## UI technologies

1. **Question 1. Explain What Is The Lazy Loading?**

Lazy loading is a design pattern commonly used in computer programming to defer initialization of an object until the point at which it is needed.

Lazy loading is loading code only once user needs it. For Example, there is a button on the page, which shows different layout once user pressed it. So there is no need to load code for that layout on initial page load.

1. **Question 2. Explain What Is The Difference Between Null And Undefined?**

null is an object with no value. undefined is a type.

typeof null; // "object"

typeof undefined; // "undefined"

1. **Question 3. What Is Variable Scope?**

JavaScript variables have functional scope.

1. **Question 4. Explain What Is An Iife?**

IIFE stands for immediately-invoked function expression; it executes immediately after created by adding a () after the function.

1. **Question 5. What Is A Callback Function?**

JavaScript is read line by line. Sometimes, this can result in what seems like a subsequent line of code being executed prior to an earlier line of code. A callback function is used to prevent this from happening, because it is not called until the previous line of code has fully executed.

1. **Question 6. Tell Me Why Do We Recommend External Css Or Javascript Versus Inline?**

Inline CSS or Javascript has bad impact on site performance.

Your HTML code will weigh more as you use inline scripts, whereas external scripts reduces HTML file size which helps fast rendering of webpage.

HTML code will never be cached so inline scripts. Contrary to that, external dependencies, such as CSS and JavaScript files, will be cached by the visitor's web browser. So it reduces https requests each time user click through web pages.

It is hard to maintain Inline CSS and Javascript code. Where having code in just one centralized location is a lot more preferable than changing exactly the same kind of code snippets spread all over the files in the web site.

1. **Question 7. Explain What "this" Is In Javascript?**

In JavaScript, 'this' normally refers to the object which 'owns' the method, but it depends on how a function is called.

1. **Question 8. Do You Know What Is Cors? How Does It Work?**

Cross-origin resource sharing (CORS) is a mechanism that allows many resources (e.g., fonts, JavaScript, etc.) on a web page to be requested from another domain outside the domain from which the resource originated. It's a mechanism supported in HTML5 that manages XMLHttpRequest access to a domain different.

CORS adds new HTTP headers that provide access to permitted origin domains. For HTTP methods other than GET (or POST with certain MIME types), the specification mandates that browsers first use an HTTP OPTIONS request header to solicit a list of supported (and available) methods from the server. The actual request can then be submitted. Servers can also notify clients whether "credentials" (including Cookies and HTTP Authentication data) should be sent with requests.

1. **Question 9. What Is The Difference Between Json And Jsonp?**

JSONP is JSON with padding.

1. **Question 10. Explain How To Use A Function A Class?**

function functionName(name) {   
this.name = name;  
}

// Creating an object

var functionName = new functionName("WTEN");   
console.log(functionName.name); //WTEN

1. **Question 11. Tell Me How Do You Clear A Floated Element?**

clear:both

1. **Question 12. Explain Why Table-less Layout Is Very Important?**

There are several reasons why web designers should stop using tables for layouts, and adopt the use of CSS for controlling HTML layouts.

* 1. It adheres to current W3C web standards and it improves accessibility of the information to a wider variety of users, using a wide variety of user agents.
  2. There are bandwidth savings as large numbers of semantically meaningless <table>, <tr> and <td> tags are removed from dozens of pages leaving fewer, but more meaningful headings, paragraphs and lists.
  3. Layout instructions are transferred into site-wide CSS stylesheets, which can be downloaded once and cached for reuse while each visitor navigates the site.
  4. If coded well, CSS makes it easy to apply global changes to the layout
  5. Web pages often have less code, and are much thinner when XHTML and CSS are used
  6. Sites may become more maintainable as the whole site can be restyled or re-branded in a single pass merely by altering the mark-up of the specific CSS, affecting every page which relies on that stylesheet.
  7. New HTML content can be added in such a way that consistent layout rules are immediately applied to it by the existing CSS without any further effort.

1. **Question 13. Explain What Is An Anonymous Function?**

Anonymous functions are functions without a name. They are stored in a variable and are automatically invoked (called) using the variable name.

var x = function(a, b) {  
console.log(a \* b)  
}  
x(3, 5); // 15

1. **Question 14. Explain What Is Ajax? Write An Ajax Call?**

AJAX stands for asynchronous JavaScript and XML and allows applications to send and retrieve data to/from a server asynchronously (in the background) without refreshing the page. For example, your new Gmail messages appear and are marked as new even if you have not refreshed the page.

1. **Question 15. Explain What Event Bubbling Is?**

Event bubbling causes all events in the child nodes to be automatically passed to its parent nodes. The benefit of this method is speed because the code only needs to traverse the DOM tree once.

1. **Question 16. What Is Stringify?**

stringify is used to transform JSON into a string.

1. **Question 17. What Are This And That Keywords?**

This and that are important to variable scope in JavaScript. Here are a few stackoverflow posts on this, that and self.

1. **Question 18. What Is Event Delegation?**

Event delegation allows you to avoid adding event listeners for specific nodes. Instead, you can add a single event listener to a parent element.

