access
404	Not Found – Resource missing
502	Bad Gateway – Invalid response from upstream server
503	Service Unavailable – Server down/overloaded

Keyword / Term	Description
Internet	Global network, TCP/IP
WWW	Info system using Internet, hyperlinks, HTTP
Browser	Interface software (Chrome, Firefox, Safari)
HTTP vs HTTPS	Secure encryption with SSL/TLS
Client-Server Architecture	Client requests, server responds
How Browser Works	URL → DNS → IP → Request → Response → Render (DOM, CSS, JS)
URL Structure	Scheme, Subdomain, Domain, TLD, Port, Path, Query, Fragment
Web Design Principles	Simplicity, responsiveness, readability, navigation, CTA, speed
Bad Design Symptoms	Clutter, poor readability, outdated, broken links
Web Design Issues	Simplicity, identity, consistency, robustness, compatibility, cache, bandwidth, resolution
Navigation Design	Clear, consistent, fast, home button, quality over quantity
Page Layout	Header, nav bar, content, sidebar, footer
Layouts	Flexible (fluid), Fixed

Chapter 2

Topic	Syntax	Example
HTML Document Structure	<pre><!DOCTYPE html> <html> <head> <title>Page Title</title> </head> <body>Content</body> </html></pre>	
Element	<code><tagname> content </tagname></code>	<code>This is text</code>
Attributes	<code><tagname attribute="value"></code>	<code></code>
Comments	<code><!-- comment --></code>	<code><!-- This is a comment --></code>
Semantic Tags	<code><header>, <footer>, <article>, <section>, <aside>, <nav>, <main></code>	<code><header> <h1>Title</h1> </header></code>
Non-Semantic Tags	<code><div>, </code>	<code><div>Block</div> Inline</code>
Block Elements	<code><div>, <p>, <h1>-<h6>, <section>, <article>, <header>, <footer>, <table>, , , , <form>, <main>, <nav></code>	<code><p>This is a block</p></code>
Inline Elements	<code><a>, , , , <i>, , ,
, <label>, <input>, <textarea>, <select>, <button>, <sub>, <sup>, <abbr></code>	<code>html Click me</code>
Head Tags	<code><link>, <script>, <style>, <meta></code>	<pre><meta charset="UTF-8"> <meta name="viewport" content="width=device-width, initial-scale=1.0"> <meta name="description" content="Explore the best Indian street food recipes including chaat, vada pav, pani puri, and more."> <meta name="keywords" content="Indian recipes, street food, vada pav, chaat, pani puri, Mumbai food"> <meta name="author" content="Arjun Mehta"> <meta http-equiv="refresh" content="10;url=https://en.wikipedia.org/wiki/Meta_element"> <link rel="stylesheet" href="styles.css"> <style>h1 { color: blue; }</style> <script src="s1.js"></script></pre>
Favicon	Favicon using <code><link></code>	<code><link rel="icon" type="image/png" href="favicon.png"></code>

Topic	Syntax	Example
Hyperlink	<code>Text</code>	<code>Visit</code>
Images	<code></code>	<code></code>
Figure + Caption	<code><figure> <figcaption>My Dog</figcaption> </figure></code>	same as syntax
Audio	<code><audio controls autoplay loop muted> <source src="song.mp3" type="audio/mp3"> </audio></code>	same as syntax. Use autoplay with muted
Video	<code><video controls autoplay loop muted width="320" height="240"> <source src="movie.mp4" type="video/mp4"> </video></code>	same as syntax. Use autoplay with muted
Iframe (Web Embed)	<code><iframe src="url" width="400" height="300"></iframe></code>	<code><iframe src="https://www.wikipedia.org" width="400" height="300"> </iframe></code>
Iframe (YouTube Video)	<code><iframe width="560" height="315" src="https://www.youtube.com/embed/VIDEO_ID" frameborder="0" allow="autoplay; encrypted-media" allowfullscreen> </iframe></code>	same as syntax
Iframe (Google Map)	<code><iframe src="https://www.google.com/maps/embed?pb=..." width="600" height="450" style="border:0;" allowfullscreen="" loading="lazy"> </iframe></code>	same as syntax

