Q which company developed javascript?

Ans: Netscape developed JavaScript and was created by Brenden Eich in the year of 1995.

Q What are the differences between java and javascript?

Ans: JavaScript is a client-side scripting language and Java is object Oriented Programming language. Both of them are totally different from each other.

Javascript is a light-weighted programming language (“scripting language”) for developing interactive web pages.

Java is one of the most popular programming languages. It is an object-oriented programming language and
It is executed in jvm(java virtual machine).

Q javascript is single-threaded or multi-threaded?

Ans: javascrtipt is single-threaded language means it will execute line by line.

Q what are declared and undeclared variables?

Ans:

Undefined: It occurs when a variable is declare not not assign any value. Undefined is not a keyword.
Undeclared: It occurs when we try to access any variable which is not initialize or declare earlier using the var or const keyword.

Q what is “this” keyword in javascript?

Ans: "this" in JavaScript refers to the context in which a function is called. Its value can change based on how the function is invoked.

Q What do you mean by null in JavaScript?

Ans: The null value respresents no value or no object. It is known empty value/object

Q what is prompt box?

Ans: The prompt box is a dialog box with an optional message prompting the user to input some text.

Q what is the use of isNAN function?

Ans: isNAN use to check whether the argument is number or not. It returns true if the argument is not a number, else it return false.

Q what is negative infinity?

Ans: The negative infinity is a constant value represents the lowest available value. It means that no other number is lesser than this value.

Q which is faster javascript and ASP-script?

Ans: JavaScript is faster compare to ASP-script. JavaScript is a client-side scripting language and does not depend on the server to execute. The ASP script is a server-side scripting language always dependable on the server.

Q what is JavaScript? What is the role of JavaScript?

Ans: JavaScript is a programming language that is used for converting static web pages to interactive and dynamic web pages.

Q Is it possible to break JavaScript Code into several lines?

Ans: Yes, it is possible to break the JavaScript code into several lines in a string statement. It can be broken by using the backslash '\'.

Q what is difference between client-side and server-side?

Ans: A client is a device, application, or software component that requests and consumes services or resources from a server. Whereas, A server is a device, computer, or software application that provides services, resources, or functions to clients.

Q what is scope in JavaScript?

Ans:

Global scope: A variable declared outside a function, becomes **GLOBAL**.

Local scope: Variables declared within a JavaScript function, are **LOCAL** to the function.

Block scope: Before ES6 (2015), JavaScript variables had only Global Scope and Function Scope. ES6 introduced two important new JavaScript keywords: let and const. These two keywords provide **Block Scope** in JavaScript.
Variables declared inside a { } block cannot be accessed from outside the block.
Block variable are not accessible outside the block.

Q What is the type of a variable in JS when it is declared without using the var. let, or const keywords?

Ans: "var" is the default type of variable when a variable is not declared with the type.

Q What Is hoisting?

Ans: Hoisting is a JavaScript behavior where functions and variable declarations are moved to the top of their respective scopes during the compilation phase.

Q What is JSON?

Ans: JSON (JavaScript Object Notation) is a lightweight data interchange format. It is kind of language in which UI and Web api communicate with each other.

Q What are variables? What is the difference between var, let, and const?

Ans: Variables are used to store data. Var is function-scoped variable and let, const is block-scoped variable. const can be assigned only once, and its value cannot be changed afterwards. If we delared var inside the if else block then it will be accessible outside the if else block also but let cannot accessible outside the block.

Q what are data types in Js?

Ans: data types determined the type of the variable.

Q What is the difference between primitive and non-primitive data types?

Ans:

Primitive Data: Primitive data types can hold only single value. Primitive data types are immutable, meaning their values, once assigned, cannot be changed. Ex: number, string, Boolean, null, undefined, symbol.
Non-primitive data Non primitive data types can hold multiple value and methods. They are mutable and their values can be changed.Ex. object, array, function, date, regExp.

Q What is the difference between null and undefined in JS?

Ans:

undefined: When a variable is declared but has not been assigned a value, it is automatically initialized with undefined. Undefined can be used when you don't have the value right now, but you will get it after some logic or operation.

null: null variables are intentionally assigned the null value. Null can be used, when you are sure you do not have any value for the particular variable.

Q What are Objects in JS?

Ans: An object is a data type that allows you to store key-value pairs.

Q What is the difference between an array and an object?

Ans:

Arrays are collection of values. Arrays are denoted by square brackets []. Elements in array are ordered.

Objects Objects aie collections of key-value pairs. Objects are denoted by curly braces {}. Properties in objects are unordered.

Q What is the use of typeof operator?

Ans: typeof operator is used to determine the type of each variable. Real application use -> typeOf operator can be used to validate the data received from external sources(api).

Q What is type coercion in JS?

Ans: Type coercion is the automatic conversion of values from one data type to another during certain operations or comparisons.