1. **Question 19. Why Do We Need To Use W3c Standard Code?**

The goals of such standards are to ensure cross-platform compatibility and more compact file sizes. The focus of these standards has been to separate "content" from "formatting" by implementing CSS. It eases maintenance and development.

1. **Question 20. How To Clear A Floated Element?**

A floated element is taken out of the document flow. To clear it you would need to do a clear:both or try overflow:auto on the containing div.

1. **Question 21. What Is A Float?**

Floats are used to push elements to the left or right, so other elements wrap around it.

1. **Question 22. Tell Us The Purpose Of Each Of The Http Request Types When Used With A Restful Web Service?**

**The purpose of each of the HTTP request types when used with a RESTful web service is as follows:**

* 1. **GET:** Retrieves data from the server (should only retrieve data and should have no other effect).
  2. **POST**: Sends data to the server for a new entity. It is often used when uploading a file or submitting a completed web form.
  3. **PUT:** Similar to POST, but used to replace an existing entity.
  4. **PATCH**: Similar to PUT, but used to update only certain fields within an existing entity.
  5. **DELETE**: Removes data from the server.
  6. **TRACE:** Provides a means to test what a machine along the network path receives when a request is made. As such, it simply returns what was sent.
  7. **OPTIONS:** Allows a client to request information about the request methods supported by a service. The relevant response header is Allow and it simply lists the supported methods. (It can also be used to request information about the request methods supported for the server where the service resides by using a \* wildcard in the URI.)
  8. **HEAD:** Same as the GET method for a resource, but returns only the response headers (i.e., with no entity-body).
  9. **CONNECT**: Primarily used to establish a network connection to a resource (usually via some proxy that can be requested to forward an HTTP request as TCP and maintain the connection). Once established, the response sends a 200 status code and a "Connection Established" message.

1. **Question 23. How To Optimize The Page Using Front End Code Or Technology?**

**Below is the list of best practices for front-end technology, which helps to optimize page.**

* 1. Improve server response by reducing resource usage per page
     + Combine all external CSS files into one file
     + Combine all external JS files into one file
  2. Use responsive design instead of making device based redirects
  3. Use asynchronous Javascript and remove block level Javascript
  4. Use Minify version of stylesheet and javascript.
  5. Optimize Image and use correct format of Image. Use the lazy loading design pattern for large size of images.
  6. Use browser side cache with Cache control.
  7. Avoid plugins to drive functionality.
  8. Configure view port and use CSS best practices.
  9. Prioritize visible content.
  10. Load style-sheets in header and script in footer.

1. **Question 24. Have You Ever Used A Css Preprocessor/precompiler? What Are The Benefits?**

CSS preprocessors, such as SASS, have numerous benefits, such as variables and nesting.

1. **Question 25. Do You Know What Is The Importance Of The Html Doctype?**

DOCTYPE is an instruction to the web browser about what version of the markup language the page is written. Its written before the HTML Tag. Doctype declaration refers to a Document Type Definition (DTD).

1. **Question 26. What Is The Difference Between Responsive And Adaptive Development?**

In a nutshell, responsive is fluid and flexible, whereas adaptive adapts to the detected device/screen size.

1. **Question 27. Tell Me Where Do You Place Your Javascript On The Page?**

It may depend on what you are using it for. There is some debate on this but generally a good question to ask to get an understanding of the JS knowledge.

1. **Question 28. Explain The Difference Between Inline, Block, Inline-block And Box-sizing?**
   1. inline is the default. An example of an inline element is <span>.
   2. block displays as a block element, such as <div> or <p>.
   3. inline-block displays an element as an inline-level block container. Here's an article on the topic.
   4. box-sizing tells the browser sizing properties.
2. **Question 29. Explain What Is Web A Application?**

A great question to feel out the depth of the applicants knowledge and experience.

A web application is an application utilizing web and [web] browser technologies to accomplish one or more tasks over a network, typically through a [web] browser.

1. **Question 30. Explain What Is The Importance Of The Html Doctype?**

The doctype declaration should be the very first thing in an HTML document, before the html tag.

The doctype declaration is not an HTML tag; it is an instruction to the web browser about what version of the markup language the page is written in.

The doctype declaration refers to a Document Type Definition (DTD). The DTD specifies the rules for the markup language, so that the browsers can render the content correctly.

1. **Question 31. What Are The Difference Between Get And Post?**

A GET request is typically used for things like AJAX calls to an API (insignificant changes), whereas a POST request is typically used to store data in a database or submit data via a form (significant changes). GET requests are less secure and can be seen by the user in the URL, whereas POST requests are processed in two steps and are not seen by the user. Therefore, POST requests are more secure.

1. **Question 32. Explain What Is The Difference Between A Prototype And A Class?**

Prototype-based inheritance allows you to create new objects with a single operator; class-based inheritance allows you to create new objects through instantiation. Prototypes are more concrete than classes, as they are examples of objects rather than descriptions of format and instantiation.

Prototypes are important in JavaScript because JavaScript does not have classical inheritance based on classes; all inheritances happen through prototypes. If the JavaScript runtime can't find an object's property, it looks to the object's prototype, and continues up the prototype chain until the property is found.

