**>>How would you write a program to Optimize battery life?**

**\*R**educe Time-complexity, reduce background tasks, reduce amount of code that has forced intervals, add options for quicker sleep, The biggest battery drainer of all components is the screen. \***T**his is especially true on smartphones and tablets where often CPUs are energy preserving. **\*W**e need a way to get quicker dim times, after user has used an app. \***>>R**educe Required connection times, most the a connection is not required on an app, and it can go into a read mode. \***A**pp should use as much on board storage on a device, instead of using connections, an example would be having an app’s gui pre-built and then connecting only when needed thus reducing connection time. **Timers are operated within a single thread, and thus events might queue up, waiting to be executed. Intervals. >>R**educe Refresh Rates

**>>Describe CSS box model-**All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout. The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding  
>>\***What is function hoisting in JavaScript?**In JavaScript, variable and functions are hoisted. Let's take function hoisting first. Basically, the JavaScript interpreter looks ahead to find all variable declarations and then hoists them to the top of the function where they're declared. For example:

**>>What is the instanceof operator in JavaScript? What would be the output of the code below?**var dog = new Animal();  
dog instanceof Animal // Output : true Here dog instanceof Animal is true since dog inherits from Animal.prototype.

**>>Give an example of JavaScript closure -** A closure is the combination of a function and the lexical environment within which that function was declared.  
>>**What is the difference between undefined and not defined in JavaScript?** == value comparison, vs === value and type comparison

**>>What is the drawback of creating true private methods in JavaScript?**One of the drawbacks of creating true private methods in JavaScript is that they are very memory-inefficient, as a new copy of the method would be created for each instance.

**>>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.

**>>What are JavaScript types?**Number,String,Boolean,Function,Object,Null,Undefined

**>>What is the use of isNaN function?**isNan function returns true if the argument is **not a number** otherwise it is false.

>>**What is negative infinity?** Negative Infinity is a number in JavaScript which can be derived by dividing negative number by zero.

**>> 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

**>>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.

**>>Write the code for adding new elements dynamically?**

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); }

Write a mul function which will produce the following outputs when invoked:  
  
console.log(mul(2)(3)(4)); // output : 24   
console.log(mul(4)(3)(4)); // output : 48  
Below is the answer followed by an explanation to how it works:  
  
function mul (x) {  
 return function (y) { // anonymous function   
 return function (z) { // anonymous function   
 return x \* y \* z;   
 };  
 };  
}  
Here the mul function accepts the first argument and returns an anonymous function, which takes the second parameter and returns another anonymous function that will take the third parameter and return the multiplication of the arguments that have been passed.  
  
In JavaScript, a function defined inside another one has access to the outer function's variables. Therefore, a function is a first-class object that can be returned by other functions as well and be passed as an argument in another function.  
  
A function is an instance of the Object type  
A function can have properties and has a link back to its constructor method  
A function can be stored as a variable  
A function can be pass as a parameter to another function  
A function can be returned from another function

**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.Also, it is difficult to debug and test the code that relies on global variables.

**What is ‘this’ keyword in JavaScript?**‘This’ keyword refers to the object from where it was called.

**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.**

**What is the difference between ViewState and Session State?**

‘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.

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

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

**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

**How can the style/class of an element be changed?**It can be done in the following way- document.getElementById(“myText”).className = “anyclass”;

**Explain how to read and write a file using JavaScript?**Using JavaScript extensions, Using a web page and Active X object

**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. This is called variable typing.

**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.

**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.

**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.

**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.

**What is an undefined value in JavaScript?**Variable used in the code doesn’t exist,Variable is not assigned to any value, Property doesn’t exist

**What is the use of Void(0)?**Void(0) is used to prevent the page from refreshing and parameter “zero” is passed while calling.

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

**What is the data type of variables of in JavaScript?**All variables in the JavaScript are object data types. And name vlue pairs**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.

**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.

var cloths = [“Shirt”, “Pant”, “TShirt”]; >>cloths.pop();>>//Now cloth becomes Shirt,Pant

**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.

**Mention what is the disadvantage of using innerHTML in JavaScript? C**ontent is replaced everywhere >>**W**e cannot use like “appending to innerHTML”>>**E**ven if you use +=like “innerHTML = innerHTML + ‘html’” still the old content is replaced by html>>**T**he 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

**What are the two basic groups of dataypes in JavaScript?**Primitive--Reference types.-Primitive types are number and Boolean data types. Reference types are more complex types like strings and dates.

**How generic objects can be created?**object():

**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.

**Which keywords are used to handle exceptions?**Try… Catch—finally is used to handle exceptions in the JavaScript

**Which keyword is used to print the text in the screen?** document.write(“Welcome”) is used to print the text – Welcome in the screen.

**What is the use of blur function?**Blur function is used to remove the focus from the specified object.

**What is variable typing?**

Variable typing is used to assign a number to a variable and then assign string to the same variable.

**\*What are the different types of errors in JavaScript?**

* **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.

**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.

**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.

**\*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:

**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.

**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.

**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.

**How can a value be appended to an array?** arr[arr.length] = value;

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

**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.

**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.

**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.

**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.

**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”

**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 –ScriptPath(), 0);

**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.The DOM is the way Javascript sees its containing pages' data. It is an object that includes how the HTML/XHTML/XML is formatted. 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.

**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.

**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.

**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.

**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 –

**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.

**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.

**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.