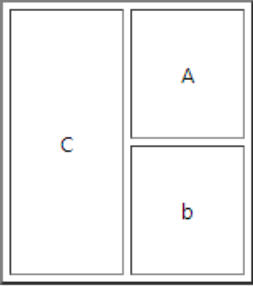
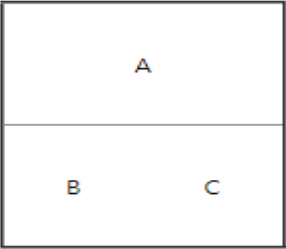
Tags in HTML

Category	Tag	Description	Example	Output
Layout & Sectioning	<div>	Generic container, used for grouping elements	<div style="border:1px solid black; padding:5px;">Content inside div</div>	A bordered box with text: <i>Content inside div</i>
		Inline container for styling a small portion of text	<p>This is a red text in paragraph.</p>	Paragraph: This is a red text in paragraph
	<header>	Represents top section of webpage or article	<header><h1>Website Header</h1></header>	Header with text: Website Header
	<footer>	Bottom section (credits, copyright)	<footer>© 2025 MyWebsite</footer>	Footer text: © 2025 MyWebsite
	<main>	Main content of webpage	<main><p>Main content goes here.</p></main>	Paragraph: <i>Main content goes here.</i>
	<section>	Defines sections in a webpage	<section><h2>About Us</h2><p>Info here.</p></section>	Section with heading <i>About Us</i> and paragraph
	<article>	Self-contained content (e.g., blog post)	<article><h2>Blog Title</h2><p>Blog content.</p></article>	Blog title and content displayed
	<aside>	Sidebar content, not main focus	<aside>Related links here</aside>	Text: <i>Related links here</i> in sidebar style
	<nav>	Navigation links/menu		
Content & Text	<h1> to <h6>	Headings (h1 largest, h6 smallest)	<h1>Heading 1</h1> <h3>Heading 3</h3>	Large Heading 1, smaller Heading 3
	<p>	Paragraph of text	<p>This is a paragraph.</p>	Paragraph: <i>This is a paragraph.</i>
	<pre>	Preformatted text (preserves spacing)	<pre>Line 1 Line 2</pre>	Text displayed with spaces preserved
	 	Line break	Line 1 Line 2	Two lines: Line 1 (line break) Line 2
	<hr>	Horizontal line (divider)	<hr>	Horizontal line displayed
Hyperlink	<a>	Anchor tag for hyperlinks	Visit Example	Clickable link: Visit Example
Text Formatting		Bold text (visual)	Bold Text	Bold Text

Category	Tag	Description	Example	Output
		Important text (semantic)	Important!	Important! (bold, semantic)
	<i>	Italic text (visual)	<i>Italic Text</i>	Italic Text
		Emphasized text (semantic)	Emphasized	Emphasized
	<u>	Underlined text	<u>Underlined</u>	Underlined
	<mark>	Highlighted text	<mark>Highlighted</mark>	Highlighted (yellow background)
		Deleted / strikethrough	Deleted	Deleted
	<ins>	Inserted / underlined	<ins>Inserted</ins>	Inserted (underlined)
	<sub>	Subscript (below text)	H₂O	H ₂ O
	<sup>	Superscript (above text)	2nd	2 nd
	<abbr>	Abbreviation (full form on hover)	<abbr title="HyperText Markup Language">HTML</abbr>	HTML (hover shows: HyperText Markup Language)