1. **Question 33. What Is The Difference Between Call And Apply?**

apply lets you invoke the function with arguments as an array. call requires the parameters to be listed explicitly. Also, check out this stackoverflow answer.

1. **Question 34. Explain The Difference Between Visibility:hidden; And Display:none?**
   1. Visibility:Hidden; - It is not visible but takes up it's original space.
   2. Display:None; - It is hidden and takes no space.
2. **Question 35. Tell Me The Difference Between Visibility:hidden; And Display:none;?**
   1. Visibility:Hidden; - It is not visible but takes up it's original space.
   2. Display:None; - It is hidden and takes up absolutely no space as if it was never there.
3. **Question 36. How To Increase Page Performance?**
   1. Sprites, compressed images, smaller images;
   2. include JavaScript at the bottom of the page;
   3. minify or concatenate your CSS and JavaScript; and
   4. caching.
4. **Question 37. Do You Know What Is A Sprite? How Is It Applied Using Css? What Is The Benefit?**
   1. A image sprite is a collection of images put into one single image.
   2. Using css positioning you can show and hide different parts of the sprite depending on what you need.
   3. Sprites reduces the number of http requsts thus reducing load time of page and bandwidth

**Buy Buttons using Sprite as background:**

Both buttons use the same background image. The only differece is in the positioning.

**Here is the actual background image:**

And the CSS.

<style>  
.orangeBuyBtn {   
background: url('buyButtons-bg.gif') repeat-x 0 0;  
border-color: #5B5752 #6B6B6B #808080;  
border-style: solid;  
border-width: 1px;  
color: #FFFFFF;  
cursor: pointer;  
font-size: 14px;  
font-weight: bold;

}  
.greenBuyBtn {  
background: url('buyButtons-bg.gif') repeat-x 0 -24px;  
border-color: #5B5752 #6B6B6B #808080;  
border-style: solid;  
border-width: 1px;  
color: #FFFFFF;  
cursor: pointer;  
font-size: 14px;  
font-weight: bold;  
}  
</style>

1. **Question 38. Explain The Difference Between Static, Fixed, Absolute And Relative Positioning?**
   1. static is the default.
   2. fixed is positioned relative to the browser.
   3. absolute is positioned relative to its parent or ancestor element.
   4. relative is positioned relative to normal positioning/the item itself. Used alone it accomplishes nothing.
2. **Question 39. How Do Browsers Read Css?**

From right to left.

1. **Question 40. Explain Some Common Ie6 Bugs And How You Dealt With Them?**

Ie6 is not dead, just ask China which represents a nice chunk of the worlds online population. Your pages should at least be functional on IE6, unless you dont care about half the worlds population.

1. **Question 41. What Is A Clear?**

A clear is used when you don't want an element to wrap around another element, such as a float.

1. **Question 42. What Is The Difference Between Html And Xhtml?**

HTML is HyperText Markup Language used to develop the website.

XHTML is modern version of HTML 4. XHTML is an HTML that follows the XML rules which should be well-formed.

1. **Question 43. What Is A Javascript Object?**

A collection of data containing both properties and methods. Each element in a document is an object. Using the DOM you can get at each of these elements/objects and do some cool sh\*t.

1. **Question 44. What Is The Difference Between Form Get And Form Post?**

**Get:**

With GET the form data is encoded into a URL by the browser. The form data is visible in the URL allowing it to be bookmarked and stored in web history. The form data is restricted to ASCII codes. Because URL lengths are limited there can be limitations on how much form data can be sent.

**Post:**

With POST all the name value pairs are submitted in the message body of the HTTP request which has no restrictions on the length of the string. The name value pairs cannot be seen in the web browser bar.

POST and GET correspond to different HTTP requests and they differ in how they are submitted. Since the data is encoded in differently, different decoding may be needed.

1. **Question 45. Explain The Difference Between == And === ?**

The 3 equal signs mean "equality without type coercion". Using the triple equals, the values must be equal in type as well.

* 1. == is equal to
  2. === is exactly equal to (value and type)
  3. 0==false // true
  4. 0===false // false, because they are of a different type
  5. 1=="1" // true, auto type coercion
  6. 1==="1" // false, because they are of a different type

1. **Question 46. Do You Know What Is A Closure?**

Closures are expressions, usually functions, which can work with variables set within a certain context. Or, to try and make it easier, inner functions referring to local variables of its outer function create closures.

1. **Question 47. Do You Know What Is The Difference Between == And === ?**
   1. == is equal to
   2. === is exactly equal to (value and type)
2. **Question 48. Tell Me Are You Familiar With Jasmine Or Qunit?**

Jasmine and QUnit are JavaScript testing frameworks. I would familiarize yourself with the basics.

1. **Question 49. What Is The Difference Between A Host Object And A Native Object?**

Native - existing in JavaScript. Host - existing in the environment.

## Javascript

**1. What is JavaScript?**

JavaScript is a client-side as well as server side scripting language that can be inserted into HTML pages and is understood by web browsers. JavaScript is also an Object based Programming language

**2. Enumerate the differences between Java and JavaScript?**

Java is a complete programming language. In contrast, JavaScript is a coded program that can be introduced to HTML pages. These two languages are not at all inter-dependent and are designed for the different intent. Java is an object - oriented programming (OOPS) or structured programming language like C++ or C whereas JavaScript is a client-side scripting language.

