

INTERVIEW QUESTIONS:

HTML

1) What is HTML?

HTML stands for Hyper Text Markup Language. It is a language of World Wide Web. It is a standard text formatting language which is used to create and display pages on the Web. It makes the text more interactive and dynamic. It can turn text into images, tables, links.

2) What are Tags?

HTML tags are composed of three things: an opening tag, content and ending tag. Some tags are unclosed tags.

HTML documents contain two things:

content, and tags

When a web browser reads an HTML document, the browser reads it from top to bottom and left to right. HTML tags are used to create HTML documents and render their properties. Each HTML tags have different properties.

Syntax:

`<tag> content </tag>`

Content is placed between tags to display data on the web page.

3) Do all HTML tags have an end tag?

No. There are some HTML tags that don't need a closing tag. For example: `` tag, `
` tag.

4) What is formatting in HTML?

The HTML formatting is a process of format the text for a better look and feel. It uses different tags to make text bold, italicized, underlined.

5) How many types of heading does an HTML contain?

The HTML contains six types of headings which are defined with the <h1> to <h6> tags. Each type of heading tag displays different text size from another. So, <h1> is the largest heading tag and <h6> is the smallest one. For example:

<h1>Heading no. 1</h1>

<h2>Heading no. 2</h2>

<h3>Heading no. 3</h3>

<h4>Heading no. 4</h4>

<h5>Heading no. 5</h5>

<h6>Heading no. 6</h6>

6) How to create a hyperlink in HTML?

The HTML provides an anchor tag to create a hyperlink that links one page to another page. These tags can appear in any of the following ways:

Unvisited link - It is displayed, underlined and blue.

Visited link - It is displayed, underlined and purple.

Active link - It is displayed, underlined and red.

7) Which HTML tag is used to display the data in the tabular form?

The HTML table tag is used to display data in tabular form (row * column). It also manages the layout of the page, e.g., header section, navigation bar, body content, footer section. Here is the list of tags used while displaying the data in the tabular form:

Tag	Description
-----	-------------

<table>	It defines a table.
---------	---------------------

<tr>	It defines a row in a table.
------	------------------------------

<th>	It defines a header cell in a table.
------	--------------------------------------

<td>	It defines a cell in a table.
------	-------------------------------

<caption>	It defines the table caption.
-----------	-------------------------------

<colgroup>	It specifies a group of one or more columns in a table for formatting.
------------	--

`<col>` It is used with `<colgroup>` element to specify column properties for each column.

`<tbody>` It is used to group the body content in a table.

`<thead>` It is used to group the header content in a table.

`<tfooter>` It is used to group the footer content in a table.

8) What are some common lists that are used when designing a page?

There are many common lists which are used to design a page. You can choose any or a combination of the following list types:

Ordered list - The ordered list displays elements in numbered format. It is represented by `` tag.

Unordered list - The unordered list displays elements in bulleted format. It is represented by `` tag.

Definition list - The definition list displays elements in definition form like in dictionary. The `<dl>`, `<dt>` and `<dd>` tags are used to define description list.

9) What is the difference between HTML elements and tags?

HTML elements communicate to the browser to render text. When the elements are enclosed by brackets `<>`, they form HTML tags. Most of the time, tags come in a pair and surround content.

10) What is semantic HTML?

Semantic HTML is a coding style. It is the use of HTML markup to reinforce the semantics or meaning of the content. For example: In semantic HTML `` `` tag is not used for bold statement as well as `<i>` `</i>` tag is used for italic. Instead of these we use ```` and ```` tags.

11) What is an image map?

Image map facilitates you to link many different web pages using a single image. It is represented by `<map>` tag. You can define shapes in images that you want to make part of an image mapping.

12) How to insert a copyright symbol on a browser page?

You can insert a copyright symbol by using `©` or `©` in an HTML file.

13) How to create a nested webpage in HTML?

The HTML iframe tag is used to display a nested webpage. In other words, it represents a webpage within a webpage. The HTML <iframe> tag defines an inline frame. For example:

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h2>HTML Iframes example</h2>
```

```
<p>Use the height and width attributes to specify the size of the iframe:</p>
```

```
<iframe src="https://www.javatpoint.com/" height="300" width="400"></iframe>
```

```
</body>
```

```
</html>
```

14) How do you keep list elements straight in an HTML file?

You can keep the list elements straight by using indents.

15) Does a hyperlink only apply to text?

No, you can use hyperlinks on text and images both. The HTML anchor tag defines a hyperlink that links one page to another page. The "href" attribute is the most important attribute of the HTML anchor tag.

Syntax

