

1 What is an HTML?

HTML stands for HYPERTEXT MARKUP LANGUAGE It's used to design the web pages or we can say structure the page layouts of a website.

2 What is an paired and unpaired tags?

1. **Paired Tags:** These tags come in pairs. That is they have both opening(< >) and closing(</ >) tags.
2. **Unpaired Tags:** These tags do not require to be closed.

3 HTML DOCUMENT STRUCTURE?

Structure of an HTML Document

An HTML Document is mainly divided into two parts:

HEAD: This contains the information about the HTML document. For Example, the Title of the page, version of HTML, Meta Data, etc.

BODY: This contains everything you want to display on the Web Page.

```
<!DOCTYPE html>
<html>

<head>
  <title>Page Title</title>
</head>

<body>
  <h2>Heading Content</h2>
  <p>Paragraph Content</p>
</body>

</html>
```

HTML Document Structure

<body>: A body tag is used to enclose all the data which a web page has from texts to links. All the content that you see rendered in the browser is contained within this element

1. <h1> ,<h2> ,<h3> to <h6>
2. <p>
3. <div> and
4. , <i> and <u>
5. , and .
6. , <audio> , <video> and <iframe>

7. `<table>` `<th>` , `<thead>`and`<tr>`.
8. `<form>`
9. `<label>` and `<input>`

4 HTML Lists

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

1. Ordered List or Numbered List (ol)
2. Unordered List or Bulleted List (ul)
3. Description List or Definition List (dl)

4.1 HTML Ordered List or Numbered List

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with `<ol>` tag and the list items start with `<li>` tag.

4.2 HTML Unordered List or Bulleted List

In HTML Unordered list, all the list items are marked with bullets. It is also known as bulleted list also. The Unordered list starts with `<ul>` tag and list items start with the `<li>` tag.

4.3 HTML Description List or Definition List

HTML Description list is also a list style which is supported by HTML and XHTML. It is also known as definition list where entries are listed like a dictionary or encyclopedia.

The definition list is very appropriate when you want to present glossary, list of terms or other name-value list.

The HTML definition list contains following three tags:

1. **`<dl>` tag** defines the start of the list.
2. **`<dt>` tag** defines a term.
3. **`<dd>` tag** defines the term definition (description).

5. What is an HTML Table?

A table in HTML refers to the arrangement of data in rows and columns. Using tables, we can display data, such as products and their prices; employees, their date of joining and salaries; or flights, their ticket prices, and departure times.

Table Tag in HTML

Table tag in HTML, is used to display data in tabular format (i.e. in row-column format). These table tags manages the layout of the page (i.e. Header, Body Content etc.).

To create a table in HTML, you will need to define the table with the `<table>` tag. The `<table>` tag is the table container specifying where the table will begin and where it ends.

You can add a table row with the `<tr>` tag. We will need to use the `<th>` tag to add a table header. A table cell or data can be added using the `<td>` tag

Common HTML Table Tags

HTML Table Tag	Description
<code><table></code>	defines a table
<code><tr></code>	represents rows
<code><td></code>	to create data cells
<code><th></code>	to add table headings
<code><caption></code>	used to insert captions

Now, let us understand how to create tables in HTML.

6.HTML FRAMES:

HTML `<frame>` tag define the particular area within an HTML file where another HTML web page can be displayed.

A `<frame>` tag is used with `<frameset>`, and it divides a webpage into multiple sections or frames, and each frame can contain different web pages.

7.HTML FRAMSET TAG:

HTML `<frameset>` tag is used to contain the group of frames which can be controlled and styled as a unit. The `<frameset>` element also specifies the number of rows and columns in the frameset, and how much space they will occupy in a frame.