**3. What are JavaScript Data Types?**

Following are the JavaScript Data types:

* Number
* String
* Boolean
* Object
* Undefined

**4. What is the use of isNaN function?**

isNan function returns true if the argument is not a number otherwise it is false.

**5. Between JavaScript and an ASP script, which is faster?**

JavaScript is faster. JavaScript is a client-side language and thus it does not need the assistance of the web server to execute. On the other hand, ASP is a server-side language and hence is always slower than JavaScript. Javascript now is also a server side language (nodejs).

**6. What is negative infinity?**

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

**7. Is it possible to break JavaScript Code into several lines?**

Breaking within a string statement can be done by the use of a backslash, '\', at the end of the first line

Example:

document.write("This is \a program");

And if you change to a new line when not within a string statement, then javaScript ignores break in line.

Example:

var x=1, y=2,

z=

x+y;

The above code is perfectly fine, though not advisable as it hampers debugging.

**8. Which company developed JavaScript?**

Netscape is the software company who developed JavaScript.

**9. What are undeclared and undefined variables?**

Undeclared variables are those that do not exist in a program and are not declared. If the program tries to read the value of an undeclared variable, then a runtime error is encountered.

Undefined variables are those that are declared in the program but have not been given any value. If the program tries to read the value of an undefined variable, an undefined value is returned.

**10. Write the code for adding new elements dynamically?**

<html>

<head>

<title>t1</title>

<script type="text/javascript">

function addNode() { var newP = document.createElement("p");

var textNode = document.createTextNode(" This is a new text node");

newP.appendChild(textNode); document.getElementById("firstP").appendChild(newP); }

</script> </head>

<body> <p id="firstP">firstP<p> </body>

</html>

**11. What are global variables? How are these variable declared and what are the problems associated with using them?**

Global variables are those that are available throughout the length of the code, that is, these have no scope. The var keyword is used to declare a local variable or object. If the var keyword is omitted, a global variable is declared.

Example:

// Declare a global globalVariable = "Test";

The problems that are faced by using global variables are the clash of variable names of local and global scope. Also, it is difficult to debug and test the code that relies on global variables.

**12. What is a prompt box?**

A prompt box is a box which allows the user to enter input by providing a text box. Label and box will be provided to enter the text or number.

**13. What is 'this' keyword in JavaScript?**

'This' keyword refers to the object from where it was called.

**14. Explain the working of timers in JavaScript? Also elucidate the drawbacks of using the timer, if any?**

Timers are used to execute a piece of code at a set time or also to repeat the code in a given interval of time. This is done by using the functions **setTimeout, setInterval**and**clearInterval**.

The **setTimeout(function, delay)** function is used to start a timer that calls a particular function after the mentioned delay. The **setInterval(function, delay)** function is used to repeatedly execute the given function in the mentioned delay and only halts when cancelled. The **clearInterval(id)** function instructs the timer to stop.

Timers are operated within a single thread, and thus events might queue up, waiting to be executed.

**15. Which symbol is used for comments in Javascript?**

// for Single line comments and

/\* Multi

Line

Comment

\*/

**16. What is the difference between ViewState and SessionState?**

'ViewState' is specific to a page in a session.

'SessionState' is specific to user specific data that can be accessed across all pages in the web application.

**17. What is === operator?**

=== is called as strict equality operator which returns true when the two operands are having the same value without any type conversion.

**18. Explain how can you submit a form using JavaScript?**

To submit a form using JavaScript use document.form[0].submit();

document.form[0].submit();

**19. Does JavaScript support automatic type conversion?**

Yes JavaScript does support automatic type conversion, it is the common way of type conversion used by JavaScript developers

**20. How can the style/class of an element be changed?**

It can be done in the following way:

document.getElementById("myText").style.fontSize = "20?;

or

document.getElementById("myText").className = "anyclass";

**21. Explain how to read and write a file using JavaScript?**

There are two ways to read and write a file using JavaScript

* Using JavaScript extensions
* Using a web page and Active X objects

**22. What are all the looping structures in JavaScript?**

Following are looping structures in Javascript:

* For
* While
* do-while loops

**23. What is called Variable typing in Javascript?**

Variable typing is used to assign a number to a variable and the same variable can be assigned to a string.

Example

i = 10;

i = "string";

This is called variable typing.

**24. How can you convert the string of any base to integer in JavaScript?**

The parseInt() function is used to convert numbers between different bases. parseInt() takes the string to be converted as its first parameter, and the second parameter is the base of the given string.

In order to convert 4F (of base 16) to integer, the code used will be -

parseInt ("4F", 16);

**25. Explain the difference between "==" and "==="?**

"==" checks only for equality in value whereas "===" is a stricter equality test and returns false if either the value or the type of the two variables are different.

**26. What would be the result of 3+2+"7"?**

Since 3 and 2 are integers, they will be added numerically. And since 7 is a string, its concatenation will be done. So the result would be 57.