```
<a href = "....."> Link Text </a>
```

16) What is a style sheet?

A style sheet is used to build a consistent, transportable, and well-designed style template. You can add these templates on several different web pages. It describes the look and formatting of a document written in markup language.

17) Can you create a multi-colored text on a web page?

Yes. To create a multicolor text on a web page you can use for the specific texts you want to color.

18) Is it possible to change the color of the bullet?

The color of the bullet is always the color of the first text of the list. So, if you want to change the color of the bullet, you must change the color of the text.

19) Explain the layout of HTML?

HTML layout specifies a way in which the web page is arranged.

HTML Layouts

Every website has a specific layout to display content in a specific manner.

Following are different HTML5 elements which are used to define the different parts of a webpage.

<header>: It is used to define a header for a document or a section.

<nav>: It is used to define a container for navigation links

<section>: It is used to define a section in a document

<article>: It is used to define an independent, self-contained article

<aside>: It is used to define content aside from the content (like a sidebar)

<footer>: It is used to define a footer for a document or a section

20) What is a marquee?

Marquee is used to put the scrolling text on a web page. It scrolls the image or text up, down, left or right automatically. You should put the text which you want to scroll within the <marquee>.....</marquee> tag.

21) How many tags can be used to separate a section of texts?

Three tags are used to separate the texts.

 tag - Usually
 tag is used to separate the line of text. It breaks the current line and conveys the flow to the next line

<p> tag - The <p> tag contains the text in the form of a new paragraph.

<blockquote> tag - It is used to define a large quoted section. If you have a large quotation, then put the entire text within <blockquote>.....</blockquote> tag.

22) How to make a picture of a background image of a web page?

To make a picture a background image on a web page, you should put the following tag code after the </head> tag.

```
<body background = "image.gif">
```

Here, replace the "image.gif" with the name of your image file which you want to display on your web page.

23) What are empty elements?

HTML elements with no content are called empty elements. For example:
, <hr> etc.

24) What is the use of a span tag? Give one example.

The span tag is used for following things:

For adding color on text

For adding background on text

Highlight any color text

Example:

```
<p>
```

```
<span style="color:#ffffff;">
```

In this page we use span.

```
</span>
```

```
</p>
```

25) What is the use of an iframe tag?

An iframe is used to display a web page within a web page.

Syntax:

```
<iframe src="URL"></iframe>
```

Example:

```
<iframe src="demo_iframe.html" width="200px" height="200px"></iframe>
```

Target to a link: <iframe src="http://www.javatpoint.com" name="iframe_a"></iframe>

26) What are the entities in HTML?

The HTML character entities are used as a replacement for reserved characters in HTML. You can also replace characters that are not present on your keyboard by entities. These characters are replaced because some characters are reserved in HTML.

27) Why is a URL encoded in HTML?

An URL is encoded to convert non-ASCII characters into a format that can be used over the Internet because a URL is sent over the Internet by using the ASCII character-set only. If a URL contains characters outside the ASCII set, the URL has to be converted. The non-ASCII characters are replaced with a "%" followed by hexadecimal digits.

28) Does a `<!DOCTYPE html>` tag is a HTML tag?

No, the `<!DOCTYPE html>` declaration is not an HTML tag. There are many type of HTML e.g. HTML 4.01 Strict, HTML 4.01 Transitional, HTML 4.01 Frameset, XHTML 1.0 Strict, XHTML 1.0 Transitional, XHTML 1.0 Frameset, XHTML 1.1 etc. So, `<!DOCTYPE html>` is used to instruct the web browser about the HTML page.

HTML5 Interview Questions

Let's see a list of top HTML5 interview questions and answers.

29) What is the canvas element in HTML5?

The `<canvas>` element is a container that is used to draw graphics on the web page using scripting language like JavaScript. It allows for dynamic and scriptable rendering of 2D shapes and bitmap images. There are several methods in canvas to draw paths, boxes, circles, text and add images. For Example:

```
<canvas id="myCanvas1" width="300" height="100" style="border:2px solid;">
```

Your browser does not support the HTML5 canvas tag.

```
</canvas>
```

30) What is SVG?

HTML SVG is used to describe the two-dimensional vector and vector/raster graphics. SVG images and their behaviors are defined in XML text files. So as XML files, you can create and edit an SVG image with the text editor. It is mostly used for vector type diagrams like pie charts, 2-Dimensional graphs in an X, Y coordinate system.

```
<svg width="100" height="100">
  <circle cx="50" cy="50" r="40" stroke="yellow" stroke-width="4" fill="red" />
</svg>
```

31) What are the different new form element types in HTML 5?

Following is a list of 10 frequently used new elements in HTML 5:

Color...Date...Datetime-local...Email..Time...Url.....Range....Telephone....Number...Search

32) Is there any need to change the web browsers to support HTML5?

No. Almost all browsers (updated versions) support HTML 5. For example Chrome, Firefox, Opera, Safari, IE.

33) Which type of video formats are supported by HTML5?

HTML 5 supports three types of video format: mp4....WebM....Ogg

34) Is audio tag supported in HTML 5?

Yes. It is used to add sound or music files on the web page. There are three supported file formats for HTML 5 audio tag like....mp3.....WAV....Ogg

Let's see the code to play mp3 file using HTML audio tag.

```
<audio controls>
  <source src="koyal.mp3" type="audio/mpeg">
```

Your browser does not support the html audio tag.

