

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-Oriented 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 and it is said to be unstructured programming.

3. What are JavaScript types?

Following are the JavaScript types:

Number, String, Boolean, Function, Object, Null, 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.

6. What is negative infinity?

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

7. 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.

08. 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.

09. 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.

10. 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.

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

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

string.

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.

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.

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 functionality of delete operator is used to delete all variables and objects in a program but it cannot delete variables declared with VAR keyword.

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

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

Alert

Confirm and

Prompt

31. 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.

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.

37. What are JavaScript Cookies?

Cookies are the small text 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

40. 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 datatypes 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.

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

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

46. 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:

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 .

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.

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.

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

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

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.

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.

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.

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"`

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.

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

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

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88. What are the important JavaScript Array Method explain with example? JavaScript Array Methods

The Array object has many properties and methods which help developers to handle arrays easily and efficiently. You can get the value of a property by specifying `arrayname.property` and the output of a method by specifying `arrayname.method()`.

- length property → If you want to know the number of elements in an array, you can use the length property.
- prototype property → If you want to add new properties and methods, you can use the prototype property.
- reverse method → You can reverse the order of items in an array using a reverse method.
- sort method → You can sort the items in an array using sort method.
- pop method → You can remove the last item of an array using a pop method.
- shift method → You can remove the first item of an array using shift method.
- push method → You can add a value as the last item of the array.

89. What is OOPS Concept in JavaScript?

Many times, variables or arrays are not sufficient to simulate real-life situations. JavaScript allows you to create objects that act like real-life objects. A student or a home can be an object that has many unique characteristics of its own. You can create properties and methods for your objects to make programming easier. If your object is a student, it will have properties like the first name, last name, id, etc., and methods like calculating rank, change address, etc. If your object is a home, it will have properties like a number of rooms, paint color, location, etc. The methods like to calculate area, change owner, etc.

What is JavaScript Unit Testing, and what are the challenges in JavaScript Unit Testing?

JavaScript Unit Testing is a testing method in which JavaScript tests code written for a web page or web application module. It is combined with HTML as an inline event handler and executed in the browser to test if all functionalities work fine. These unit tests are then organized in the test suite.

Every suite contains several tests designed to be executed for a separate module. Most importantly, they don't conflict with any other module and run with fewer dependencies on each other (some critical situations may cause dependencies).

94.How does QuickSort Work

Step 1) First, find the “**pivot**” element in the array.

Step 2) Start the left pointer at the first element of the array.

Step 3) Start the right pointer at the last element of the array.

Step 4) Compare the element pointing with the left pointer, and if it is less than the pivot element, then move the left pointer to the right (add 1 to the left index). Continue this until the left side element is greater than or equal to the pivot element.

Step 5) Compare the element pointing with the right pointer. If it is greater than the pivot element, move the right pointer to the left (subtract 1 to the right index). Continue this until the right-side element is less than or equal to the pivot element.

Step 6) Check if the left pointer is less than or equal to a right pointer, then swap the elements in these pointers' locations.

Step 7) Increment the left pointer and decrement the right pointer.

Step 8) If the left pointer index is still less than the right pointer's index, repeat the process; else, return the left pointer's index.

98. What are Cookies in JavaScript?

A cookie is a piece of data stored on your computer to be accessed by your browser. You also might have enjoyed the benefits of cookies knowingly or unknowingly. Have you ever saved your Facebook password so that you do not have to type it every time you try to login? If yes, then you are using cookies. Cookies are saved as key/value pairs.

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.

What do you understand by hoisting in JavaScript?

Hoisting is the default behaviour of JavaScript where all the variable and function declarations are moved on top. In simple words, we can say that Hoisting is a process in which, irrespective of where the variables and functions are declared, they are moved on top of the scope. The scope can be both local and global.

What is the arrow function?

Ans. The arrow function will support in JavaScript only after ES6 or above, it is a short way to write function expression. The conventional way of writing a function.

What is the usefulness of the window object?

A browser's history object could be used to switch to history pages like back and forward from the existing page or another page. 3 methods of history object are as follows:

1. `history.back()` – This method loads the previous page.
2. `history.forward()` – This method loads the next page.
3. `history.go(number)` - Its number may be positive (for forward) or negative (for backward). It will load the provided page number.