**27. Explain how to detect the operating system on the client machine?**

In order to detect the operating system on the client machine, the navigator.platform string (property) should be used.

**28. What do mean by NULL in Javascript?**

The NULL value is used to represent no value or no object. It implies no object or null string, no valid boolean value, no number and no array object.

**29. What is the function of delete operator?**

The delete keyword is used to delete the property as well as its value.

Example

var student= {age:20, batch:"ABC"};

delete student.age;

**30. What is an undefined value in JavaScript?**

Undefined value means the

* Variable used in the code doesn't exist
* Variable is not assigned to any value
* Property doesn't exist

**31. What are all the types of Pop up boxes available in JavaScript?**

* Alert
* Confirm and
* Prompt

**32. What is the use of Void(0)?**

Void(0) is used to prevent the page from refreshing and parameter "zero" is passed while calling.

Void(0) is used to call another method without refreshing the page.

**33. How can a page be forced to load another page in JavaScript?**

The following code has to be inserted to achieve the desired effect:

<script language="JavaScript" type="text/javascript" >

<!-- location.href="http://newhost/newpath/newfile.html"; //--></script>

**34. What is the data type of variables of in JavaScript?**

All variables in the JavaScript are object data types.

**35. What is the difference between an alert box and a confirmation box?**

An alert box displays only one button which is the OK button.

But a Confirmation box displays two buttons namely OK and cancel.

**36. What are escape characters?**

Escape characters (Backslash) is used when working with special characters like single quotes, double quotes, apostrophes and ampersands. Place backslash before the characters to make it display.

Example:

document.write "I m a "good" boy"

document.write "I m a \"good\" boy"

**37. What are JavaScript Cookies?**

Cookies are the small test files stored in a computer and it gets created when the user visits the websites to store information that they need. Example could be User Name details and shopping cart information from the previous visits.

**38. Explain what is pop()method in JavaScript?**

The pop() method is similar as the shift() method but the difference is that the Shift method works at the start of the array. Also the pop() method take the last element off of the given array and returns it. The array on which is called is then altered.

Example:

var cloths = ["Shirt", "Pant", "TShirt"];

cloths.pop();

//Now cloth becomes Shirt,Pant

**39. Whether JavaScript has concept level scope?**

No. JavaScript does not have concept level scope. The variable declared inside the function has scope inside the function.

**40. Mention what is the disadvantage of using innerHTML in JavaScript?**

If you use innerHTML in JavaScript the disadvantage is

* Content is replaced everywhere
* We cannot use like "appending to innerHTML"
* Even if you use +=like "innerHTML = innerHTML + 'html'" still the old content is replaced by html
* The entire innerHTML content is re-parsed and build into elements, therefore its much slower
* The innerHTML does not provide validation and therefore we can potentially insert valid and broken HTML in the document and break it

**41. What is break and continue statements?**

Break statement exits from the current loop.

Continue statement continues with next statement of the loop.

**42. What are the two basic groups of dataypes in JavaScript?**

They are as –

* Primitive
* Reference types.

Primitive types are number and Boolean data types. Reference types are more complex types like strings and dates.

**43. How generic objects can be created?**

Generic objects can be created as:

var I = new object();

**44. What is the use of type of operator?**

'Typeof' is an operator which is used to return a string description of the type of a variable.

**45. Which keywords are used to handle exceptions?**

Try… Catch---finally is used to handle exceptions in the JavaScript

Try{

Code

}

Catch(exp){

Code to throw an exception

}

Finally{

Code runs either it finishes successfully or after catch

}

**46. Which keyword is used to print the text in the screen?**

document.write("Welcome") is used to print the text – Welcome in the screen.

**47. What is the use of blur function?**

Blur function is used to remove the focus from the specified object.

**48. What is variable typing?**

Variable typing is used to assign a number to a variable and then assign string to the same variable. Example is as follows:

i= 8;

i="john";

**49. How to find operating system in the client machine using JavaScript?**

The '**Navigator.appversion'** is used to find the name of the operating system in the client machine.

**50. What are the different types of errors in JavaScript?**

There are three types of errors:

* **Load time errors**: Errors which come up when loading a web page like improper syntax errors are known as Load time errors and it generates the errors dynamically.
* **Run time errors**: Errors that come due to misuse of the command inside the HTML language.
* **Logical Errors**: These are the errors that occur due to the bad logic performed on a function which is having different operation.

**51. What is the use of Push method in JavaScript?**

The push method is used to add or append one or more elements to the end of an Array. Using this method, we can append multiple elements by passing multiple arguments

**52. What is unshift method in JavaScript?**

Unshift method is like push method which works at the beginning of the array. This method is used to prepend one or more elements to the beginning of the array.

**53. What is the difference between JavaScript and Jscript?**

Both are almost similar. JavaScript is developed by Netscape and Jscript was developed by Microsoft .

**54. How are object properties assigned?**

Properties are assigned to objects in the following way -

obj["class"] = 12;

or

obj.class = 12;

**55. What is the 'Strict' mode in JavaScript and how can it be enabled?**

Strict Mode adds certain compulsions to JavaScript. Under the strict mode, JavaScript shows errors for a piece of codes, which did not show an error before, but might be problematic and potentially unsafe. Strict mode also solves some mistakes that hamper the JavaScript engines to work efficiently.

