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**Subject:** Assignment

**Q1. What is JavaScript?**

* JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

**Q2. Enumerate the differences between Java and JavaScript?**

* When considering Java versus JavaScript, you’ll notice a few key differences. **Java** is a compiled language, meaning that you write code, then run it through a compiler and create bytecode. The bytecode is then run in a Java Virtual Machine (JVM), which is likely the software you have on your computer. **JavaScript** is an interpreted language. It doesn’t get compiled but is interpreted as the script runs. It's commonly used to create interactive websites. You’re reading this right now on a page running JavaScript.

**Q3. What are JavaScript Data Types?**

* JavaScript has 8 Datatypes

1. String  
2. Number  
3. Bigint  
4. Boolean  
5. Undefined  
6. Null  
7. Symbol  
8. Object

**The Object Datatype**

The object data type can contain:

1. An object  
2. An array  
3. A date

**Q4. What is the use of isNaN function?**

* In JavaScript NaN is short for "Not-a-Number".The isNaN() method returns true if a value is NaN.The isNaN() method converts the value to a number before testing it.

**Q5. Which is faster between JavaScript and an ASP script?**

* In between JavaScript and ASP script, JavaScript is faster than ASP script. Because, JavaScript is restricted to browser side scripting, it cannot process server-side functions like connecting to a database and performing operations on it. But JavaScript returns a response to the user when a request is sent.

**Q6. What is negative Infinity?**

* NEGATIVE\_INFINITY is **a special numeric value that is returned when an arithmetic operation or mathematical function generates a negative value greater than the largest representable number in JavaScript** (i.e., more negative than -Number. MAX\_VALUE) . JavaScript displays the NEGATIVE\_INFINITY value as -Infinity .

**Q7. Is it possible to break JavaScript Code into several lines?**

* JavaScript code can be broken into several lines using the line continuation character, which is a backslash () at the end of the line.

**Q8. Which company developed JavaScript?**

* JavaScript was invented by **Brendan Eich** in 1995. It was developed for Netscape 2, and became the ECMA-262 standard in 1997. After Netscape handed JavaScript over to ECMA, the Mozilla foundation continued to develop JavaScript for the Firefox browser.

**Q9. What are undeclared and undefined variables?**

* An undefined variable is one that has been declared but does not have a value. An undeclared variable is one that does not exist in the programmer at all.

**Q10. Write the code for adding new elements dynamically?**

* The createElement() method in JavaScript can be used to create new items dynamically. The setAttribute() method is used to set the attributes of the newly generated element.

**JavaScript Code:**

* <html>
* <title>
* Adding new elements dynamically
* </title>
* <body>
* <button *id*="button">Hit me to add elements dynamically</button>
* <h3 *id*="heading\_A"></h3>
* <h5 *id*="alert"></h5>
* <script>
* const button = document.**getElementById**('button');
* const text = document.**getElementById**('heading\_A');
* const alrt = document.**getElementById**('alert');
* button.**onclick** = () => {
* const name = **prompt**('What is your name?');
* const course = **prompt**('Which Course we are learning ?');
* **alert**(`Hello ${name}, Welcome to our group...!`+ "\n" + `We are learning ${course}`);
* text.textContent = `Welcome ${name}to our group...!` + `We are learning ${course}`;
* **alert**(button.textContent);
* text.textContent = `Welcome ${name}to our group...!` + `We are learning ${course}`;
* }
* </script>
* </body>
* </html>

**Q11.What are global variables?How are these variable declared?**

* The variables that can be accessed from any place in the program are known as global variables. These are the variables declared in the main body of the source code as well as outside of all methods. These variables are accessible to all functions. The var keyword is used to declare variables at the global level. The global variable exists until the program runs.

**Q12. What is a prompt box?**

* 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.

**Q13. What is ‘this’ keyword in JavaScript?**

* In JavaScript, the this keyword **refers to an object**. Which object depends on how this is being invoked (used or called). The this keyword refers to different objects depending on how it is used: In an object method, this refers to the object. Alone, this refers to the global object.

