

JavaScript Theory

- Event propagation
- Event delegation
- Pass by value vs pass by reference
- Regular function vs arrow function
- Arrow function vs regular function (this)
- Is it possible to use arrow function as a constructor?
- Object freeze vs seal
- Object literals
- Shallow copy
- Deep copy
- Deep copy vs shallow copy
- Applications & drawbacks of closure
- Benefits of IIFE
- Map vs forEach
- Nullish operator
- Object methods
- Hoisting in let and const
- Type error vs reference error
- Error handling in JavaScript
- Factory function
- `console.log({} == {})`; find the answer
- Non-primitive datatype
- `Promise.any`
- Why callbacks are used?
- Does null have prototype?
- When does `ReferenceError` happen?
- Use of `Object.entries`
- Data types
- Variables
- Functions

- Operators
- Keywords
- Identifiers
- Logical function
- Post-increment (i++) vs pre-increment (++i)
- Logical operators and expressions
- JavaScript operators (arithmetic, comparison, logical, etc.)
- Difference between let, var, and const
- OOPs concept

JavaScript Practical

- Toggle checkbox by button click
- Prevent right click of a button
- Find common elements from 2 arrays
- Remove last property from object
- Find sum of keys of an object
- Find total price of products
- Object.keys
- Object.values
- Highest even number from an array using reduce
- How to create a class
- Object manipulation
- Find sum of values in an object
- Callback
- Sum of elements in given array
- Array.reduce: sum of positive numbers in a mixed array
- Check if object is empty
- Throwing errors
- Countdown timer: 10 to 0
- Generate random number between 0 and 10
- Current time, without date

- Slice
- Currying
- Call
- Apply
- Bind
- Array reverse using for loop or while loop without using extra array
- Find unique elements
- Check if number is prime
- Find duplicate elements
- Sort array in ascending or descending order
- Post-pre increment (guess the output)
- Find average of even numbers
- Create a function with 2 parameters (arr and str): if str length is even, return sum of evens in array
- Sum of 2 numbers = target
- Find greater in 3 variables
- Sum using callback
- Leetcode problems (general)
- Generator function for multiplication table
- Recursion
- Function to check prime number or not
- Do-while loop
- Sort array using while loop without another array
- Find frequency
- Find unique number
- Unsorted array: find prime numbers and sort them
- Second largest
- Break and continue (guess the output)
- Negative and positive even and odd: delete odd and even numbers, replace with 00
- Create array
- Add into another array without push

- Add fizz if multiple of 3, buzz if multiple of 5, fizzbuzz for both multiples
- Insert in same array without inbuilt method
- Reverse array without inbuilt (swap)
- Add two elements from the array to find pair which equals the target
- Multiply all numbers with 2 and add into another array
- Multiply and add the number which is multiple of 2 and add into array
- Print 20 to 2 even numbers only using while loop (with if and without if)
- 2 array merging without using inbuilt method
- 2 arrays: 1st array odd and 2nd array even, store without using new array
- Do-while using multiple of 5
- Find square of the numbers
- Find first even number
- Leetcode question (412): FizzBuzz
- Delete odd number without using inbuilt methods and new array
- Delete duplicate without inbuilt and new array
- Increment and decrement (guess the output)
- Sort array
- Delete odd without new array and built-in method
- Do-while
- Push an array into an empty array without using push method
- Callback function
- Reverse an array
- Practical using && and ||
- Delete element from middle of an array
- Remove duplicates from a string
- Reverse words in a string
- Check frequency and max occurring character in a string, and if all are unique
- Find pairs in array that sum to a target
- Filter prime numbers in array (remove non-primes)
- Remove duplicates from array
- Sort array

- Find missing numbers in sorted array
- Reverse string using while loop
- Remove elements between two numbers in an array
- Swap two arrays without using an extra array
- Print even numbers from 1 to 100 in decreasing order using a while loop
- Print even numbers from 100 to 1 in decreasing order using a while loop
- Given two arrays (e.g., Arr1 = [1,2,3,4], Arr2 = [5,6,7,8]): Swap all elements of Arr2 into Arr1 and all elements of Arr1 into Arr2 without using push or spread operators
- Print the multiplication table of 7 using a do-while loop
- Solve Leetcode problem 412

Node.js Theory

- Node concurrency
- Child process
- How to check the existence of a middleware
- Application middleware vs router middleware
- app.use vs app.set
- app.all
- app.set
- HTTP request structure
- Parts of HTTP request and response
- HTTP headers
- Dynamic routing
- Router chaining
- CORS
- CSRF
- Content negotiation
- Web API vs REST API
- REST principles
- Fork vs spawn
- Error first callback