```
</audio>
```

Instead of koyal.mp3, you can pass any mp3 file name.

35) What is the difference between progress and meter tag?

The progress tag is used to represent the progress of the task only while the meter tag is used to measure data within a given range.

36) What is the use of figure tag in HTML 5?

The figure tag is used to add a photo in the document on the web page. It is used to handle the group of diagrams, photos, code listing with some embedded content.

<p>The Taj Mahal is widely recognized as "the jewel of Muslim art in India and one of the universally admired masterpieces of the world's heritage."</p>

<figure>

</figure>

37) What is the use of figcaption tag in HTML 5?

The <figcaption> element is used to provide a caption to an image. It is an optional tag and can appear before or after the content within the <figure> tag. The <figcaption> element is used with <figure> element and it can be placed as the first or last child of the <figure> element.

<figure>

<figcaption>Fig.1.1 - A front view of the great Taj Mahal in Agra.</figcaption>

</figure>

38) What is button tag?

The button tag is used in HTML 5. It is used to create a clickable button within the HTML form on the web page. It is generally used to create a "submit" or "reset" button. Let's see the code to display the button.

<button name="button" type="button">Click Here</button>

39) What is the use of details and summary tag?

The details tag is used to specify some additional details on the web page. It can be viewed or hidden on demand. The summary tag is used with details tag. More details.

40) What is datalist tag?

The HTML 5 datalist tag provides an autocomplete feature on the form element. It facilitates users to choose the predefined options to the users to select data.

<label>

Enter your favorite cricket player: Press any character

<input type="text" id="favCktPlayer" list="CktPlayers">

<datalist id="CktPlayers">

```

<option value="Sachin Tendulkar">
<option value="Brian Lara">
<option value="Jacques Kallis">
<option value="Ricky Ponting">
<option value="Rahul Dravid">
<option value="Shane Warne">
<option value="Rohit Sharma">
<option value="Donald Bradman">
<option value="Saurav Ganguly ">
<option value="AB diVilliers">
<option value="Mahendra Singh Dhoni">
<option value="Adam Gilchrist">
</datalist>
</label>

```

41) How are tags migrated from HTML4 to HTML5?

No.	Typical HTML4	Typical HTML5
1)	<div id="header">	<header>
2)	<div id="menu">	<nav>
3)	<div id="content">	<section>
4)	<div id="post">	<article>
5)	<div id="footer">	<footer>

Header and Footer Example

HTML 4 Header and Footer:

```

<div id="header">
  <h1>Monday Times</h1> </div>

```

```
<div id="footer">

  <p>&copy; JavaTpoint. All rights reserved.</p>

</div>
```

HTML 5 Header and Footer:

```
<header>

  <h1>Monday Times</h1>

</header>
```

.

```
<footer>

  <p>© JavaTpoint. All rights reserved.</p>

</footer>
```

Menu Example

HTML 4 Menu:

```
<div id="menu">

  <ul>

    <li>News</li>

    <li>Sports</li>

    <li>Weather</li>

  </ul>

</div>
```

HTML 5 Menu:

```
<nav>

  <ul>
```

```
<li>News</li>
<li>Sports</li>
<li>Weather</li>
</ul>
</nav>
```

42) If I do not put `<!DOCTYPE html>` will HTML 5 work?

No, the browser will not be able to identify that it is an HTML document and HTML 5 tags do not function properly..

43) What is the use of the required attribute in HTML5?

It forces a user to fill text on the text field or text area before submitting the form. It is used for form validation.

Example:

Name: `<input type="text" name="name" required>`

44) What are the new `<input>` types for form validation in HTML5?

The new input types for form validation are email, URL, number, tel, and date.

Example:

`<input type="email">`

CSS interview questions

1) What is CSS?

CSS stands for Cascading Style Sheet. It is a popular styling language which is used with HTML to design websites. It can also be used with any XML documents including plain XML, SVG, and XUL.

2) What is the origin of CSS?

SGML (Standard Generalized Markup Language) is the origin of CSS. It is a language that defines markup languages.

3) What are the different variations of CSS?

Following are the different variations of CSS are: CSS1...CSS2....CSS2.1...CSS3...CSS4

4) How can you integrate CSS on a web page?

There are three methods to integrate CSS on web pages:

Inline method - It is used to insert style sheets in HTML document

Embedded/Internal method - It is used to add a unique style to a single document

External method - It is used when you want to make changes on multiple pages.

5) What are the advantages of CSS?

Bandwidth

Site-wide consistency

Page reformatting

Accessibility

Content separated from presentation.....

6) What are the limitations of CSS?

Ascending by selectors is not possible

Limitations of vertical control

No expressions

No column declaration

Pseudo-class not controlled by dynamic behavior

Rules, styles, targeting specific text not possible.....

7) What are the CSS frameworks?

CSS frameworks are the preplanned libraries which make easy and more standard compliant web page styling. The frequently used CSS frameworks are: -

Bootstrap

Foundation

Semantic UI

Gumby.....Ulkit

8) Why background and color are the separate properties if they should always be set together?

There are two reasons behind this:

It enhances the legibility of style sheets. The background property is a complex property in CSS, and if it is combined with color, the complexity will further increase.

Color is an inherited property while the background is not. So this can make confusion further.

9) What is Embedded Style Sheet?

An Embedded style sheet is a CSS style specification method used with HTML. You can embed the entire stylesheet in an HTML document by using the STYLE element. More details...