**Q14. What is the working of timers in JavaScript?**

* In JavaScript, a timer is created to execute a task or any function at a particular time. Basically, the timer is used **to delay the execution of the program or to execute the JavaScript code in a regular time interval**. With the help of timer, we can delay the execution of the code.

**Q15. Which symbol is used for comments in Javascript?**

* Single line comments start with **//** . Any text between // and the end of the line will be ignored by JavaScript (will not be executed).

**Q16. What is the difference between ViewState and SessionState?**

* The basic difference between these two is that the **ViewState is to manage state at the client's end, making state management easy for end-user while SessionState manages state at the server's end**, making it easy to manage content from this end too.

**Q17. What is === operator?**

* The **strict equality (===)** operator checks whether its two operands are equal, returning a Boolean result. Unlike the [equality](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Operators/Equality) operator, the strict equality operator always considers operands of different types to be different.

**Q18. How you can submit a form using JavaScript?**

* Generally, a form is submitted when the user presses a submit button. However, sometimes, you may need to submit the form programmatically using JavaScript.

JavaScript provides the form object that contains the submit() method. Use the ‘id’ of the form to get the form object.

For example, if the name of your form is ‘myform’, the JavaScript code for the submit call is:

document.forms["myform"].submit();

**Q19. Does JavaScript support automatic type conversion?**

* YES, When an operator is being used by an incorrect type, JavaScript will convert that value to the type it needs to do the calculation

**Q20. How can the style/class of an element be changed?**

* Another way to alter the style of an element is by **changing its class attribute**. class is a reserved word in JavaScript, so in order to access the element's class, you use element className.

**Q21. How to read and write a file using JavaScript?**

* Files can be read and written by using java script functions – fopen(),fread(),fwrite().  
  The function fopen() takes two parameters – 1. Path and 2. Mode (0 for reading and 3 for writing). The fopen() function returns -1, if the file is successfully opened.

**Q22. What are all the looping structures in JavaScript?**

* for - loops through a block of code a number of times
* for/in - loops through the properties of an object
* for/of - loops through the values of an iterable object
* while - loops through a block of code while a specified condition is true
* do/while - also loops through a block of code while a specified condition is true

**Q23. What is called Variable typing in Javascript?**

* Like PHP, JavaScript is a very loosely typed language; the type of a variable is determined only when a value is assigned and can change as the variable appears in different contexts. Usually, you don’t have to worry about the type; JavaScript figures out what you want and just does it.

**Q24. How can you convert the string of any base to an integer in JavaScript?**

* To convert a string to an integer **parseInt(), Number(), and Unary operator(+) function** is used in javascript. parseInt() function returns Nan( not a number) when the string doesn't contain number. If a string with a number is sent, then only that number will be returned as the output.

**Q25. Difference between “==” and “===”?**

* The == operand loosely compares two values, thus it can be used in cases where the data type of the operand isn't important.

The === operand strictly compares two values, thus it is used in the places where the data type of the operand is important.

**Q26. 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.**

**Q27. How to detect the operating system on the client machine?**

* To detect the client machine's operating system, we can **use the navigator object provided by JavaScript**. The navigator object provides us with methods such as navigator. appVersion & navigator.

**Q28. What do you mean by NULL in Javascript?**

* The null value represents **the intentional absence of any object value**. It is one of JavaScript's primitive values and is treated as falsy for boolean operations.

**Q29. What is the function of the delete operator?**

* The delete operator **removes a property from an object**. If the property's value is an object and there are no more references to the object, the object held by that property is eventually released automatically.

**Q30. What is an undefined value in JavaScript?**

* **A variable that has not been assigned a value** is of type undefined . A method or statement also returns undefined if the variable that is being evaluated does not have an assigned value. A function returns undefined if a value was not returned .

**Q31. What are all the types of Pop up boxes available in JavaScript?**

* JavaScript has three kind of popup boxes: **Alert box, Confirm box, and Prompt box**.

**Q32. What is the use of Void (0)?**

* “javascript: void(0)” is similar to void. javascript: void(0) means return undefined as a primitive value. We use this **to prevent any negative effects on a webpage when we insert some expression**.