Q What is operator precedence?

Ans: As per operator precedence, operators with higher precedence are evaluated first.

```
let a = 6; let b = 3; let c= 2;

//BracketOf-Division-Multiplication-Add-Sub

let result =a +b * c+ (a -b); // output: 15
```

Q What is the difference between unary, binary, and ternary operators?

Ans: Unary operator operates on 1 operand. Binary operator operates on 2 operands. Ternary operator operates on 3 operands.

Q What are the types of conditions statements in JS?

Ans: if, if-else, ternary operator, switch case.

Q What is the difference between == and ===?

Ans: == checks for equality after type coercion, allowing different types to be considered equal, while === checks for strict equality without type coercion, requiring both the value and the type to be the same.

Q What is the difference between Spread and Rest operator in JS?

Ans: The spread operator(...) is used to expand or spread elements from an iterable such as an array, string, or object) into individual elements.

The rest operator is used in function parameters to collect all remaining arguments in one array.

Q What is the indexOf() method of an Array?

Ans: IndexOf() method gets the index of a specified element in the array.

Q What is the difference between find() and filter() methods of an Array?

Ans: find() method get the first element that satisfies a condition.

filter() method get an array of elements that satisfies a condition.

Slice() method get a subset of the array from start index to end index(end not included).

Q What is the difference between push() and concat() methods of an Array?

Ans: Push() will modify the original array itself.

concat() method will create the new array and not modify the original array.

Q What is the difference between pop() and shift() methods of an Array?

Ans:

pop() will remove the last element of the array.

Shift() will remove the first element of the array

Q What is the splice() method of an Array?

Ans: The splice() method is used to add, remove, or replace elements in an array.

Q What is the difference between the slice() and splice() methods of an Array?

Ans: The slice() method is used get a subset of the array from the start index to the end index(end not included).

The splice() method is used to add, remove, or replace elements in an array.

Q what is map() and filter() in javascript?

Ans: The map() method is used when you want to modify each element of an array and create a new array with the modified values. Filter is the same as map the only difference is that it takes a condition inside of it and will return only those elements that satisfy that condition

Q What is the difference map() and forEach() array methods of an Array?

Ans: The map() method is used when you want to modify each element of an array and create a new array with the modified values. The forEach() method is used when you want to perform some operation on each element of an array without creating a new array.

Q What are array-like objects In JS?

Ans: Array-like objects are objects that have indexed elements and a length property, similar to arrays; but they may not have all the methods of arrays like push(), pop() & others.

Q What is a loop? What are the types of loops in Js?

Ans: A loop is a programming way to run a piece of code repeatedly until a certain condition is met.

Q What is the difference between while and for loops?

Ans: For loop allows to iterate a block of code a specific number of times. While loop execute a block of code while a certain condition is true.

Q What is the difference between while and do-while loops?

Ans: While loop execute a block of code while a certain condition is true.

The do-while loop is similar to the while loop, except that the block of code is executed at least once, even if the condition is false.

Q What is the difference between break and continue statement?

Ans: The "break" statement is used to terminate the loop.

The "continue" statement is used to skip the current iteration of the loop and move on to the next iteration.

Q What is the difference between for and for...of loop in JS?

Ans: for loop is slightly more complex having more lines of code whereas for...of is much simpler and better for iterating arrays.

Q What is the difference between for...of and for...in loop?

Ans: for...of loop is used to loop through the values of an object like arrays, strings.

for...in loop is used to loop through the properties of an object.

Q What is forEach method?

Ans: forEach() is a method available on arrays or object that allows you to iterate over each element of the array and set over perform some action on each element.

Q What is await in javascript?

Ans: The await keyword can only be used inside an async function. The await keyword makes the function pause the execution and wait for a resolved promise before it continues.

Q What is async in javascript?

Ans: We use async to make asynchronous function and return a promise.

Q What are Functions in JS? What are the types of function?

Ans: A function in JavaScript is a reusable block of code that performs a specific task when it is called.
types are: named function, anonymous function, function expression, arrow function, callback function, higher-order function.

Q What is the difference between named and anonymous functions? When to use what in applications?

Ans:

Named functions have a name identifier. It is used for big & complex logics. It can be called multiple places.

Anonymous functions do not have a name identifier and cannot be referenced directly by name. . It is used for small logics.

Q What is function expression in Is?

Ans: A function expression is a way to define a function by assigning it to a variable.

Q What are Arrow Functions in JS? What is it use?

Ans: Arrow functions, also known as fat arrow functions, is a simpler and shorter way for defining functions in JavaScript.

Q What are Callback Functions? What is it use?

Ans: A callback function is a function that Is passed as an argument to another function.

Q What is Higher-order function In JS?

Ans: A Higher order function: Take one or more functions as arguments (callback function) OR return a function as a result.

Q What is the difference between arguments and parameters?