List And Table

Topic	Syntax / Attributes	Example / Notes
HTML Lists	A list organizes data on web pages, ordered or unordered.	Used for items like shopping lists, tasks, menus.
Unordered List ()	<code><ul type="disc">test</code>	
Unordered List - Types	type="disc" → default filled circles type="square" → squares type="circle" → hollow circles type="none" → no bullets	• Item 1 / ■ Item 1 / ○ Item 1 / Item 1 (no symbol)
Ordered List ()	<code><ol type="1">test</code>	
Ordered List Attributes	type → 1, i, I, a, A start → starting number reversed → reverse order	Type a continues as aa, ab, ac for >26 items
Nested Lists Example	Mix <code></code> and <code></code> with attributes	
HTML Table (<table>)	<code><table></code> defines table. <code><caption></code> → title above table <code><tr></code> → row <code><th></code> → header cell <code><td></code> → data cell <code><thead></code> → table head <code><tbody></code> → table body <code><tfoot></code> → table footer	Table displays structured data.
Table Attributes	align → left, right, center, justify bgcolor → cell color border → pixels cellpadding → space inside cell cellspacing → space between cells rules → none, groups, rows, cols, all width → pixels/%	<code><table border="2" cellspacing="0" cellpadding="30" rules="all" bgcolor:="yellow">...</table></code>
Table Example	Cell spanning(rowspan)	html <code><table border="2" cellspacing="4" cellpadding="30"></code> <code><tr><td rowspan="2">C</td><td>A</td></tr></code> <code><tr><td>B</td></tr> </table></code>

Topic	Syntax / Attributes	Example / Notes
		
Table Example	Column spanning(colspan)	<pre>html <table border="2" rules="rows" cellpadding="30"> <tr><td colspan="2" align="center">A</td></tr> <tr><td>B</td><td>C</td></tr> </table></pre> 

Chapter 3

Form tags

Tag / Element	Description	Syntax / Example
<form>	Container used to collect and submit user input to a server.	<code><form action="/submit" method="post"></code> ... form elements ... <code></form></code>
<fieldset>	Groups related form elements together inside a box.	<code><fieldset></code> <code></fieldset></code>
<legend>	Caption/title for a <fieldset>.	<code><fieldset></code> <code><legend>Login Details</legend></code> <code></fieldset></code>
<input>	General input field (text, password, number, etc.).	<code><input type="text" ></code> <code><input type="email" ></code>
<textarea>	Multi-line text input field.	<code><textarea rows="20" cols="30">Enter your message</textarea></code>
<button>	Clickable button (can be submit, reset).	<code><button type="submit">Submit</button></code>
<label>	Defines a label for form elements; improves accessibility.	<code><label for="uname">Username:</label> <input type="text"></code>
<datalist>	Provides a list of predefined suggestions for an <input>.	<code><input list="browsers" name="browser"></code> <code><datalist id="browsers"></code> <code><option value="Chrome"></code> <code><option value="Firefox"></code> <code></datalist></code>
<select>	Creates a drop-down list.	<code><select name="cars"></code> <code><option value="volvo">Volvo</option></code> <code><option value="bmw">BMW</option></code> <code></select></code>
<option>	Defines an item inside a <select> or <datalist>.	<code><select></code> <code><option value="html">HTML</option></code>

		<option value="css" selected>CSS</option> </select>
<optgroup>	Groups related <option> elements inside a <select>.	<select> <optgroup label="Frontend"> <option>HTML</option> <option>CSS</option> </optgroup> <optgroup label="Backend"> <option>PHP</option> <option>Python</option> </optgroup> </select>

Form Attributes

Attribute	Description	Default Value
action	URL where form data will be sent after submission.	"" (empty)
enctype	The enctype attribute specifies how the form-data should be encoded when submitting it to the server. Note: The enctype attribute can be used only if method="post".	application/x-www-form-urlencoded Form data is encoded as key-value pairs, joined with & and spaces converted to +.
method	HTTP method (GET or POST) used when submitting.	GET
type	Defines the type of <input> (text, password, etc.).	text
name	Name of the field (used as key when submitting data).	"" (empty)
id	Unique identifier for an element	"" (empty)
value	Default value for an input.	"" (empty)
placeholder	Hint text shown inside an input before typing.	"" (empty)
required	Makes the field mandatory before form submission.	false
readonly	Field is visible but not editable; value is submitted.	false
disabled	Field is visible but inactive; value is NOT submitted.	false
checked	Pre-selects a checkbox or radio button.	false
maxlength	Maximum number of characters allowed.	Unlimited
minlength	Minimum number of characters required.	0

