**1. What is JavaScript?**

JavaScript is a lightweight, interpreted programming language used to make web pages interactive. It is primarily used for client-side development but can also be used on the server side using environments like Node.js.

**2. What are the features of JavaScript?**

* Lightweight and easy to learn
* Supports object-oriented programming
* Interpreted and runs in the browser
* Event-driven and supports asynchronous programming
* Platform-independent

**3. What are the different data types in JavaScript?**

JavaScript supports:

* Primitive types: String, Number, Boolean, Undefined, Null, BigInt, and Symbol.
* Non-primitive types: Object (e.g., Arrays, Functions).

**4. What is the difference between var, let, and const?**

* **var**: Function-scoped, allows re-declaration.
* **let**: Block-scoped, does not allow re-declaration.
* **const**: Block-scoped, cannot be re-declared or reassigned.

**5. What is the difference between == and === in JavaScript?**

* **==**: Compares values only, performing type conversion if necessary (loose equality).
* **===**: Compares both value and data type (strict equality).

**6. What is an array in JavaScript?**

An array is a special type of object used to store multiple values in a single variable. It can hold values of different data types.

**7. What is the difference between null and undefined?**

* **null**: Represents an intentional absence of value.
* **undefined**: Indicates that a variable has been declared but not assigned a value.

**8. What is a function in JavaScript?**

A function is a reusable block of code designed to perform a specific task. It is executed when called or invoked.

**9. What is the DOM in JavaScript?**

DOM (Document Object Model) is a programming interface for HTML and XML documents. It represents the document as a tree of objects, allowing JavaScript to interact with and manipulate its structure, style, and content.

**10. What are JavaScript events?**

Events are actions or occurrences that happen in the browser, such as clicks, key presses, or mouse movements, which can be captured and handled using JavaScript.

**11. What is the typeof operator?**

The typeof operator is used to determine the data type of a variable or value in JavaScript.

**12. What are objects in JavaScript?**

Objects are collections of key-value pairs that can store properties (data) and methods (functions).

**13. What is the difference between synchronous and asynchronous code?**

 **Synchronous code**: Executes line-by-line, blocking further execution.

 **Asynchronous code**: Does not block; tasks can run concurrently.

**14. What is the difference between call(), apply(), and bind()?**

* **call()**: Invokes a function with a given this value and arguments passed individually.
* **apply()**: Similar to call() but takes arguments as an array.
* **bind()**: Returns a new function with the specified this value.

**15. What is the difference between for, for...in, and for...of loops?**

* **for**: Iterates over elements using an index.
* **for...in**: Iterates over the keys of an object or the indices of an array.
* **for...of**: Iterates over the values of an iterable (e.g., arrays, strings).

**16. What is an IIFE (Immediately Invoked Function Expression)?**

An IIFE is a JavaScript function that runs as soon as it is defined. It is written within parentheses and immediately invoked using ().

**17. What is the difference between map(), filter()**

* **map()**: Creates a new array by applying a function to each element.
* **filter()**: Creates a new array with elements that satisfy a condition.

**18. What are JavaScript closures?**

Closures are functions that retain access to their parent scope even after the parent function has executed. This is possible because of lexical scoping in JavaScript.

**19. What are control flow statements in JavaScript?**

Control flow statements determine the order in which instructions are executed in a program. They include conditional statements, loops, and branching.

**20. What are the different types of control flow statements in JavaScript?**

* **Conditional Statements**: if, if-else, else if, switch.
* **Loops**: for, while, do-while, for-in, for-of.

**21. What is the difference between for and while loops?**

* **for loop**: Used when the number of iterations is known.
* **while loop**: Used when the condition must be checked before each iteration, and the number of iterations may not be known.

**22. What is the purpose of the break statement?**

The break statement is used to exit a loop or a switch statement before it has completed all iterations or cases.

**23.What is the difference between for-in and for-of loops?**

* **for-in**: Iterates over the keys (properties) of an object.
* **for-of**: Iterates over the values in an iterable (e.g., array, string).