Ans:

Parameters are the placeholders defined in the function declaration.

Arguments are the actual values passed to a function when it is invoked or called.

Q What is the use of event handling in JS??

Ans: Event handling is the process of responding to user actions in a web page. The addEventListener method of Javascript allows to attach an event name and with the function you want to perform on that event.

Q What is Function Currying in JS?

Ans: Currying in JavaScript transforms a function with multiple arguments into a nested series of functions, each taking a single argument. Advantage Reusability, modularity and specialization

Q What are call, apply and bind methods in JS?

Ans: call() method allows an object to use the method (function) of another object.
The apply method is similar to the call() method. The only difference is that, call() method takes arguments separately whereas, apply() method takes arguments as an array.
This method returns a new function, where the value of **"this"** keyword will be bound to the owner object, which is provided as a parameter.

Q What is string immutability?

Ans: Strings in JavaScript are considered immutable because you cannot modify the contets of an existing string directly.

Q What is DOM? What is the difference between HTML and the DOM?

Ans: The DOM (Document Object Model) tree like representation of the web page that we see and that allows JavaScript to dynamically access and manipulate the content and structure of a web page.

Q How many ways an HTML element can be accessed in JavaScript code?

Ans: Selectors in JS help to get specific elements from DOM based on IDs, class names, tag names. getElementByld() getElementsByClassName() getElementsByTagName() querySelector() querySelectorAll()

Q How to add and remove properties of HTML elements in the DOM using JS?

Ans:

// setAttribute method is used to add propetry

element.setAttribute("data-info", "new value");

// removeAttribute method is used to remove propetry

element.removeAttribute("data-info");

Q What is Error Handling in JS? V. IMP.

Ans: Error handling is the process of managing errors.

Q What is the difference between deep copy and shallow copy in JS?

Ans: In shallow copy original object property value gets changed if we changed the cloned object property value. But deep copy will not modify the original object property value.

Q. What are Events? How are events triggered? V.IMP.

Ans: Events are actions that happen in the browser, such as a button click, mouse movement, or keyboard input.

Q What is Event Object in JS?

Ans: Whenever any event is triggered, the browser automatically creates an event object and passes it as an argument to the event handler function.

Q What is Event Delegation in JS? V.IMP.

Ans: Event delegation in JavaScript is a technique where you attach a single, event handler to a parent element to handle events on its child elements.

Q what is event bubbling in javascript?

Ans: So, in event bubbling, the targeted element handles the event first, and then it bubbles up to the parent elements. In event capturing the outermost element handles the event first, and then it bubbles up to the target elements.

Q what is closures in javascript?

Ans: Closure in JavaScript is a form of lexical scoping used to preserve variables from the outer scope of a function in the inner scope of a function.

Q How to convert the string of any base to integer in JavaScript?

Ans: In JavaScript, parseInt() function is used to convert the string to an integer. This function returns an integer of base which is specified in second argument of parseInt() function. The parseInt() function returns Nan (not a number) when the string doesn't contain number.

Q what are the types of pop-up boxes available in javascript?

Ans: alert, confirm, prompt.

Q what is the difference between alert box and confirm box?

Ans: An alert box will display only one button which is the OK button. It is used to inform the user about the agreement has to agree. But a Confirmation box displays two buttons OK and cancel, where the user can decide to agree or not.

Q What is promises in javascript? Name some states?

Ans: Promises are basically objects that will produce the single value sometime in the future. Pending states, fulfill states and rejected states.

Q difference between truthy values and falsy values?

Ans: Falsy values are those that evaluate to `false` when converted to a Boolean. Falsy values examples are : false, 0, null, undefined, NaN, "".

Truthy values are those that evaluate to `true` when converted to a Boolean. Truthy values examples are : true, {}, [], function() {}, 1.

1. **Call Stack**: The call stack is a data structure that records where in the program we are. Whenever a function is called, it is added to the top of the call stack. When the function returns, it is removed from the stack. JavaScript is single-threaded, meaning it can only do one thing at a time, and the call stack is responsible for keeping track of function calls and their context.

2. **Microtask Queue**: Microtasks are tasks that are executed asynchronously but with higher priority than regular tasks (macrotasks). Promises and certain APIs such as **MutationObserver** produce microtasks. Microtasks are typically executed as soon as possible after the current execution context is empty. Microtasks are stored in the microtask queue.

3. **Task Queue**: Tasks, also known as macrotasks, are scheduled to be executed after the call stack is empty. These include DOM manipulation, setTimeout, setInterval, and I/O operations. Tasks are stored in the task queue.

4. **Event Loop**: The event loop is responsible for checking whether the call stack is empty. If the call stack is empty, it looks at the microtask queue. If there are microtasks, it executes them all. Once the microtask queue is empty, it looks at the task queue and executes the next task. This process continues indefinitely.