Attribute	Description	Default Value
step	Defines intervals for numeric/date inputs (e.g., step='2').	1 (depends on input type)
min	Minimum allowed value for number/date inputs.	No restriction
max	Maximum allowed value for number/date inputs.	No restriction
multiple	Allows selecting multiple values (e.g., multiple files or emails).	false
accept	Specifies file types accepted in a file upload input.	All file types
autocomplete	Enables or disables autocomplete suggestions.	on
autofocus	Automatically focuses on an input field when the page loads.	false
rows	Defines visible rows in a <textarea>.	No fixed default (browser-dependent)
cols	Defines visible width (columns) in a <textarea>.	No fixed default (browser-dependent)
selected	Pre-selects an option in a <select> menu.	false
list	Connects an <input> with a <datalist> for suggestions.	None

<input> Types

Input Type	Description	Syntax / Example
text	Single-line text field.	<input type="text" name="username" id="uname" placeholder="Enter username" required maxlength="20">
password	Hides typed characters (for passwords).	<input type="password" name="pwd" id="pwd" placeholder="Enter password" required minlength="6">
email	Input for email addresses (validates format).	<input type="email" name="email" id="email" placeholder="name@example.com" required>
number	Numeric input with min/max/step controls.	<input type="number" name="age" id="age" min="1" max="100" step="1" value="18">
tel	Telephone number input (may show number pad on mobile).	<input type="tel" name="phone" id="phone" placeholder="1234567890">
checkbox	Allows selecting one or more options.	<input type="checkbox" name="hobby" value="music" checked> Music <input type="checkbox" name="hobby" value="sports"> Sports

radio	Allows selecting one option from a group.	<code><input type="radio" name="gender" value="male" checked> Male <input type="radio" name="gender" value="female"> Female</code>
submit	Button to submit the form.	<code><input type="submit" value="Submit Form"></code>
reset	Button to reset all form fields.	<code><input type="reset" value="Reset Form"></code>
button	General button (custom actions via JavaScript).	<code><input type="button" value="Click Me"></code>
file	Allows file selection/upload.	<code><input type="file" name="resume" id="resume" accept=".pdf,.doc" multiple></code>
hidden	Hidden input (not shown to user, but submitted).	<code><input type="hidden" name="userid" value="12345"></code>
date	Date picker (calendar).	<code><input type="date" name="dob" id="dob" min="2000-01-01" max="2025-12-31" value="2020-05-15"></code>
range	Slider control for selecting a numeric value.	<code><input type="range" name="vol" id="vol" min="0" max="50" step="5" value="25"></code>
color	Color picker input.	<code><input type="color" name="favcolor" id="favcolor" value="#ff0000"></code>

GET Method:

- Appends the form data to the URL, in name/value pairs
- NEVER use GET to send sensitive data! (the submitted form data is visible in the URL!)
- The length of a URL is limited (2048 characters)
- Useful for form submissions where a user wants to bookmark the result
- GET is good for non-secure data, like query strings in Google

POST Method:

- Appends the form data inside the body of the HTTP request (the submitted form data is not shown in the URL)
- POST has no size limitations, and can be used to send large amounts of data.
- Form submissions with POST cannot be bookmarked align: It aligns form in left or right or center.