8.HTML Form Elements

Tag	Description
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<code><form></code>	Defines an HTML form for user input
<code><input></code>	Defines an input control
<code><textarea></code>	Defines a multiline input control (text area)
<code><label></code>	Defines a label for an <code><input></code> element
<code><fieldset></code>	Groups related elements in a form
<code><legend></code>	Defines a caption for a <code><fieldset></code> element
<code><select></code>	Defines a drop-down list
<code><optgroup></code>	Defines a group of related options in a drop-down list
<code><option></code>	Defines an option in a drop-down list
<code><button></code>	Defines a clickable button
<code><datalist></code>	Specifies a list of pre-defined options for input controls

[<output>](#)

Defines the result of a calculation

9 DataTypes

- Numbers - are values that can be processed and calculated. You don't enclose them in quotation marks. The numbers can be either positive or negative.
- Strings - are a series of letters and numbers enclosed in quotation marks. JavaScript uses the string literally; it doesn't process it. You'll use strings for text you want displayed or values you want passed along.
- Boolean (true/false) - lets you evaluate whether a condition meets or does not meet specified criteria.
- Null - is an empty value. null is not the same as 0 -- 0 is a real, calculable number, whereas null is the absence of any value.

10 JavaScript Operators :

The operator = is used to assign values.

The operator + is used to add values.

The assignment operator = is used to assign values to JavaScript variables.

The arithmetic operator + is used to add values together.

The value of x, after the execution of the statements above

JavaScript Arithmetic Operators:

Arithmetic operators are used to perform arithmetic between variables and/or values.

JavaScript Assignment Operators

Assignment operators are used to assign values to JavaScript variables

Comparison Operators

Comparison operators are used in logical statements to determine equality or difference between variables or values.

Logical Operators

Logical operators are used to determine the logic between variables or values.

Conditional Operator

JavaScript also contains a conditional operator that assigns a value to a variable based on some condition

11 Conditional Statements:

Very often when you write code, you want to perform different actions for different decisions. You can use conditional statements in your code to do this. In JavaScript we have the following conditional statements:

- if statement - use this statement if you want to execute some code only if a specified condition is true
- if...else statement - use this statement if you want to execute some code if the condition is true and another code if the condition is false
- if...else if...else statement - use this statement if you want to select one of many blocks of code to be executed
- switch statement - use this statement if you want to select one of many blocks of code to be executed

12 JavaScript Date Object:

Create a Date Object

The Date object is used to work with dates and times.

Set Dates

We can easily manipulate the date by using the methods available for the Date object

Compare Two Dates

The Date object is also used to compare two dates.

13 Math Object

The Math object allows you to perform mathematical tasks. The Math object includes several mathematical constants and methods

Mathematical Constants

JavaScript provides eight mathematical constants that can be accessed from the Math object.

These are: E, PI, square root of 2, square root of 1/2, natural log of 2, natural log of 10, base-2 log of E, and base-10 log of E.

Mathematical Methods

In addition to the mathematical constants that can be accessed from the Math object there are also several methods available.

JavaScript String Object

String object The String object is used to manipulate a stored piece of text

14 Window Object

The Window object is the top level object in the JavaScript hierarchy.

The Window object represents a browser window.

A Window object is created automatically with every instance of a or tag. IE: Internet Explorer, F: Firefox, O: Opera

15 Document Object

The Document object represents the entire HTML document and can be used to access all elements in a page.

The Document object is part of the Window object and is accessed through the window.document property.

IE: Internet Explorer, F: Firefox, O: Opera, W3C: World Wide Web Consortium (Internet Standard).

16 History Object

The History object is actually a JavaScript object, not an HTML DOM object.

The History object is automatically created by the JavaScript runtime engine and consists of an array of URLs. These URLs are the URLs the user has visited within a browser window.

The History object is part of the Window object and is accessed through the window.history property.

IE: Internet Explorer, F: Firefox, O: Opera

17 Form Object

The Form object represents an HTML form. For each instance of a tag in an HTML document, a Form object is created.

IE: Internet Explorer, F: Firefox, O: Opera, W3C: World Wide Web Consortium (Internet Standard)

18 Image Object

The Image object represents an embedded image.