```
<style>

body {

    background-color: linen;

}

h1 {

    color: red;

    margin-left: 80px;

}

</style>
```

10) What are the advantages of Embedded Style Sheets?

You can create classes for use on multiple tag types in the document.

You can use selector and grouping methods to apply styles in complex situations.

No extra download is required to import the information.

11) What is a CSS selector?

It is a string that identifies the elements to which a particular declaration apply. It is also referred as a link between the HTML document and the style sheet. It is equivalent of HTML elements.

There are several different types of selectors in CSS: -

CSS Element Selector

CSS Id Selector

CSS Class Selector

CSS Universal Selector

CSS Group Selector.

12) Name some CSS style components.

Some CSS Style components are:

Selector

Property

Value

13) What is the use of CSS Opacity?

The CSS opacity property is used to specify the transparency of an element. In simple word, you can say that it specifies the clarity of the image. In technical terms, Opacity is defined as the degree to which light is allowed to travel through an object. For example:

```
<style>
img.trans {
    opacity: 0.4;
    filter: alpha(opacity=40); /* For IE8 and earlier */
}
</style>
```

14) Explain universal selector.

The universal selector matches the name of any of the element type instead of selecting elements of a specific type.

```
<style>
* {
    color: green;
    font-size: 20px;
} </style>
```

15) Which command is used for the selection of all the elements of a paragraph?

The p[lang] command is used for selecting all the elements of a paragraph.

16) What is the use of % unit?

It is used for defining percentage values.

17) Name the property used to specify the background color of an element.

The background-color property is used to specify the background color of the element. For example:

```
<style>
```

```
h2,p{
```

```
    background-color: #b0d4de;
```

```
}
```

```
</style>
```

18) Name the property for controlling the image repetition of the background.

The background-repeat property repeats the background image horizontally and vertically. Some images are repeated only horizontally or vertically.

```
<style>
```

```
body {
```

```
background-image: url("paper1.gif");
```

```
margin-left:100px;
```

```
}
```

```
</style>
```

19) Name the property for controlling the image position in the background.

The background-position property is used to define the initial position of the background image. By default, the background image is placed on the top-left of the webpage.

You can set the following positions:

center

top

bottom

left

right

```
background: white url('good-morning.jpg');
```

```
background-repeat: no-repeat;
```

```
background-attachment: fixed;
```

```
background-position: center;
```

20) Name the property for controlling the image scroll in the background.

The background-attachment property is used to specify if the background image is fixed or scroll with the rest of the page in the browser window. If you set fixed the background image, then the image not move during scrolling in the browser. Let's take an example with the fixed background image.

```
background: white url('bbb.gif');
```

```
background-repeat: no-repeat;
```

```
background-attachment: fixed;
```

21) What is the use of ruleset?

The ruleset is used to identify that selectors can be attached with other selectors. It has two parts:

Selector - Selector indicates the HTML element you want to style.

Declaration Block - The declaration block can contain one or more declarations separated by a semicolon.

CSS syntax

22) What is the difference between class selectors and id selectors?

An overall block is given to class selector while id selectors take only a single element differing from other elements.

CSS Class Selector

```
<style>
.center {
    text-align: center;
    color: blue;
}
</style>
```

CSS Id Selector

```
<style>
#para1 {
    text-align: center;
    color: blue;
}
</style>
```

23) What are the advantages of External Style Sheets?

You can create classes for reusing it in many documents.

By using it, you can control the styles of multiple documents from one file.

In complex situations, you can use selectors and grouping methods to apply styles.

24) What is the difference between inline, embedded and external style sheets?

Inline: Inline Style Sheet is used to style only a small piece of code.

Syntax

```
<htmltag style="cssproperty1:value; cssproperty2:value;"> </htmltag>
```

Embedded: Embedded style sheets are put between the <head>...</head> tags.

Syntax

```
<style>
```

```
body {  
    background-color: linen;  
}  
  
h1 {  
    color: red;  
    margin-left: 80px;  
}  
  
</style>
```

External: This is used to apply the style to all the pages within your website by changing just one style sheet.

Syntax

```
<head>  
  
<link rel="stylesheet" type="text/css" href="mystyle.css">  
  
</head>
```

25) What is RWD?

RWD stands for Responsive Web Design. This technique is used to display the designed page perfectly on every screen size and device, for example, mobile, tablet, desktop and laptop. You don't need to create a different page for each device.

26) What are the benefits of CSS sprites?

If a web page has a large number of images that take a longer time to load because each image separately sends out an HTTP request. The concept of CSS sprites is used to reduce the loading time for a web page because it combines the various small images into one image. It reduces the number of HTTP requests and hence the loading time.

27) What is the difference between logical tags and physical tags?

Physical tags are referred to as presentational markup while logical tags are useless for appearances.

Physical tags are newer versions, on the other hand, logical tags are old and concentrate on content.

28) What is the CSS Box model and what are its elements?

The CSS box model is used to define the design and layout of elements of CSS.

The elements are:

Margin - It removes the area around the border. It is transparent.

Border - It represents the area around the padding

Padding - It removes the area around the content. It is transparent.

Content - It represents the content like text, images, etc.

CSS Box Model

29) What is the float property of CSS?

The CSS float property is used to move the image to the right or left along with the texts to be wrapped around it. It doesn't change the property of the elements used before it.

To understand its purpose and origin, let's take a look at its print display. In the print display, an image is set into the page such that text wraps around it as needed.

CSS Float Print Layout

Its web layout is also just similar to print layout.

CSS Float Web Layout More details...

30) How to restore the default property value using CSS?

In short, there is no easy way to restore to default values to whatever a browser uses.

The closest option is to use the 'initial' property value, which restores the default CSS values, rather than the browser's default styles.

31) What is the purpose of the z-index and how is it used?

The z-index helps to specify the stack order of positioned elements that may overlap one another. The z-index default value is zero and can take on either a positive or negative number.

An element with a higher z-index is always stacked above than a lower index.

Z-Index can take the following values:

Auto: Sets the stack order equal to its parents.

Number: Orders the stack order.

Initial: Sets this property to its default value (0).

Inherit: Inherits this property from its parent element.

32) Explain the difference between visibility: hidden and display: none?

visibility: hidden hides the element, but it occupies space and affects the layout of the document.

