

JAVA SCRIPT ADVANCED

1. What is a ternary operator? What is the syntax of ternary operators in Javascript? Consider a requirement where you are given a variable `febDays`, the number of days in the month of February, and you have to assign a boolean value to the variable `isLeapYear`. Describe how would you do this in a single statement using ternary operator. (hint : ? operator)

Answer=> The conditional (ternary) operator is the only JavaScript operator that takes three operands: a condition followed by a question mark (?), then an expression to execute if the condition is truthy followed by a colon (:), and finally the expression to execute if the condition is falsy.

SYNTAX:- `condition ? exprIfTrue : exprIfFalse`

2. What are template strings? Describe what the syntax is for template strings.
Consider a requirement where you have three variables for a candidate - first name, last name and age. Describe how would you use template strings to print a single statement on console with all these details.

Ans=> Template literals are enclosed by the backtick (```) character instead of double or single quotes.
Template literals can contain placeholders. These are indicated by the dollar sign and curly braces (`${expression}`).
The expressions in the placeholders and the text between the backticks (```) get passed to a function.

SYNTAX:- ``hello my name is ${first name} ${last name} , i am ${age} year old``

3. What is a spread operator/syntax in Javascript? Describe any one example of usage of spread operator. (Three dots like `...` signify a spread operator).

Ans=> Spread syntax (`...`) allows an iterable such as an array expression or string to be expanded in places where zero or more arguments (for function calls) or elements (for array literals) are expected, or an object expression to be expanded in places where zero or more key-value pairs (for object literals) are expected.

Spread operator usually make a new copy of object and array the format of copy is shallow copy. Spread operator is used to access all element of array and object.

When `...` occurs in a function call or alike, it's called a "spread syntax" and expands an array into a list.

4. What are rest parameters in Javascript? (syntax is same as spread operator i.e. three dots... But used as parameters to functions)

Ans=>

The rest parameter syntax allows a function to accept an indefinite number of arguments as an array, providing a way to represent functions in JavaScript.

It is used in function as an argument as the name suggests the rest parameter contains the rest values in array

When ... is at the end of function parameters, it's "rest parameters" and gathers the rest of the list of arguments into an array

The rest parameters gather all remaining arguments,

5. What is a Javascript object. What are the methods to get an array of all the keys of the object and method to get all values of an object, respectively? (hint: Object.xyz functions) Also how is Object.entries() method different from these two?

Ans=>

A JavaScript object is an entity having state and behavior (properties and method).key value pair.

For example: car, pen, bike, chair, glass, keyboard, monitor etc. JavaScript is an object-based language. Everything is an object in JavaScript.

get value of object is

object.(key name) or object[key name].

The examples below use the following object:

```
const obj = { name: 'Daniel', age: 40, occupation: 'Engineer', level: 4 };
```

Getting an object's keys

The `Object.keys()` method returns an array of strings containing all of the object's keys, sorted by order of appearance:

```
console.log(Object.keys(obj));
```

```
// Expected output: ["name", "age", "occupation", "level"]
```

Here, as well as in the following examples, we pass in the object from which the data is needed as a parameter.

Getting an object's values

The `Object.values()` method returns an array of strings containing all of the object's field values, sorted by order of appearance:

```
console.log(Object.values(obj));
```

```
// Expected output: ["Daniel", 40, "Engineer", 4]
```

Getting an object's entries

The `Object.entries()` method returns an array of arrays. Each array consists of a pair of values. The first string is the name of a key in the

object, the second is its corresponding value. In the example below, the first element in the array is `["name", "Daniel"]`. In this sub-array, "name" is the first key of the object `obj`, and "Daniel" is the first value of the object.

```
console.log(Object.entries(obj));  
// Expected output: [["name", "Daniel"], ["age", 40], ["occupation", "Engineer"], ["level", 4]]
```

Tip: It is possible to recreate the original object using the return value of the `Object.entries()` method.

6. What are arrow (`=>`) functions? Given a function that take 2 numbers as input and returns their sum as output, describe the arrow function representation of the same.

Ans=>

Arrow function is one of the features introduced in the ES6 version of JavaScript. It allows you to create functions in a cleaner way compared to regular functions. For example,

Arrow functions were introduced in ES6. Arrow functions allow us to write shorter function syntax: `let myFunction = (a, b) => a * b;`

The left part denotes the input of a function and the right part the output of that function

7. What is the difference between `map`, `foreach` and `filter`?

Ans=>

MAP:- modification in existing array.
output element same.

```
let arr = [1,2,3,4,5]  
arr.map(x=>x+2)    ---> [3,4,5,6,7]
```

Filter:- it is based on condition not modification.
it return array.

```
arr.filter(x=>x>2) ---> [f,f,t,t,t]
```

forEach:- its not return an array.

8. (For this question, you can try writing code on a piece of paper and then talk to the camera..just talk about what you will be using in your code)
Given a requirement where you have a list of objects, each object containing the following details of a candidate in a cohort - first name, last name, gender and age. You are required to create an array of string

that containing the FULL NAMES of the candidates, Which of the three(foreach, map , filter) will you use.

9.

Ans=>here in this example we use map function

10. For the same problem as previous, which of the three (foreach, map , filter) will you use to find the AVERAGE AGE of the cohort. (The requirement was : Given a requirement where you have a list of objects, each object containing the following details of a candidate in a cohort - first name, last name, gender and age.)

11.

Ans=>here in this example we use for each function

12. For the same problem, what if you are now required to create a list of the FULL NAMES of only the FEMALE candidates. Which of the three array function will you use? (The requirement was : Given a requirement where you have a list of objects, each object containing the following details of a candidate in a cohort - first name, last name, gender and age.)

13.

Ans=>here in this example we use map and filter both

14. What are promises in Javascript?

Ans=>

A promise is an object that may produce a single value some time in the future : either a resolved value, or a reason that it's not resolved (e.g., a network error occurred). ... Promises are eager, meaning that a promise will start doing whatever task you give it as soon as the promise constructor is invoked

15. What are the possible states of a promise?

Ans=>

Possible state of promises are

resolve, reject and pending

.

16. What is a callback function?

Ans=>

A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of routine or action.

17. **What is callback hell?**

Ans=>

Callback Hell, also known as Pyramid of Doom, is an anti-pattern seen in code of asynchronous programming.

It is a slang term used to describe and unwieldy number of nested "if" statements or functions.

If you are not expecting your application logic to get too complex, a few callbacks seem harmless.

by callbackhell our code is unreadable and if there is some error its very hard to get it solve

18. **What are asynchronous functions? What is await keyword used for?**

Ans=>

-An async function is a function declared with the async keyword, and the await keyword is permitted within it. The async and await keywords enable asynchronous, promise-based behavior to be written in a cleaner style, avoiding the need to explicitly configure promise chains