

## *Descriptive questions & answers for Java Script*

### 1. “JavaScript is called interpreted language”- why?

**Answer:** JavaScript is called interpreted language because JavaScript has no compilation step like other languages (C++ or Java), instead, an interpreter in the browser reads over the JavaScript code, interprets each line, and runs it.

### 2. Why JavaScript is considered as a “weakly typed” or “untyped” language?

**Answer:** JavaScript is considered as a “**weakly typed**” or “**untyped**” language because it will figure out what type of data someone has and make the necessary adjustments so that there is no need to redefine different types of data. That’s why new programmers regard JavaScript as **smart** as it saves time in learning several different conversion steps and data type declarations.

### 3. What do you understand by Undefined and null values?

**Answer: Undefined** value is the value that returns when someone attempts to use a variable that has not been defined or one that is declared but forgot to provide with a value. A non-existent property of an object also returns undefined if it is addressed.

**For example:**

```
var a;
```

```
var a = undefined;
```

```
var a = {};
```

On the other hand, a variable can be declared or defined as **null**, if there is absolutely nothing in it but someone doesn’t want it to be undefined. Null is not the same as zero (0) in JavaScript. It represents the null, empty, or non-existent reference.

**Example:** Let assign the value of null to b:

```
var b = null;
```

### 4. What are global and local variables?

**Answer:** Variables in JavaScript have scope, which refers to the regions of the script where the variables can be used. A **global variable**, has global scope and is defined in the entire script.

Whereas, **local variables** are local to the functions in which they are defined. As a general rule, we should avoid naming any two variables, whether global or local, with the same name or identifier.

## 5. What is an array?

**Answer:** An array is a data structure that contains a group of elements. Typically, these elements are all of the homogenous data, such as an integer or string. Arrays are commonly used in computer programs to organize data so that a related set of values can be easily sorted or searched.

**Example:**

```
var variable name = new Array(value);  
var myArray = new Array("Value 1", "Value 2", "Value 3", "Value 4");
```

## 6. What are the three parts of “for loop”?

**Answer:** The three parts of “for loop” are: initialization, condition, and increment or decrement.

**Example:** If we want to print 1 to 10 using for loop, the format will be like:

```
for(i=1; i<=10; i++);
```

## 7. What are the three main event categories?

**Answer:** The three main event categories are:

- Keyboard & mouse events;
- Load events;
- Form-related events.

## 8. What are the benefits of using “With” statement?

**Answer:** One can gain the following benefits by using the “**With**” statement:

- It doesn't need to evaluate a complex expression multiple times or assign the result to a temporary variable to refer to its members multiple times.
- It makes the code more readable by eliminating repetitive qualifying expressions.

**Syntax:**

```
with(object) {  
    // Calling the functions or methods of the object  
}
```

## 9. What is Document Object Model (DOM)?

**Answer:** It is a w3c standard for accessing documents. The Document Object Model (DOM) is a cross-platform and language-independent application programming interface that defines the logical structure of documents and the way a document is accessed and manipulated. With the DOM, programmers can create and build documents, navigate their structure, and add, modify, or delete elements and content. Anything found in an HTML document can be accessed, changed, deleted, or added using the DOM.

## 10. What is the event and event handler?

**Answer:** In programming, **an event** is an action that occurs as a result of the user or another source, such as key strokes, mouse activity, action selections, timer expirations, and so forth. An HTML event can be something the browser does, or something a user does. Often, when events happen, you may want to do something. JavaScript lets you execute code when events are detected.

And **an event handler** is a software routine that is used to deal with the event, allowing a programmer to write code that will be executed when the event occurs. With Web sites, event handlers make Web content dynamic. JavaScript is a common method of scripting event handlers for Web content.