```
<!DOCTYPE html>

<html>

<head>

<style>

h1.vis {

    visibility: visible;

}

h1.hid {

    visibility: hidden;

}

</style>

</head>

<body>

<h1 class="vis">It is visible</h1>

<h1 class="hid">It is hidden</h1>

<p>Note - Second heading is hidden, but it still occupy space.</p>

</body>

</html>
```

display: none also hides the element but not occupy space. It will not affect the layout of the document.

```
<!DOCTYPE html>

<html>

<head>

<style>

h1.vis {

    display: block;

}

h1.hid {

    display: none;

}

</style>

</head>

<body>

<h1 class="vis">It is visible</h1>

<h1 class="hid">It is hidden</h1>

<p>Note - Second heading is hidden and not occupy space.</p>

</body>

</html>
```

33) What do you understand by W3C?

W3C stands for World Wide Web Consortium. Its purpose is to deliver the information of the World Wide Web. It also develops rules and guidelines for the Web.

34) What is tweening?

It is the process of generating intermediate frames between two images.

It gives the impression that the first image has smoothly evolved into the second one.

It is an important method used in all types of animations.

In CSS3, Transforms (matrix, translate, rotate, scale) module can be used to achieve tweening.

35) What is the difference between CSS2 and CSS3?

The main difference between CSS2 and CSS3 is that CSS3 is divided into different sections which are also known as modules. Unlike CSS2, CSS3 modules are supported by many browsers.

Apart from that, CSS3 contains new General Sibling Combinators which is responsible for matching the sibling elements with the given elements.

JavaScript Interview Questions

JavaScript interview questions and answers for provides a list of top 20 interview questions. The frequently asked JavaScript interview questions with answers for beginners and professionals are given below.

1) What is JavaScript?

JavaScript is a scripting language. It is different from Java language. It is object-based, lightweight, cross-platform translated language. It is widely used for client-side validation. The JavaScript Translator (embedded in the browser) is responsible for translating the JavaScript code for the web browser.

2) List some features of JavaScript.

Some of the features of JavaScript are:

Lightweight

Interpreted programming language

Good for the applications which are network-centric

Complementary to Java

Complementary to HTML

Open source

Cross-platform

3) List some of the advantages of JavaScript.

Some of the advantages of JavaScript are:

Server interaction is less

Feedback to the visitors is immediate

Interactivity is high

Interfaces are richer

4) List some of the disadvantages of JavaScript.

Some of the disadvantages of JavaScript are:

No support for multithreading

No support for multiprocessing

Reading and writing of files is not allowed

No support for networking applications.

5) Define a named function in JavaScript.

The function which has named at the time of definition is called a named function. For example

function msg()

```
{  
    document.writeln("Named Function");  
}
```

msg();

6) Name the types of functions

The types of function are:

Named - These type of functions contains name at the time of definition. For Example:

function display()

```
{  
    document.writeln("Named Function");  
}
```



```
display();
```

Anonymous - These type of functions doesn't contain any name. They are declared dynamically at runtime.

```
var display=function()  
{  
    document.writeln("Anonymous Function");  
}
```

```
display();
```

7) Define anonymous function

It is a function that has no name. These functions are declared dynamically at runtime using the function operator instead of the function declaration. The function operator is more flexible than a function declaration. It can be easily used in the place of an expression. For example:

```
var display=function()  
{  
    alert("Anonymous Function is invoked");  
}
```

```
display();
```

8) Can an anonymous function be assigned to a variable?

Yes, you can assign an anonymous function to a variable.

9) In JavaScript what is an argument object?

The variables of JavaScript represent the arguments that are passed to a function.

10) Define closure.

In JavaScript, we need closures when a variable which is defined outside the scope in reference is accessed from some inner scope.

```
var num = 10;
```

```
function sum()
```

```
{
```

```
document.writeln(num+num);  
  
}  
  
sum();
```

11) If we want to return the character from a specific index which method is used?

The JavaScript string `charAt()` method is used to find out a char value present at the specified index. The index number starts from 0 and goes to $n-1$, where n is the length of the string. The index value can't be a negative, greater than or equal to the length of the string. For example:

```
var str="Javatpoint";  
  
document.writeln(str.charAt(4));
```

12) What is the difference between JavaScript and JScript?

Netscape provided the JavaScript language. Microsoft changed the name and called it JScript to avoid the trademark issue. In other words, you can say JScript is the same as JavaScript, but Microsoft provides it.

13) How to write a hello world example of JavaScript?

A simple example of JavaScript hello world is given below. You need to place it inside the body tag of HTML.