- Httponly
- Body parser
- POST vs PUT
- HTTP OPTION
- Same origin policy
- Query params vs path params
- CommonJS
- Reading query params and path params
- Path params
- Catch-all route
- User-agent
- HTTP 400
- Sending status code

Node.js Practical

- Middleware to log all parameter names
- How to setup a router level middleware

MongoDB Theory

- Covered query
- Drawbacks of indexing
- \$pop vs \$pull
- Journaling
- Exec vs Exec file
- Clustered collection
- Clustered index
- Mongoose
- ODM
- Accumulators examples
- MongoDB Utilities
- Denormalization

- Trigger in MongoDB
- Durability (ACID)

MongoDB Practical

- Query: avg mark in class 10
- Query: second largest mark in class 10
- Query: increase all marks by 10%
- \$group
- \$max
- \$min
- \$expr
- \$elemMatch
- \$exist
- Facet
- Bulkwrite
- Lookup
- Add field to an object in MongoDB
- CreateView
- Reduce salary by 10%
- Names ending with "j"

General Algorithm Questions

- Prime number check: Write a program to check whether a number is prime or not
- Even numbers from 100 to 0: Print even numbers from 100 to 0 using a while loop
- Sum of numbers using while loop: Find the sum of numbers from 1 to N using a while loop
- Reverse an array: Reverse an array using a for loop
- Palindrome check: Check whether a given string or number is a palindrome
- Factorial of a number: Write a program to find the factorial of a number
- Fibonacci series: Print the Fibonacci series up to the Nth number
- Count digits in a number: Find the number of digits in a given number
- Reverse a string: Reverse a string without using built-in methods

- Find the largest number in an array
- Find the smallest number in an array
- Count vowels in a string: Count how many vowels are there in a string
- Count even and odd numbers in an array
- Find sum of digits of a number
- GCD (Greatest Common Divisor): Find the GCD of two numbers
- LCM (Least Common Multiple): Find the LCM of two numbers
- Check for Armstrong number
- Merge two arrays: Merge two arrays into one
- Check for leap year: Check whether a given year is a leap year
- Find the second largest element in an array
- Remove duplicates from an array
- Find the missing number in an array: Find the missing number from an array containing numbers 1 to N
- Reverse words in a sentence: Reverse the words in a sentence, not the individual characters
- Sum of even numbers from 1 to N
- Find the frequency of elements in an array
- Find the middle element of an array
- Check if a string is an anagram of another
- Check if a number is perfect
- Sum of all positive numbers in an array
- Remove all negative numbers from an array
- Print a pattern of stars: Print a pattern like a triangle or diamond with stars (*)
- Check if a number is even or odd
- Find the average of numbers in an array
- Swap two numbers without using a third variable
- Count the occurrence of a character in a string
- Find the sum of all odd numbers from 1 to N
- Find the longest word in a sentence
- Convert a string to lowercase: Convert a string to lowercase without using built-in methods
- Check if a string is a substring of another

- Remove spaces from a string
- Find the first non-repeated character in a string
- Find the sum of the first N natural numbers
- Check if a string contains only digits
- Sort an array in ascending order: Sort an array in ascending order without using built-in sort methods
- Check if a number is divisible by 3 and 5
- Find the largest palindrome in an array of strings
- Check if a number is a perfect square
- Find the sum of diagonal elements in a 2D array
- Print the multiplication table of a given number
- Find the frequency of each character in a string
- Sum of two numbers using a callback function
- Function to check if a number is prime using recursion
- Generator function to print a multiplication table
- Find the sum of two numbers that equal a target value
- Find the greatest number among three variables
- Write a program to merge two arrays using a for loop
- Explain and demonstrate post-increment and pre-increment in JavaScript
- Find and print common elements from two arrays

Object Manipulation Questions

- Find the largest and second largest from the object
- Find the sum of values from the object
- Find the largest value and the key
- Print keys and values in the object
- Find sum of even values
- Find sum of odd values
- Find all keys whose values > 10
- Swap keys and values in object
- Count the number of keys in an object

- Create a new object containing only those entries where value > 20
- Reverse the object (last key becomes first, second-last becomes second, etc.)
- Check if a value exists in the object (without using Object.values())
- Find the average of all values in an object
- Change all values to their double (example: 10 → 20)
- Delete all keys where value < 15
- Merge two objects into a single object
- Check if a key exists in an object
- Check if a value exists in an object
- Convert array of objects to a single object using a property as key