

JavaScript Descriptive Question and Answer:

1. Write down some features of JavaScript?

- JavaScript is a high-level interpreted language.
- JavaScript can be embedded directly into HTML pages.
- It is a lightweight programming language.
- JavaScript is primarily used in the form of client-side.
- JavaScript is dynamic, weakly typed and has first-class functions

2. “JavaScript is called interpreted language”- why?

JavaScript is called **interpreted language** because the browser parses the JavaScript code line-by-line and creates the equivalent machine code and having the computer to execute the interpreted code.

3. Why JavaScript is called weakly type language?

In JavaScript, type casting is not necessary to convert one data type to another data type. That means the variable containing numeric data can also contain string data without any cast and no need to declare variable data type. For these reason JavaScript is called loosely/weakly type language.

4. What do you understand by Undefined and null values?

Undefined value means a variable has been declared but has not yet been assigned a value.

On the other hand, null is an assignment value. It is not zero, not blank or not undefined. It can be assigned to a variable as a representation of no value. Also, undefined and null are two distinct types: undefined is a type itself (undefined) while null is an object.

```
Var noVal=null;document. write (noVal);
```

5. What are primitive data types?

The data types which contain only one component are called primitive data. Boolean values, number, strings, and null and undefined values all constitute primitive data types.

6. What is variable?

A variable is a name that contains value that can change, depending on conditions or on information passed to the program. A variable can contain different type of data types such as Boolean values, numbers, strings etc. Example: `var i =0;`

7. What do you mean by local variable and global variable?

Local variable: These variables only exist inside the specific function that creates them. They are unknown to other functions and to the main program.

Global variable: A local variable has global scope which means it is defined everywhere in your JavaScript code. They do not get recreated if the function is recalled.

Example- `var a=5;`

```
function test() { var b="abc"; var c=a+b; }
```

Here “a” is global variable and “b”, “c” are local variable.

8. What do you mean by Array? Declare an array?

An array is a collection of homogenous data elements which are stored in consecutive memory locations. Always address location of array starts from 0. In JavaScript arrays are treated as objects.

Each property in an array is called an Element and each element can be assigned a value. An array can be declared in JavaScript in the following ways...

```
var myArray=new Array( );
```

09. What are the two purposes of plus operator?

(i) To add numeric numbers and (ii) To concatenate string data.

For example-

Concatenation:

```
Var a = "New, b = "Riders, gap =" ", display = "a+gap+b"; document.write(display);
```

Output = New Riders.

Calculation: var a = 10, b = 20; document.write(a+b);

Output = 30.

10. Which are called LIFO based and FIFO based method?

LIFO based methods are:

Push – insert at the end of the list

Pop - remove from the end of the list

FIFO based methods are:

unshift – insert at the first of the list

shift - remove from the first of the list

11. What is the use of typeof operator?

The typeof operator is unary, returning one of the following values-

1) Number, 2) String, 3) Boolean, 4) object, 5) Function, 6) Undefined 7) Null

```
var found = true;
```

```
alert(typeof found) // displays Boolean
```

12. Which operator can be used as an alternative of conditional statement?

Ternary operator can be used as an alternative of conditional statement.

```
If(a>10) b= 50;
```

```
Else b=75;
```

Alternative of the above conditional statement is:

```
a>10 ? b=50 : b=75
```

13. What are the three basic structure of JavaScript?

Three basic structure of java Script are:

a) Sequence - placed in sequence order.

b) Branches – execute alternative condition.

c) Loops –it repeat a statement.

14. What are the three categories of operators? Explain

Unary Operator: It works on a single variable of literal.

```
var a=85; var b= -a;
```

increments(++) and decrements(--) are also unary operator.

Binary Operator: It takes two expressions and combines them into another complex expression.

```
var calculation=(total/n)+73; the divided(/) and plus(+) are binary operator.
```

Ternary Operator: It can combine three expressions into one complex expression. var

```
a==b?c=44:c=55;
```

15. Which loop checks the condition at the end of the statement?

Do/while loop:

```

Do {
    Statement
}
While (termination condition) //Condition check here

```

16. What are the three parts of for loop?

For loop is a fixed loop as it continues from a fixed value and ended after reaching a fixed value.