```
<script type="text/javascript">  
  
document.write("JavaScript Hello World!");  
  
</script>
```

More details.

14) How to use external JavaScript file?

I am assuming that js file name is `message.js`, place the following script tag inside the head tag.

```
<script type="text/javascript" src="message.js"></script>
```

More details.

15) Is JavaScript case sensitive language?

Yes, JavaScript is a case sensitive language. For example:

```
Var msg = "JavaScript is a case-sensitive language"; //Here, var should be used to declare a variable
```

```
function display()  
{  
document.writeln(msg); // It will not display the result.  
}  
display();
```

16) What is BOM?

BOM stands for Browser Object Model. It provides interaction with the browser. The default object of a browser is a window. So, you can call all the functions of the window by specifying the window or directly. The window object provides various properties like document, history, screen, navigator, location, innerHeight, innerWidth,

javascript object model More Details: Browser Object Model

17) What is DOM? What is the use of document object?

DOM stands for Document Object Model. A document object represents the HTML document. It can be used to access and change the content of HTML.

More Details: Document Object Model

18) What is the use of window object?

The window object is created automatically by the browser that represents a window of a browser. It is not an object of JavaScript. It is a browser object.

The window object is used to display the popup dialog box. Let's see with description.

Method	Description
alert()	displays the alert box containing the message with ok button.
confirm()	displays the confirm dialog box containing the message with ok and cancel button.
prompt()	displays a dialog box to get input from the user.
open()	opens the new window.
close()	closes the current window.
setTimeout()	performs the action after specified time like calling function, evaluating expressions.

More details.

19) What is the use of history object?

The history object of a browser can be used to switch to history pages such as back and forward from the current page or another page. There are three methods of history object.

history.back() - It loads the previous page.

history.forward() - It loads the next page.

history.go(number) - The number may be positive for forward, negative for backward. It loads the given page number.

More details.

20) How to write a comment in JavaScript?

There are two types of comments in JavaScript.

Single Line Comment: It is represented by // (double forward slash)

Multi-Line Comment: Slash represents it with asterisk symbol as /* write comment here */

More details.

21) How to create a function in JavaScript?

To create a function in JavaScript, follow the following syntax.

```
function function_name(){  
    //function body  
}
```

More details.

22) What are the JavaScript data types?

There are two types of data types in JavaScript:

Primitive Data Types - The primitive data types are as follows:

Data Type	Description
String	represents a sequence of characters, e.g., "hello"
Number	represents numeric values, e.g., 100
Boolean	represents boolean value either false or true
Undefined	represents an undefined value
Null	represents null, i.e., no value at all

Non-primitive Data Types - The non-primitive data types are as follows:

Data Type	Description
Object	represents an instance through which we can access members
Array	represents a group of similar values
RegExp	represents regular expression

More details.

23) What is the difference between == and ===?

The == operator checks equality only whereas === checks equality, and data type, i.e., a value must be of the same type.

24) How to write HTML code dynamically using JavaScript?

The innerHTML property is used to write the HTML code using JavaScript dynamically. Let's see a simple example:

```
document.getElementById('mylocation').innerHTML="<h2>This is heading using  
JavaScript</h2>";
```

More details.

25) How to write normal text code using JavaScript dynamically?

The innerText property is used to write the simple text using JavaScript dynamically. Let's see a simple example:

```
document.getElementById('mylocation').innerText="This is text using JavaScript";
```

More details.

26) How to create objects in JavaScript?

There are 3 ways to create an object in JavaScript.

By object literal

By creating an instance of Object

By Object Constructor

Let's see a simple code to create an object using object literal.

```
emp={id:102,name:"Rahul Kumar",salary:50000}
```

More details.

27) How to create an array in JavaScript?

There are 3 ways to create an array in JavaScript.

By array literal

By creating an instance of Array

By using an Array constructor

Let's see a simple code to create an array using object literal.

```
var emp=["Shyam","Vimal","Ratan"];
```

More details.

28) What does the isNaN() function?

The isNaN() function returns true if the variable value is not a number. For example:

```
function number(num) {  
    if (isNaN(num)) {  
        return "Not a Number";  
    }  
    return "Number";  
}  
  
console.log(number('1000F'));  
  
// expected output: "Not a Number"
```

```
console.log(number('1000'));  
  
// expected output: "Number"
```

29) What is the output of 10+20+"30" in JavaScript?

3030 because 10+20 will be 30. If there is numeric value before and after +, it treats as binary + (arithmetic operator).

```
function display()
{
    document.writeln(10+20+"30");
}
display();
```

30) What is the output of "10"+20+30 in JavaScript?

102030 because after a string all the + will be treated as string concatenation operator (not binary +).