Strict mode can be enabled by adding the string literal "use strict" above the file. This can be illustrated by the given example:

function myfunction() {

"use strict";

var v = "This is a strict mode function";

}

**56. What is the way to get the status of a CheckBox?**

The status can be acquired as follows -

alert(document.getElementById('checkbox1').checked);

If the CheckBox will be checked, this alert will return TRUE.

**57. How can the OS of the client machine be detected?**

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

**58. Explain window.onload and onDocumentReady?**

The onload function is not run until all the information on the page is loaded. This leads to a substantial delay before any code is executed.

onDocumentReady loads the code just after the DOM is loaded. This allows early manipulation of the code.

**59. How will you explain closures in JavaScript? When are they used?**

Closure is a locally declared variable related to a function which stays in memory when the function has returned.

For example:

function greet(message) {

console.log(message);

}

function greeter(name, age) {

return name + " says howdy!! He is " + age + " years old";

}

// Generate the message

var message = greeter("James", 23);

// Pass it explicitly to greet

greet(message);

This function can be better represented by using closures

function greeter(name, age) {

var message = name + " says howdy!! He is " + age + " years old";

return function greet() {

console.log(message);

};

}

// Generate the closure

var JamesGreeter = greeter("James", 23);

// Use the closure

JamesGreeter();

**60. How can a value be appended to an array?**

A value can be appended to an array in the given manner -

arr[arr.length] = value;

**61. Explain the for-in loop?**

The for-in loop is used to loop through the properties of an object.

The syntax for the for-in loop is -

for (variable name in object){

statement or block to execute

}

In each repetition, one property from the object is associated to the variable name, and the loop is continued till all the properties of the object are depleted.

**62. Describe the properties of an anonymous function in JavaScript?**

A function that is declared without any named identifier is known as an anonymous function. In general, an anonymous function is inaccessible after its declaration.

Anonymous function declaration -

var anon = function() {

alert('I am anonymous');

};

anon();

**63. What is the difference between .call() and .apply()?**

The function .call() and .apply() are very similar in their usage except a little difference. .call() is used when the number of the function's arguments are known to the programmer, as they have to be mentioned as arguments in the call statement. On the other hand, .apply() is used when the number is not known. The function .apply() expects the argument to be an array.

The basic difference between .call() and .apply() is in the way arguments are passed to the function. Their usage can be illustrated by the given example.

var someObject = {

myProperty : 'Foo',

myMethod : function(prefix, postfix) {

alert(prefix + this.myProperty + postfix);

}

};

someObject.myMethod('<', '>'); // alerts '<Foo>'

var someOtherObject = {

myProperty : 'Bar'

};

someObject.myMethod.call(someOtherObject, '<', '>'); // alerts '<Bar>'

someObject.myMethod.apply(someOtherObject, ['<', '>']); // alerts '<Bar>'

**64. Define event bubbling?**

JavaScript allows DOM elements to be nested inside each other. In such a case, if the handler of the child is clicked, the handler of parent will also work as if it were clicked too.

**65. Is JavaScript case sensitive? Give an example?**

Yes, JavaScript is case sensitive. For example, a function parseInt is not same as the function Parseint.

**66. What boolean operators can be used in JavaScript?**

The 'And' Operator (&&), 'Or' Operator (||) and the 'Not' Operator (!) can be used in JavaScript.

\*Operators are without the parenthesis.

**67. How can a particular frame be targeted, from a hyperlink, in JavaScript?**

This can be done by including the name of the required frame in the hyperlink using the 'target' attribute.

<a href="/newpage.htm" target="newframe">>New Page</a>

**68. What is the role of break and continue statements?**

Break statement is used to come out of the current loop while the continue statement continues the current loop with a new recurrence.

**69. Write the point of difference between web-garden and a web-farm?**

Both web-garden and web-farm are web hosting systems. The only difference is that web-garden is a setup that includes many processors in a single server while web-farm is a larger setup that uses more than one server.

**70. How are object properties assigned?**

Assigning properties to objects is done in the same way as a value is assigned to a variable. For example, a form object's action value is assigned as 'submit' in the following manner - Document.form.action="submit"

**71. What is the method for reading and writing a file in JavaScript?**

This can be done by Using JavaScript extensions (runs from JavaScript Editor), example for opening of a file -

fh = fopen(getScriptPath(), 0);

**72. How are DOM utilized in JavaScript?**

DOM stands for Document Object Model and is responsible for how various objects in a document interact with each other. DOM is required for developing web pages, which includes objects like paragraph, links, etc. These objects can be operated to include actions like add or delete. DOM is also required to add extra capabilities to a web page. On top of that, the use of API gives an advantage over other existing models.

**73. How are event handlers utilized in JavaScript?**

Events are the actions that result from activities, such as clicking a link or filling a form, by the user. An event handler is required to manage proper execution of all these events. Event handlers are an extra attribute of the object. This attribute includes event's name and the action taken if the event takes place.