(a) Initial value (b) Condition (c) Statement

For (start value; termination; increment/ decrement)

{Statement}

for(var i=0; i<10; i++)

17. What do you mean by 'with' statement? And write its benefit.

"with" statement is used for shortcut. Using with statement, we can specify the object name once and then follow it with all the properties and their values in this format:

With(object){statement with properties only}

18. What do you mean function and return statement?

Ans: A function is a "subprogram" that can be called by code external (or internal in the case of recursion) to the function. The composed sequence of statements is called the function body. Values can be passed to a function, and the function can return a value.

Return statement is used to exit from the function and return value from the function to the caller.

19. How can you fire a function?

We can fire a function in three ways:

- function() Constructor-This Function()Constructor looks like the new object or array constructor.
Var variable name=new Function("exp1"," exp2"," return exp3")
- Function literals-A newer version of the function () constructor can be found in function literals.
var variable name=new Function()(arg1,arg2){return ex1};
- Methods in Function- works like a method, FunctionName.toStrings()

20. What are the main event categories?

Events can be divided into following categories:

- Keyboard events
- Mouse events
- Form-related events
- Page/Window/Image events

21. How function constructor and function literals are declared?

The function () constructor looks like the new object or array constructor.

var variable name=new Function("exp1"," exp2"," return exp3")

Function literals look more like function statements in that they use curly braces, they have no unique of name of their own for purposes of reference.

var variable name=new Function()(arg1,arg2){return ex1};

Using this function as literal data provides a lot more flexibility in our scripts.

22. Show the hierarchy of HTML form.

Window (object)

Document (property of window)

Form (property of document)

Element (property of form)

Element value property of element)

23. What do you understand by proto type concept in JavaScript?

In JavaScript, the concept of class that treats an instance of an object to be a member of the class, the prototype concept treats the named object with all of the properties that all members of the class have. Every object has a prototype by default. Since prototypes are themselves objects, every prototype has a prototype too.

24. Why object-oriented programming is essential in JavaScript?

OOP is essential in JavaScript when,

- The script become longer
- We need modular programming
- We need to re-use the script
- It's easy to maintain and it is much shareable

25. What is Document Object Model (DOM)?

The Document Object Model (DOM) is the model that describes how all elements in an HTML page, like input fields, images, paragraphs etc., are related to the topmost structure: the document itself. By calling the element by its proper DOM name, we can influence it.

26. What is the benefit of preloading image?

Main benefits of preloading image are:

- It helps user to load a page quickly.
- It saves our time to wait.
- Preloading or placing images in the browsers cache is simple.
- Can place the preload object in an HTML-defined image slot.
- Can replace it with the cached image.
- There is no limit to the number of images that you can cache.
- Can include the height and width

```
var myImage=new Image();  
myImage.src="flower1.jpg";
```

27. What are the functions of open and close method?

The **open ()** method has access to most parameters, including height, location, member, resizable, scrollbars, status, toolbars and width

Function getWin(){

```
Open("sampWin.html","sampWin1","toolbar=no, width=200, height=150 ")  
}
```

The **close()** method is always self-referent with a page not part of a frameset.

Function shutI(){Close()};

28. What are the events in HTML and JavaScript?

There are four events in HTML and JavaScript. They are-

1. Mouse Events: onclick, ondblclick, onmousedown, onmouseup, onmousemove, onmouseout, onmouseover.
2. Key Events: onKeyDown, onKeyUp, onKeyPress
3. Form Events: onBlur, onFocus, onReset, onSubmit.
4. Page/Window/Image events: onAbort, onError, onBlur, onResize, onUnload.

29. What are the three cross-browser methods of history object?

The three cross browser methods of history objects are- back(), forward() and go().

Back() – It used to go the previously visited site.

forward() – It is used to go the recently visited sites.

Go() – It uses positive values and negative values both for forward and backward references.

30. What are the two methods of location objects?

The two methods of location object are reload () and replace ().

Reload() is used for adding a new location removes the previous one.

Replace() is used for adding a location replacing the previous one.

31. What do you mean by history object? Write down its method?

The history object is a property of the window object and is accessed through the window.history property. It has a cross browser property, length and three methods.

Methods are: (a) Back () (b) Forward () (c) Go (n)

32. What is difference between substring () and charAt ()?

Substrings (begin, end): The substring () method extracts the characters from a string, between two specified indices, and returns the new sub string. Enters the beginning and ending numeric positions of a part of the string object.

CharAt (n): The charAt () method returns the character at the specified index in a string. The index of the first character is 0, and the index of the last character in a string called "txt", is txt.length-1.

