JTtime Coding:

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1) Output of following

var num = 276;

num = "what are you doing???";

console.log(num);

Answer is: What are you doing???
Reason, Javascript is dynamically Typed. So we can assign any type of value to any variable except const variable, which remains constant throughout its lifecycle

2) Output of following

const name = "Jeevraj";

name = "JT Bhai"

Answer: TypeError: **Assignment to a constant variable**.

3) Output of following

var num = 276;

num = "what are you doing???";

console.log(typeof(num));

Answer : String

Coding Questions:

1) Check if two numbers are equal
2) Find the sum of two numbers (x+y), multiply, division. Try with combination of int, decimal

      a. While providing inputs as an argument, try to give different number of arguments and create different functions with same name accepting different number of arguments. Learn PolyMorphism here with function overloading and operator overloading

      b. Play with operator overloading '+'. Give inputs as number, number + string, string + number, numbers inside string ('4'+'3'), ('4'-3),('4'+11+3), (11+4+'2'), ('fri'+'day'), (fri+day), ('fri'+34+'day'), ('fri'-'day'), ('fri'+9+3+5+'day'), (23+2+'friday'+13+13),

3) Provide numbers as string to the function and perform maths operations like +, -, *. /.

4) Find the remainder (x%y)

5) Find the cube of a number (x**3 or x*x*x)

6) Increment a number (x++ or x=x+constant)

7) Compare given numbers
      a. (either x should be equal to y or y should be equal to z)
      b. All three should be equal then return all three equal or else return not equal
      c. All three should be compared to find if given number is in ascending order
      d. All three should be compared to find if given number is in descending order
      e. Find the largest of two numbers

8) Pass an Array of numbers to function and Classify input as even or odd and print in sequence
      a. Do it by if else statement
      b. Do it using ternary operator

9) Check if given number is prime number. Skip this question for time being if not able to solve. But come back to this question again once you are confident. It is one of the most asked interview questions

10) Addition of 1 dimensional Arrays like a Matrix rule. 1st index of one array + 1st Index of second array, 2nd array of one array + 2nd index of second array and so on. And return that new array creating by adding individual elements. Also, try adding all elements of both the arrays and return the overall sum

11) Quadrilateral type or Square or Rectangle or something else by passing sides as arguments in clockwise

12) Return the smallest of two numbers, three numbers, four numbers, etc.

13) Smallest and largest value in an array.

14) Difference between min and max value in an array. Difference between smallest alphabet and largest alphabet in a string. Returning value should be a number. Eg. If I give "Apple" as a string then smallest alphabet is "a" and largest is "p", convert to their ASCII characters and return the difference value

15) Add number from 1 to n. provide n as an argument to the function and use formula for sum of first n natural numbers and return. For level up, add numbers from 1 to n using for loop. If you understand recursion, try it with recursion to challenge your coding skills. Same logic can be implemented to return factorial number like 5! Will be 1x2x3x4x5 and so on

16) Compute nth Fibonacci number by recursion and iteration approach

17) Get the day of the week, month of the year by taking number as an input (use Switch case Break Statement), before making comparison, you need to check if given number is in valid range or else alert user to input valid range. You can also practice template literal string for output. Like output should be "Given Month number of 5 corresponds to May", Here 5 and May will come from variable under $ { } sign.

18) Check if the year is leap year.

19) Return pth character from the start of the string. Provide String and value of P as an argument to the function. Also, try to return pth character from the end. If given string is less than p, then return some customized error message with template literals

20) Implement **Nullish coalescing operator** (used to set default value)

21) Return the initial letter of Full Names like Ajay Dinananth Chavan should return as ADC
    a. Try first sending three different strings as an argument and pick first letter from each argument and concatenate. Try to use charAt(0) also
    b. Then send whole name as a single argument and extract first letter out of it.
    c. Make it scalable, means if someone has bigger name like 6-7 different strings, then it should return initials of all those and concatenate their initials by capitalizing.

22) Provide string and substring to the function as an argument, find the index of the substring inside the string

23) Provide function with a string and a number n , concantenate the string n times. Like for func("xyqwe", 4) return xyqwexyqwexyqwexyqwe

24) Create a lottery number of 5 digits. Using math.random. Also learn to create random number accurate upto 3 digits after decimal

25) Practise linear search, binary search, merge sort, cycle sort simple questions

26) Most important Interview question: reverse the string using JS library methods & without it.

27) Pass the array of strings to the function and arrange in ascending order. Use sort library method. Now pass array of numbers to the function and arrange them in ascending order as well as descending order. You will learn the word, lexicographically.

28) Practice slice by removing a number from the array. Func (arr, n) means remove n from the arr

29) Understand the difference between slice and splice.

30) Take the number 'n' as an argument, create an array from 1 to that number 'n'. Iterate and return html containing those many buttons containing that number as a text.

31) Provide a function with array, startindex and last index, using slice method, return SubArray. Notice what numbers get excluded included etc. Combination of question 29 and 30 can be used in pagination that we see below many list of products or table

32) Practise pass by Reference and Pass by Value. Like declare variable and pass that variable as an argument to function. See if you are able to change without returning its value. Console.log that variable after function is performed, means outside the function
    a. Do same thing with arrays and objects. Modify the Array/Objects that function receives in an argument without returning anything.

33) Create a single Array/Objects from different Arrays/Objects

34) Convert Objects to Arrays by iterating over objects: learn object.entries, object.keys, object.values, etc and use spread operator to spread newly converted array inside result array

35) Find sum of all numbers in an array using reduce method

36) Provide function with array of numbers, and return array by doubling each value. Use map method here

37) Provide function with array of numbers and return an array of odd numbers out of it using filter method. Practicing map, filter and reduce method is key, practice enough questions on it. Also, understand the difference between map and forEach method.

38) Whatever questions you did above, try to pass object as an argument. Manipulate values inside objects and return the value. This will be most important exercise for working on Web development frameworks. Because on production app, most of the time you will be passing objects as an arguments. Understand the difference between dot notation and box notation in objects. Learn method and properties and this keyword here

39) Create a function for Truncated String with ellipsis. Sometimes, strings are too big to be accommodated on website, so we could see truncated strings with ellipsis (…). This function should take 2 parameters, a) string to be truncated and b) maxlength expected.