**74. Explain the role of deferred scripts in JavaScript?**

By default, the parsing of the HTML code, during page loading, is paused until the script has not stopped executing. It means, if the server is slow or the script is particularly heavy, then the webpage is displayed with a delay. While using Deferred, scripts delays execution of the script till the time HTML parser is running. This reduces the loading time of web pages and they get displayed faster.

**75. What are the various functional components in JavaScript?**

The different functional components in JavaScript are-

**First-class functions:** Functions in JavaScript are utilized as first class objects. This usually means that these functions can be passed as arguments to other functions, returned as values from other functions, assigned to variables or can also be stored in data structures.

**Nested functions:** The functions, which are defined inside other functions, are called Nested functions. They are called 'everytime' the main function is invoked.

**76. Write about the errors shown in JavaScript?**

JavaScript gives a message if it encounters an error. The recognized errors are -

* Load-time errors: The errors shown at the time of the page loading are counted under Load-time errors. These errors are encountered by the use of improper syntax, and thus are detected while the page is getting loaded.
* Run-time errors: This is the error that comes up while the program is running. It is caused by illegal operations, for example, division of a number by zero, or trying to access a non-existent area of the memory.
* Logic errors: It is caused by the use of syntactically correct code, which does not fulfill the required task. For example, an infinite loop.

**77. What are Screen objects?**

Screen objects are used to read the information from the client's screen. The properties of screen objects are -

* AvailHeight: Gives the height of client's screen
* AvailWidth: Gives the width of client's screen.
* ColorDepth: Gives the bit depth of images on the client's screen
* Height: Gives the total height of the client's screen, including the taskbar
* Width: Gives the total width of the client's screen, including the taskbar

**78. Explain the unshift() method ?**

This method is functional at the starting of the array, unlike the push(). It adds the desired number of elements to the top of an array. For example -

var name = [ "john" ];

name.unshift( "charlie" );

name.unshift( "joseph", "Jane" );

console.log(name);

The output is shown below:

[" joseph "," Jane ", " charlie ", " john "]

**79. Define unescape() and escape() functions?**

The escape () function is responsible for coding a string so as to make the transfer of the information from one computer to the other, across a network.

For Example:

<script>

document.write(escape("Hello? How are you!"));

</script>

Output: Hello%3F%20How%20are%20you%21

The unescape() function is very important as it decodes the coded string.

It works in the following way. For example:

<script>

document.write(unescape("Hello%3F%20How%20are%20you%21"));

</script>

Output: Hello? How are you!

**80. What are the decodeURI() and encodeURI()?**

EncodeURl() is used to convert URL into their hex coding. And DecodeURI() is used to convert the encoded URL back to normal.

<script>

var uri="my test.asp?name=ståle&car=saab";

document.write(encodeURI(uri)+ "<br>");

document.write(decodeURI(uri));

</script>

Output -

my%20test.asp?name=st%C3%A5le&car=saab

my test.asp?name=ståle&car=saab

**81. Why it is not advised to use innerHTML in JavaScript?**

innerHTML content is refreshed every time and thus is slower. There is no scope for validation in innerHTML and, therefore, it is easier to insert rouge code in the document and, thus, make the web page unstable.

**82. What does the following statement declares?**

var myArray = [[[]]];

It declares a three dimensional array.

**83. How are JavaScript and ECMA Script related?**

ECMA Script are like rules and guideline while Javascript is a scripting language used for web development.

**84. What is namespacing in JavaScript and how is it used?**

Namespacing is used for grouping the desired functions, variables etc. under a unique name. It is a name that has been attached to the desired functions, objects and properties. This improves modularity in the coding and enables code reuse.

**85. How can JavaScript codes be hidden from old browsers that don't support JavaScript?**

For hiding JavaScript codes from old browsers:

Add "<!--" without the quotes in the code just after the <script> tag.

Add "//-->" without the quotes in the code just before the <script> tag.

Old browsers will now treat this JavaScript code as a long HTML comment. While, a browser that supports JavaScript, will take the "<!--" and "//-->" as one-line comments.

## HTML Interview Questions

A list of top frequently asked **HTML interview questions** and answers are given below.

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.[More details.](https://www.javatpoint.com/what-is-html)

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

1. **<tag>** content **</tag>**

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

[More details.](https://www.javatpoint.com/html-tags)

3) Do all HTML tags have an end tag?

No. There are some HTML tags that don't need a closing tag. For example: <image> tag, <br> tag. [More details.](https://www.javatpoint.com/html-tags)

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. [More details.](https://www.javatpoint.com/html-formatting)

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:

1. **<h1>**Heading no. 1**</h1>**
2. **<h2>**Heading no. 2**</h2>**
3. **<h3>**Heading no. 3**</h3>**
4. **<h4>**Heading no. 4**</h4>**
5. **<h5>**Heading no. 5**</h5>**
6. **<h6>**Heading no. 6**</h6>**

[More details.](https://www.javatpoint.com/html-heading)

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.

[More details.](https://www.javatpoint.com/html-anchor)

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 <ol> tag.
* Unordered list - The unordered list displays elements in bulleted format. It is represented by <ul> 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.