33. What do you mean by 'with' statement?

With statement is used when numerous function of an object is used. Using with () statement it is possible to reduce prototype object references and makes the code more readable. With (object references) {Statement}

34. What do you mean by event and event handler?

Event: An event is some notable action to which a script can respond and it makes things happen and give the HTML website live.

Event Handler: Event Handler is the interactive trigger in HTML and JavaScript whether the script launches a function means event. Such as: onLoad, onMouseClick, onMouseOver, onUnload etc.

35. What do you mean by ceil () and floor ()?

Math.Ceil: The Math.Ceil () function round numbers to the next highest integer in JavaScript language.

Math.Floor: The Math.Floor () function round numbers to the last/down lowest integer in JavaScript language.

36. What is difference between setInterval () and setTimeout ()?

SetInterval: The SetInterval () method in JavaScript repeats a script action every many milliseconds, initiating the script after the specified number of millisecond.

SetTimeout: The SetTimeout () method in JavaScript is a simple function used to repeatedly call some function after a specified amount of time.

37. Where return statement is used?

When we create a function in JavaScript we need to remember to provide a return statement in the script, if we plan to use the function as data in another expression.

We use it in the (1) End of the function (2) End of the statement

Function returnMessege ()

```
{ return Statement }
```

38. What is the function of return statement?

The return statement is used to specify the value that is returned from the function.

So, functions that are going to return a value must use the return statement.

The example below returns the product of two numbers (a and b):

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

```
function product(a,b)
```

```
{
```

```
return a*b;
```

```
}
```

```
</script>
```

39. What is the difference between while and do-while loop?

The while loop loops through a block of code while a specified condition is true.

```
while (variable<=endvalue)
```

```
{
```

```
code to be executed
```

```
}
```

The do...while loop is a variant of the while loop. This loop will execute the block of code ONCE, and then it will repeat the loop as long as the specified condition is true.

```
do
```

```
{
```

```
code to be executed
```

```
}
```

```
while (variable<=endvalue);
```

40. What is the function of break and continue statement?

The break statement will break the loop and continue executing the code that follows after the loop (if any).

The continue statement will break the current loop and continue with the next value.

41 What is JavaScript Event?

By using JavaScript, we have the ability to create dynamic web pages. Events are actions that can be detected by JavaScript.

Every element on a web page has certain events which can trigger a JavaScript. Examples of events:

- A mouse click
- A web page or an image loading
- Mousing over a hot spot on the web page
- Selecting an input field in an HTML form

- Submitting an HTML form
- A keystroke

42. What is the difference between “==” and “===” operator?

Equal operator (==) check the condition whether two numbers or string values are **equal**

Strictly equal operator (===) used to compare and check whether both values and their types are **equal**

43. Write the properties of DOM.

Below lists the DOM properties that can be used on most elements in a document:

attributes[], childNodes[], className, clientWidth, clientHeight, dir, firstChild, id, innerHTML, lang, lastChild, localName, namespaceURI, nextSibling, nodeName, nodeType, nodeValue, offsetLeft, offsetTop, offsetParent, offsetWidth, offsetHeight, ownerDocument, parentNode, prefix, previousSibling, scrollLeft, scrollTop, scrollHeight, scrollWidth, style, tabIndex, tagName, title.

44. What do you mean by cookies?

A cookie is a variable that is stored on the visitor's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With JavaScript, we can both create and retrieve cookie values. Cookies are small bits of text files that store our session, and other small data, it's pretty much like a database in a sense.

45. What is reserved word? Write five reserved word.

Reserved words are some of words those actually used in the Java Script language, and are reserved in JavaScript for compatibility purposes or as possible extensions

Some reserved words are as follows:

abstract else instanceof super boolean enum int switch

46. What is the difference between substring() and substr()?

JavaScript substring is used to take a part of a string. The syntax of **JavaScript substring** method is given below:

stringObjectToTakeAPartOf.**substring**(start-index,stop-index) // stop-index is Optional

The **JavaScript substr()** method works slightly different. Instead of the second parameter being an index number, it gives the number of characters. The syntax of **JavaScript substr()** is given below:

stringObjectToTakeAPartOf.**substr**(start-index,length)

47. What is String Concatenation?

Joining two or more strings is known as string concatenation. In JavaScript we can do this in two ways:

1. + operator. The + operator does string concatenation as soon as one of its operands is a string. Then the other operand is converted to string. Example:

```
document.write( "Say hello " + 7 + " times fast!");
output='Say hello 7 times fast!'
```

2. Joining an array of strings. Collect the strings to be concatenated in an array and join it afterwards.

```
var arr = new Array();
arr[0]="Say hello ";
arr[1]=7;
arr[2]=" times fast";
document.write( arr.join(" "));
```

```
output='Say hello 7 times fast'
```

48. What is the function of charAt()?

The charAt() method returns the character at the specified index in a string.