**Q33. How can a page be forced to load another page in JavaScript?**

* You can **use window.** **location object** to load another page in JavaScript.

**Q34. What is the data type of variables in JavaScript?**

* In Javascript, there are five basic, or primitive, types of data. The five most basic types of data are **strings, numbers, booleans, undefined, and null**. We refer to these as primitive data types. A single variable can only store a single type of data.

**Q35. What is the difference between an alert box and a confirmation box?**

* **Alert Box:**
* An alert box is used to inform/alert the user about an event.
* This type of popup box has only one button, named ‘OK’, and has no return value.
* Alert Box can be called using the function **alert(“message”)**.

**Confirmation Box:**

* A Confirmation Box is used to provide user with a choice about an event.
* This type of popup box has two buttons, named ‘OK’ and ‘Cancel’, and return ‘true’ and ‘false’ when respective buttons are clicked.
* Confirmation Box can be called using the function **confirm(“message”).**

**Q36. What are escape characters?**

* In JavaScript, you can escape a string by using the **\ (backslash)** character. The backslash indicates that the next character should be treated as a literal character rather than as a special character or string delimiter.

**Q37. What are JavaScript Cookies?**

* A cookie is **an amount of information that persists between a server-side and a client-side**. A web browser stores this information at the time of browsing. A cookie contains the information as a string generally in the form of a name-value pair separated by semi-colons.

**Q38. What a pop()method in JavaScript is?**

* The pop() method **removes the last element from an array and returns that value to the caller**. If you call pop() on an empty array, it returns undefined.

**Q39. Does JavaScript has concept level scope?**

* No,Javascript does not have block level scope,all the variables declared inside a function possess the same level of scope unlike c,c++,java.

**Q40. What are the disadvantages of using innerHTML in JavaScript?**

* Inner HTML is slow:

Inner HTML is slow because when we use the inner HTML property in the code it allows us to change using the JavaScript language. It is very slow because as inner HTML already parses the content even we have to parse the content again so that’s why it takes time.

Replacement is done everywhere:

When innerHTML property is used to modify, all the DOM nodes will have to be parsed and created again.

It is not possible to append innerHTML:

In JavaScript, ‘+=’ is commonly used for appending. However, when using innerHTML to append to an HTML tag, the entire tag is re-parsed.

**Q41. What is break and continue statements?**

* The break statement "jumps out" of a loop. The continue statement "jumps over" one iteration in the loop.

**Q42. What are the two basic groups of data types in JavaScript?**

* The types can be divided into two groups: **primitive types and reference types**. Numbers, boolean values, and the null and undefined types are primitive. Objects, arrays, and functions are reference types.

**Q43. How can generic objects be created?**

* In JavaScript, there is the ability to create a generic anonymous object to serve this purpose. It can either be created **using new Object() or the shorthand { ... } syntax**, and can then be given any properties or methods that are needed.

**Q44. What is the use of a type of operator?**

* Typeof in JavaScript is an operator used for **type checking and returns the data type of the operand passed to it**. The operand can be any variable, function, or object whose type you want to find out using the typeof operator.

**Q45. Which keywords are used to handle exceptions?**

* [**JavaScript**](https://www.geeksforgeeks.org/introduction-to-javascript/) handles exceptions through the “try..catch…finally” statement. An example statement is shown below.

**try** {

// Attempt to execute this code

} **catch** (exception) {

// This code handles exceptions

} finally {

// This code always gets executed

}

**Q46. Which keyword is used to print the text on the screen?**

* Document. Write (“Welcome”) is used to print the text–Welcome on the screen.

**Q47. What is the use of the blur function?**

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

**Q48. What is variable typing?**

* Variable typing assigns a number to a variable and then assigns a string to the same variable. An example is as follows:

i= 8;

i="john";

**Q49. How to find an operating system in the client machine using JavaScript?**

* The **‘**Navigator. the app version is used to find the operating system’s name in the client machine.

**Q50. What are the different types of errors in JavaScript?**

* There are three types of errors:
* **Load time errors**: Errors that come up when loading a web page, like improper syntax errors, are known as Load time errors and generate the errors dynamically.
* **Runtime 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 with a different operation.