

# 50 Medium-Level JavaScript Questions

## Variables & Data Types

1. What is the difference between var, let, and const?
2. What will be the output of: let x = '5' + 2 + 3;
3. How does JavaScript handle type coercion in comparisons?
4. What is the result of typeof null and why?
5. Explain the difference between primitive and reference types.

## Operators

6. What is the difference between == and ===?
7. Explain short-circuit evaluation with logical operators.
8. How do bitwise operators work in JavaScript?
9. What is the result of '5' - '2' + '3'?
10. How does the ternary operator work in JavaScript?

## Functions

11. Difference between function declaration and expression?
12. What is a higher-order function? Give an example.
13. How does function hoisting work?
14. Explain the concept of IIFE (Immediately Invoked Function Expression).
15. What is a callback function? Provide a use case.

## Arrays

16. What's the difference between map, filter, and reduce?
17. How can you remove duplicate values from an array?
18. What will be the output: [1, 2, 3].splice(1, 1, 5)?
19. Explain the difference between forEach and map.
20. How can you flatten a nested array in JavaScript?

## **Objects**

- 21. How to clone an object without affecting the original?
- 22. What is the difference between dot and bracket notation?
- 23. How can you merge two objects?
- 24. What is object destructuring?
- 25. How does the in operator work with objects?

## **Loops & Control Flow**

- 26. When to use for...in vs for...of?
- 27. What is the use of break and continue?
- 28. How can you loop through an object?
- 29. Explain the output of a nested loop example.
- 30. How to reverse a string using a loop?

## **Scope & Closures**

- 31. What is lexical scope?
- 32. How do closures work? Give an example.
- 33. What's the difference between global and local scope?
- 34. How can closures be used to create private variables?
- 35. Explain variable shadowing with an example.

## **DOM Manipulation**

- 36. How do you create and append a new element?
- 37. How to handle click events using JavaScript?
- 38. Difference between innerText, textContent, and innerHTML?
- 39. How to change styles of an element using JavaScript?
- 40. How to prevent default form submission?

## **Events**

- 41. What is event bubbling and capturing?
- 42. How to use `addEventListener` with anonymous functions?
- 43. How can you debounce a function in JavaScript?
- 44. What is the purpose of `event.stopPropagation()`?
- 45. How do you pass parameters to event handlers?

## **Asynchronous JavaScript**

- 46. What is the difference between `setTimeout` and `setInterval`?
- 47. Explain how Promises work in JavaScript.
- 48. How to use `async/await` with an example?
- 49. What happens when you return inside a `.then()`?
- 50. How to handle multiple asynchronous operations concurrently?