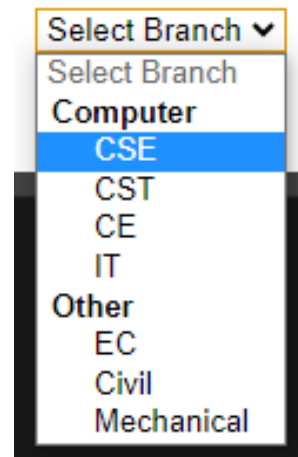
HTML <select> tag

- **disabled:** Specifies that an option should be disabled
- **selected:** Specifies that an option should be pre-selected when the page loads.
- **hidden:** The option with the hidden attribute is not visible in the dropdown list, but it remains in the HTML code, and its value can still be accessed programmatically (e.g., through JavaScript).
- **Value:** Specifies the value to be sent to a server

Optgroup and selected,hidden,disabled example

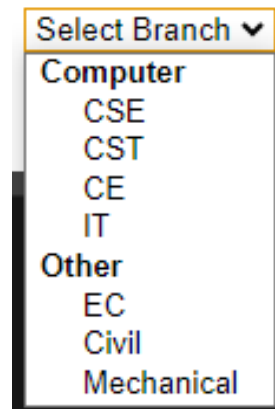
```
<select name="degree_branch">
  <option value="select" selected disabled> Select
  Branch</option>
  <optgroup label="Computer">
    <option value="cse"> CSE </option>
    <option value="cst"> CST </option>
    <option value="ce"> CE </option>
    <option value="it"> IT </option>
  </optgroup>
  <optgroup label="Other">
    <option value="ec"> EC </option>
    <option value="civil"> Civil </option>
    <option value="Mech"> Mechanical </option>
  </optgroup>
</select>
```

Selected attribute keeps the option selected at first time we load the web page.



Disabled attribute disables the option. We cannot select the disabled option

```
<select name="degree_branch">
  <option value="select" selected hidden> Select
  Branch</option>
  <optgroup label="Computer">
    <option value="cse"> CSE </option>
    <option value="cst"> CST </option>
    <option value="ce"> CE </option>
    <option value="it"> IT </option>
  </optgroup>
  <optgroup label="Other">
    <option value="ec"> EC </option>
    <option value="civil"> Civil </option>
    <option value="Mech"> Mechanical </option>
  </optgroup>
</select>
```



Hidden attribute hides the option

SVG - Scalable Vector Graphics

Tag / Shape	Syntax (Code Snippet)	Attributes	Output Shape
Line <line>	<line x1="100" y1="10" x2="200" y2="200" stroke="blue" stroke-width="3"/>	x1, y1, x2, y2, stroke, stroke-width	Draws a straight line
Circle <circle>	<circle cx="50" cy="50" r="40" stroke="black" stroke-width="3" fill="red"/>	cx, cy, r, stroke, fill, stroke-width	Circle (centered at cx,cy)
Rectangle <rect>	<rect x="50" y="20" width="200" height="100" stroke="black" stroke-width="3" fill="red"/>	x, y, width, height, rx, ry, stroke, fill	Rectangle (with optional rounded corners)
Ellipse <ellipse>	<ellipse cx="200" cy="80" rx="100" ry="50" stroke="black" stroke-width="3" fill="red"/>	cx, cy, rx, ry, stroke, fill	Ellipse
Polygon <polygon>	<polygon points="20,100,80,200,200,40,20,10" stroke="orange" stroke-width="5" fill="black"/>	points (x1,y1...xn,yn), stroke, fill, stroke-width, fill-rule	Polygon (triangle, pentagon, star, etc.)
Text in SVG <text>	<text x="155" y="100" font-size="50" fill="black" font-family="verdana">LJU</text>	x, y, font-size, font-family, fill	Text inside SVG
Image Map <map><area>	 <map name="image-map"> <area target="_blank" alt="laptop" title="laptop" href="" coords="0,3,339,523" shape="rect"> <area target="_blank" alt="tea" title="tea" href="" coords="437,382,85" shape="circle"> </map>	shape (rect, circle, poly), coords, href, alt, target <ul style="list-style-type: none"> rect → x1,y1,x2,y2 circle → x,y,r poly → x1,y1,x2,y2,...xn,yn 	Clickable regions inside an image

Notes:

- **Default Fill:** Black (if not specified).
- **Default Stroke:** No stroke unless defined.
- **Rounded Rectangles:** Use rx and ry.
- **Polygon fill-rule:** nonzero (default) or evenodd.