```
function display()
{
    document.writeln("10"+20+30);
}
display();
```

31) Difference between Client side JavaScript and Server side JavaScript?

Client-side JavaScript comprises the basic language and predefined objects which are relevant to running JavaScript in a browser. The client-side JavaScript is embedded directly by in the HTML pages. The browser interprets this script at runtime.

Server-side JavaScript also resembles client-side JavaScript. It has a relevant JavaScript which is to run in a server. The server-side JavaScript are deployed only after compilation.

32) In which location cookies are stored on the hard disk?

The storage of cookies on the hard disk depends on the OS and the browser.

The Netscape Navigator on Windows uses a cookies.txt file that contains all the cookies. The path is c:\Program Files\Netscape\Users\username\cookies.txt

The Internet Explorer stores the cookies on a file username@website.txt. The path is: c:\Windows\Cookies\username@Website.txt.

33) What is the real name of JavaScript?

The original name was Mocha, a name chosen by Marc Andreessen, founder of Netscape. In September of 1995, the name was changed to LiveScript. In December 1995, after receiving a trademark license from Sun, the name JavaScript was adopted.

34) What is the difference between undefined value and null value?

Undefined value: A value that is not defined and has no keyword is known as undefined value. For example:

```
int number;//Here, a number has an undefined value.
```

Null value: A value that is explicitly specified by the keyword "null" is known as a null value. For example:

```
String str=null;//Here, str has a null value.
```

35) How to set the cursor to wait in JavaScript?

The cursor can be set to wait in JavaScript by using the property "cursor". The following example illustrates the usage:

```
<script>  
  
window.document.body.style.cursor = "wait";  
  
</script>
```

36) What is this [[]]?

This is a three-dimensional array.

```
var myArray = [[]];
```

37) Are Java and JavaScript same?

No, Java and JavaScript are the two different languages. Java is a robust, secured and object-oriented programming language whereas JavaScript is a client-side scripting language with some limitations.

38) What is negative infinity?

Negative Infinity is a number in JavaScript which can be derived by dividing the negative number by zero. For example:

```
var num=-5;
```

```
function display()
```

```
{
```

```
    document.writeln(num/0);
```

```
}
```

```
display();
```

```
//expected output: -Infinity
```

39) What is the difference between View state and Session state?

"View state" is specific to a page in a session whereas "Session state" is specific to a user or browser that can be accessed across all pages in the web application.

40) What are the pop-up boxes available in JavaScript?

Alert Box

Confirm Box

Prompt Box

Example of alert() in JavaScript

```
<script type="text/javascript">

function msg(){

    alert("Hello Alert Box");

}

</script>

<input type="button" value="click" onclick="msg()"/>
```

Example of confirm() in JavaScript

```
<script type="text/javascript">

function msg(){

var v= confirm("Are u sure?");

if(v==true){

alert("ok");

}

else{

alert("cancel");

}

}

</script>

<input type="button" value="delete record" onclick="msg()"/>
```

Example of prompt() in JavaScript

```
<script type="text/javascript">
```

```
function msg(){  
var v= prompt("Who are you?");  
alert("I am "+v);  
  
}  
</script>
```

```
<input type="button" value="click" onclick="msg()"/>
```

41) How can we detect OS of the client machine using JavaScript?

The navigator.appVersion string can be used to detect the operating system on the client machine.

42) How to submit a form using JavaScript by clicking a link?

Let's see the JavaScript code to submit the form by clicking the link.

```
<form name="myform" action="index.php">  
Search: <input type='text' name='query' />  
<a href="javascript: submitform()">Search</a>  
</form>  
  
<script type="text/javascript">  
function submitform()  
{  
    document.myform.submit();  
}  
</script>
```

43) Is JavaScript faster than ASP script?

Yes, because it doesn't require web server's support for execution.

44) How to change the background color of HTML document using JavaScript?

```
<script type="text/javascript">  
document.body.bgColor="pink";  
</script>
```

45) How to handle exceptions in JavaScript?

By the help of try/catch block, we can handle exceptions in JavaScript. JavaScript supports try, catch, finally and throw keywords for exception handling.

46) How to validate a form in JavaScript?

```
<script>  
function validateform(){  
var name=document.myform.name.value;  
var password=document.myform.password.value;  
  
if (name==null || name==""){  
    alert("Name can't be blank");  
    return false;  
}else if(password.length<6){  
    alert("Password must be at least 6 characters long.");  
    return false;  
}  
}
```

```
</script>
```

```
<body>
```

```
<form name="myform" method="post" action="abc.jsp" onsubmit="return validateform()" >
```

```
Name: <input type="text" name="name"><br/>
```

```
Password: <input type="password" name="password"><br/>
```

```
<input type="submit" value="register">
```

```
</form>
```

Test it Now

Visit here: [JavaScript form validation](#).

47) How to validate email in JavaScript?

```
<script>
```

```
function validateemail()
```

```
{
```

```
var x=document.myform.email.value;
```

```
var atposition=x.indexOf("@");
```

```
var dotposition=x.lastIndexOf(".");
```

```
if (atposition<1 || dotposition<atposition+2 || dotposition+2>=x.length){
```

```
    alert("Please enter a valid e-mail address \n atpostion:"+atposition+"\n\n dotposition:"+dotposition);
```

```
    return false;
```

```
}
```

```
}
```

```
</script>
```

```
<body>
```

```
<form name="myform" method="post" action="#" onsubmit="return validateemail();">
```

```
Email: <input type="text" name="email"><br/>
```

```
<input type="submit" value="register">
```

```
</form>
```

Test it Now

Visit here: [JavaScript Email validation](#).

48) What is this keyword in JavaScript?

The this keyword is a reference variable that refers to the current object. For example:

```
var address=
{
  company:"Javatpoint",
  city:"Noida",
  state:"UP",
  fullAddress:function()
  {
    return this.company+" "+this.city+" "+this.state;
  }
};

var fetch=address.fullAddress();

document.writeln(fetch);
```

49) What is the requirement of debugging in JavaScript?

JavaScript didn't show any error message in a browser. However, these mistakes can affect the output. The best practice to find out the error is to debug the code. The code can be debugged easily by using web browsers like Google Chrome, Mozilla Firefox.

To perform debugging, we can use any of the following approaches:

Using console.log() method

Using debugger keyword

50) What is the use of debugger keyword in JavaScript?

JavaScript debugger keyword sets the breakpoint through the code itself. The debugger stops the execution of the program at the position it is applied. Now, we can start the flow of execution manually. If an exception occurs, the execution will stop again on that particular line.. For example:

```
function display()
{
x = 10;
y = 15;
z = x + y;
debugger;
document.write(z);
document.write(a);
}
display();
```

51) What is the role of a strict mode in JavaScript?

The JavaScript strict mode is used to generates silent errors. It provides "use strict"; expression to enable the strict mode. This expression can only be placed as the first statement in a script or a function. For example:


```
"use strict";
```

```
x=10;
```

```
console.log(x);
```

52) What is the use of Math object in JavaScript?

The JavaScript math object provides several constants and methods to perform a mathematical operation. Unlike date object, it doesn't have constructors. For example:

```
function display()
```

```
{
```

```
    document.writeln(Math.random());
```

```
}
```

```
display();
```

53) What is the use of a Date object in JavaScript?

The JavaScript date object can be used to get a year, month and day. You can display a timer on the webpage by the help of JavaScript date object.

```
function display()
```

```
{
```

```
    var date=new Date();
```

```
    var day=date.getDate();
```

```
    var month=date.getMonth()+1;
```

```
    var year=date.getFullYear();
```

```
    document.write("<br>Date is: "+day+"/"+month+"/"+year);
```

```
}
```

```
display();
```

54) What is the use of a Number object in JavaScript?

The JavaScript number object enables you to represent a numeric value. It may be integer or floating-point. JavaScript number object follows the IEEE standard to represent the floating-point numbers.

```
function display()
{
var x=102;//integer value
var y=102.7;//floating point value
var z=13e4;//exponent value, output: 130000
var n=new Number(16);//integer value by number object
document.write(x+" "+y+" "+z+" "+n);
}
display();
```

55) What is the use of a Boolean object in JavaScript?

The JavaScript Boolean is an object that represents value in two states: true or false. You can create the JavaScript Boolean object by Boolean() constructor.

```
function display()
{
document.writeln(10<20);//true
document.writeln(10<5);//false
}
display();
```

56) What is the use of a TypedArray object in JavaScript?

The JavaScript TypedArray object illustrates an array like a view of an underlying binary data buffer. There is any number of different global properties, whose values are TypedArray constructors for specific element types.

```
function display()
{
var arr1= [1,2,3,4,5,6,7,8,9,10];

    arr1.copyWithin(2) ;

    document.write(arr1);
}

display();
```

57) What is the use of a Set object in JavaScript?

The JavaScript Set object is used to store the elements with unique values. The values can be of any type i.e. whether primitive values or object references. For example:

```
function display()
{
var set = new Set();
set.add("jQuery");
set.add("AngularJS");
set.add("Bootstrap");
for (let elements of set) {
    document.writeln(elements+"<br>");
}
}

display();
```

58) What is the use of a WeakSet object in JavaScript?

The JavaScript WeakSet object is the type of collection that allows us to store weakly held objects. Unlike Set, the WeakSet are the collections of objects only. It doesn't contain the arbitrary values. For example:

```
function display()
{
var ws = new WeakSet();
var obj1={ };
var obj2={ };
ws.add(obj1);
ws.add(obj2);

//Let's check whether the WeakSet object contains the added object
document.writeln(ws.has(obj1)+"<br>");
document.writeln(ws.has(obj2));
}

display()
```

59) What is the use of a Map object in JavaScript?

The JavaScript Map object is used to map keys to values. It stores each element as key-value pair. It operates the elements such as search, update and delete on the basis of specified key. For example:

```
function display()
{
var map=new Map();
map.set(1,"jQuery");
map.set(2,"AngularJS");
```

```
map.set(3,"Bootstrap");  
  
document.writeln(map.get(1)+"<br>");  
  
document.writeln(map.get(2)+"<br>");  
  
document.writeln(map.get(3));  
  
}  
  
display();
```

60) What is the use of a WeakMap object in JavaScript?

The JavaScript WeakMap object is a type of collection which is almost similar to Map. It stores each element as a key-value pair where keys are weakly referenced. Here, the keys are objects and the values are arbitrary values. For example:

```
function display()  
{  
  
var wm = new WeakMap();  
  
var obj1 = {};  
  
var obj2 = {};  
  
var obj3= {};  
  
wm.set(obj1, "jQuery");  
  
wm.set(obj2, "AngularJS");  
  
wm.set(obj3,"Bootstrap");  
  
document.writeln(wm.has(obj2));  
  
}  
  
display();
```