### Example of Events & Event Handlers:

Events	Mouse events	Key events	Form events	Page/Window/Image events
Event Handlers	onClick onMouseDown onMouseUp onMouseMove onMouseOver onMouseOut	onKeyDown onKeyUp onKeyPress	onBlur onChange onFocus onReset onSubmit	onAbort onLoad onUnload onError onResize

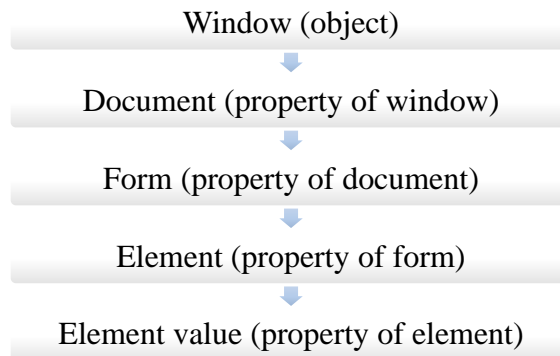
## 11. Reserved word? Write down five reserved words.

**Answer:** In JavaScript reserved word means some specific words those cannot be used as variables, labels, or function names.

**Example:** break, double, throw, try, public, default, class, package, int, private, native, transient, implements, delete, final, new, this etc.

**12. Write down the hierarchy of objects of an html form and the object-property chain.**

**Answer:** The Hierarchy of Objects in an HTML Form:



Object-Property Chain:	
Object	Properties
Window object	Document, Form, Element, Element value
Document object	Form, Element, Element value
Form object	Element, Element value
Element object	Element value
Element value object	Property of element

**13. Write some features of JavaScript.**

**Answer:** Features of JavaScript are given below:

- JavaScript is object-based language as it provides predefined objects.
- JavaScript is the engine that makes things move on a page, by working with dynamic design elements.
- It gives the user more control over the browser.
- It is light weighted and case sensitive.
- It has no compilation step like other languages (C++ or Java).
- JavaScript allows designers to release those aspects of design creatively that cannot be expressed in static HTML.

- It is a ranged language and ranges from extremely simple built in functions and statements that can make the page jump to fairly sophisticated coding structures.
- It lives right among the HTML tags and most JavaScript programs are relatively small.
- It captures user events that cause actions to happen on a web page.
- The JavaScript Date object simplifies the process of computing and working with dates and times.
- JavaScript is an object-based and an interpreter-based scripting language.
- An important part of JavaScript is the ability to create new functions within scripts by declaring a function using function keyword.

#### 14. What are primitive data types?

**Answer:** In JavaScript data types are divided into two basic categories: Primitive; & Compound. Primitive data constitutes with boolean values, numbers, strings, the null & undefined values. Primitive data types are stored in a fixed chunk of memory, depending on the type of data. Primitive data types have a finite and known amount of space in memory and can be stored with the variables.

**Example:** `var x = 18; var y = "Apple";`

#### 15. What is variable?

**Answer:** Variables can be treated as containers that can hold different types of values those can be changed anytime. JavaScript uses reserved keyword **var** to declare a variable. A JavaScript variable must be identified with unique names those are called identifiers. Identifiers are case-sensitive and can be short names (like x and y) or more descriptive names (age, sum, totalVolume). After variable declaration one can assign a value using equal to (=) operator before using the variable.

**Example:** `var variable name = (value);`

#### Rules of naming for variables:

The general rules for constructing names for variables (unique identifiers) are:

- Names can contain letters, digits, underscores, and dollar signs;
- Names must begin with a letter;
- Names can also begin with \$ and \_ (but it is not considered as good practice);

- Names are case sensitive (y and Y are different variables);
- Reserved words (like JavaScript keywords) cannot be used as names.

#### 16. What are the two purposes of plus operator?

**Answer:** The basic arithmetic operators in JavaScript are fairly self-explanatory, with a few exceptions like: add (+). It has two different uses; First, the add operator adds value in math operations. Second, it joins strings or strings with other literals which is called concatenation. Mathematical addition is fairly straightforward, but concatenation is not. When the add operation joins a string and a number, it concatenates them, and converts the number into string.

**Example of Add operation:** `document.write(200+50);` Ans: 250

**Example of Concatenation:** `document.write(200+"50");` Ans: 20050

#### 17. What is the use of “type of” operator?

**Answer:** The “**type of**” operator is a unary operator that is placed before its single operand, which can be of any type. Its value is always a string indicating the data type of the operand. The operand can be either a literal or a data structure such as a variable, a function, or an object. There are six possible values that “**type of**” returns: object, boolean, function, number, string, and undefined.

**The typeof operator is used in either of the following ways:**

**typeof operand;**

**typeof(operand);**