For each instance of an **Error! Filename not specified**.tag in an HTML document, an Image object is created.

IE: Internet Explorer, F: Firefox, O: Opera, W3C: World Wide Web Consortium (Internet Standard)

19 What is PHP?

PHP is a server side scripting language, that is used to develop Static websites or Dynamic websites or Web applications. PHP scripts can only be interpreted on a server that has PHP installed.

The client computers accessing the PHP scripts require a web browser only.

20 Programming Language Vs Scripting Language

<i>Programming language</i>	<i>Scripting language</i>
Has all the features needed to develop complete applications.	Mostly used for routine tasks
The code has to be compiled before it can be executed	The code is usually executed without compiling
Does not need to be embedded into other languages	Is usually embedded into other software environments.

21 Variables

Variables are used for storing a values, like text strings, numbers or arrays.

When a variable is declared, it can be used repeatedly in your script.

All variables in PHP start with a \$ sign symbol.

EX:\$X,\$Y

22 Data Types in PHP

The values assigned to a PHP variable may be of different data types including simple string and numeric types to more complex data types like arrays and objects.

PHP supports total eight primitive data types: Integer, Floating point number or Float, String, Booleans, Array, Object, resource and NULL. These data types are used to construct variables. Now let's discuss each one of them in detail.

PHP Integers

Integers are whole numbers, without a decimal point (... , -2, -1, 0, 1, 2, ...). Integers can be specified in decimal (base 10), hexadecimal (base 16 - prefixed with 0x) or octal (base 8 - prefixed with 0) notation, optionally preceded by a sign (- or +).

PHP strings:

Strings are sequences of characters, where every character is the same as a byte. A string can hold letters, numbers, and special characters and it can be as large as up to 2GB (2147483647 bytes maximum). The simplest way to specify a string is to enclose it in single quotes (e.g. 'Hello world!'), however you can also use double quotes ("Hello world!").

PHP Floating Point Numbers or Doubles

Floating point numbers (also known as "floats", "doubles", or "real numbers") are decimal or fractional numbers

PHP Booleans

Booleans are like a switch it has only two possible values either **1** (true) or **0** (false).

PHP Arrays

An array is a variable that can hold more than one value at a time. It is useful to aggregate a series of related items together, for example a set of country or city names.

An array is formally defined as an indexed collection of data values. Each index (also known as the key) of an array is unique and references a corresponding value.

PHP Objects

An object is a data type that not only allows storing data but also information on, how to process that data. An object is a specific instance of a class which serve as templates for objects. Objects are created based on this template via the new keyword.

PHP NULL

The special NULL value is used to represent empty variables in PHP. A variable of type NULL is a variable without any data. NULL is the only possible value of type null.

23 Array:

An array is a variable that can hold more than one value at a time. It is useful to aggregate a series of related items together, for example a set of country or city names.

Types of Arrays in PHP

There are three types of arrays that you can create. These are:

Indexed array — An array with a numeric key.

Associative array — An array where each key has its own specific value.

Multidimensional array — An array containing one or more arrays within itself.

24 Cookies in PHP.

PHP cookies are text files is generally used to identify a user. Cookie is a small piece of information which is stored at client browser. It is used to recognize the user.

Cookie is created at server side and saved to client browser. Each time when client sends request to the server, cookie is embedded with request. Such way, cookie can be received at the server side.

25 Create Cookie with PHP (or) Setting cookie with PHP:

A cookie is created in php using `setcookie()` function. Here only the name parameter is required. All other parameters are optional.

Syntax:

```
setcookie(name,value,expire,path,domain,secure,httponly);
```

26 Sessions in PHP.

Session is used to store and pass information from one page to another temporarily (until user close the website). In case of cookie, the information is store in user computer but in case of session information is not stored on the user's computer.

A session is a way to store information (in variables) to be used across multiple pages.