[More details.](https://www.javatpoint.com/html-lists)

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 <b> </b> tag is not used for bold statement as well as <i> </i> tag is used for italic. Instead of these we use <strong></strong> and <em></em> 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 &copy; or &#169; 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:

1. <!DOCTYPE html**>**
2. **<html>**
3. **<body>**
4. **<h2>**HTML Iframes example**</h2>**
5. **<p>**Use the height and width attributes to specify the size of the iframe:**</p>**
6. **<iframe** src="https://www.javatpoint.com/" height="300" width="400"**></iframe>**
7. **</body>**
8. **</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

1. **<a** href = "..........."**>** Link Text **</a>**

[More details.](https://www.javatpoint.com/html-anchor)

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 <font color ="color"> </font> 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.

 

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. [More details.](https://www.javatpoint.com/marquee-html)

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

Three tags are used to separate the texts.

* <br> tag - Usually <br> 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.

1. **<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: <br>, <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:**

1. **<p>**
2. **<span** style="color:#ffffff;"**>**
3. In this page we use span.
4. **</span>**
5. **</p>**

25) What is the use of an iframe tag?

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

**Syntax:**

1. **<iframe** src="URL"**></iframe>**

**Example:**

1. **<iframe** src="demo\_iframe.html" width="200px" height="200px"**></iframe>**

**Target to a link:**

1. **<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:

1. **<canvas** id="myCanvas1" width="300" height="100" style="border:2px solid;"**>**
2. Your browser does not support the HTML5 canvas tag.
3. **</canvas>**

[More details.](https://www.javatpoint.com/html-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.

1. **<svg** width="100" height="100"**>**
2. **<circle** cx="50" cy="50" r="40" stroke="yellow" stroke-width="4" fill="red" **/>**
3. **</svg>**

[More details.](https://www.javatpoint.com/html-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

[More details.](https://www.javatpoint.com/html-video)

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.

1. mp3
2. WAV
3. Ogg

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

1. **<audio** controls**>**
2. **<source** src="koyal.mp3" type="audio/mpeg"**>**
3. Your browser does not support the html audio tag.
4. **</audio>**

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

[More details.](https://www.javatpoint.com/html-audio)

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. [More details.](https://www.javatpoint.com/html-progress-tag)

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.

1. **<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>**
2. **<figure>**
3. **<img** src="htmlpages/images/tajmahal.jpg" alt="Taj Mahal"**/>**
4. **</figure>**

[More details.](https://www.javatpoint.com/html-figure-tag)

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.

1. **<figure>**
2. **<img** src="htmlpages/images/tajmahal.jpg" alt="Taj Mahal"**/>**
3. **<figcaption>**Fig.1.1 - A front view of the great Taj Mahal in Agra.**</figcaption>**
4. **</figure>**

[More details.](https://www.javatpoint.com/html-figcaption-tag)

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.

1. **<button** name="button" type="button"**>**Click Here**</button>**

[More details.](https://www.javatpoint.com/html-button-tag)

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.](https://www.javatpoint.com/html-details-tag)

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.

1. **<label>**
2. Enter your favorite cricket player: Press any character**<br** **/>**
3. **<input** type="text" id="favCktPlayer" list="CktPlayers"**>**
4. **<datalist** id="CktPlayers"**>**
5. **<option** value="Sachin Tendulkar"**>**
6. **<option** value="Brian Lara"**>**
7. **<option** value="Jacques Kallis"**>**
8. **<option** value="Ricky Ponting"**>**
9. **<option** value="Rahul Dravid"**>**
10. **<option** value="Shane Warne"**>**
11. **<option** value="Rohit Sharma"**>**
12. **<option** value="Donald Bradman"**>**
13. **<option** value="Saurav Ganguly "**>**
14. **<option** value="AB diVilliers"**>**
15. **<option** value="Mahendra Singh Dhoni"**>**
16. **<option** value="Adam Gilchrist"**>**
17. **</datalist>**
18. **</label>**

[More details.](https://www.javatpoint.com/html-datalist-tag)

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:**

1. **<div** id="header"**>**
2. **<h1>**Monday Times**</h1>**
3. **</div>**
4. .
5. .
6. .
7. **<div** id="footer"**>**
8. **<p>**&copy; JavaTpoint. All rights reserved.**</p>**
9. **</div>**

**HTML 5 Header and Footer:**

1. **<header>**
2. **<h1>**Monday Times**</h1>**
3. **</header>**
4. .
5. .
6. .
7. **<footer>**
8. **<p>**© JavaTpoint. All rights reserved.**</p>**
9. **</footer>**

Menu Example

**HTML 4 Menu:**

1. **<div** id="menu"**>**
2. **<ul>**
3. **<li>**News**</li>**
4. **<li>**Sports**</li>**
5. **<li>**Weather**</li>**
6. **</ul>**
7. **</div>**

**HTML 5 Menu:**

1. **<nav>**
2. **<ul>**
3. **<li>**News**</li>**
4. **<li>**Sports**</li>**
5. **<li>**Weather**</li>**
6. **</ul>**
7. **</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:**

1. 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:**

1. **<input** type="email"**>**