The index of the first character is 0, and the index of the last character in a string called "txt", is txt.length-1.

Syntax: *string.charAt(index)*

49. What is the function of indexOf()?

The indexOf() method returns the position of the first occurrence of a specified value in a string. This method returns -1 if the value to search for never occurs.

string.indexOf(searchstring)

50. What is function? How can you define function in JavaScript?

Functions in JavaScript let you define code that is called on demand, instead of immediately. There are several ways to define a function:

Standard function Statement:

```
function getarea(w,h){ //standard function
  var area=w*h
  return area
}
```

getarea(3,5) //calls function

Function Literal (an anonymous function assigned to a variable):

```
var getarea=function(w,h){
  var area=w*h
  return area
}
```

getarea(3,5) //calls function

Function Constructor (creates a function on the fly, which is slower and generally discouraged):

//syntax: new Function(argument1, argument2, ..., argumentY, functionbody) //all parameters must be a string

```
var getarea=new Function("w", "h", "var area=w*h; return area")
getarea(3,5) //calls function
```

51. What are the difference between alert() and prompt()?

An alert box is often used if you want to make sure information comes through to the user.

When an alert box pops up, the user will have to click "OK" to proceed.

Syntax: alert("sometext");

A prompt box is often used if you want the user to input a value before entering a page.

When a prompt box pops up, the user will have to click either "OK" or "Cancel" to proceed after entering an input value.

If the user clicks "OK" the box returns the input value. If the user clicks "Cancel" the box returns null.

Syntax: prompt("sometext","defaultvalue");

52. What is the function of typeof operator in JavaScript?

The "typeof" operator in JavaScript allows us to probe the data type of its operand, such as whether a variable is string, numeric, or even undefined. The below simple example alerts the data type of the variable "myvar"

```
var myvar=5
alert(typeof myvar) //alerts "number"
```

53. What do you mean by object? Write 5 built in objects in JavaScript?

An object is a collection of properties or variable and methods. Objects may be user define or built in.

Some built in objects are Math, Date, Window, History, Location, Navigator, Array, String etc.

54. How to use ternary operator in JavaScript?

The **ternary operator** will accept three operands and is used to assign a certain value to a variable based on a condition. The syntax is condition ? result1 : result2;

So if the condition is evaluated as true the result1 is runned else result2.

Example:

1. <script language=javascript>
2. **var** x=3;
3. (x == 3) ? y="true" : y="false";
4. document.**write**(y);
5. </script>

55. What is escape sequence? How to use this?

Escape sequences allow user to parse string literals in JavaScript for special characters/ formatting, such as newlines within a TEXTAREA's input. Below lists these escape sequences:

Example: alert("Welcome to JavaScript \n Enjoy your stay!")

56. What is Regular Expression?

Regular Expressions are pattern used to match character combination in string. In JavaScript, regular expressions are also object:

- a. Literal syntax:

//match all 7 digit numbers

var phonenummer= /\d{7}/

- b. Dynamically, with the `RegExp()` constructor:

//match all 7 digit numbers (note how "d" is defined as "\\d")

var phonenummer=new RegExp("\\d{7}", "g")

57. What is eval() in JavaScript?

The `eval()` method is incredibly powerful allowing us to execute snippets of code during execution in JavaScript.

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

```
var USA_Texas_Austin = "521,289";
```

```
document.write("Population is "+eval( USA_Texas_Austin));
```

```
</script>
```

Output: Population is 521,289

58. Difference between Interpreted language and Compiled language.

Interpreted languages are easy to learn, but it take more time to execute the code or run. JavaScript is Interpreted Language.

Compiled languages take much time to debugging,testing but it executes very easily. C++, java etc are compiled language. Compiled languages need compiler to translate the source code to machine code.

59. What is Parser?

Parser: Parser is interpreter which reads the code.