>>> 50 JavaScript Question

Basic Concepts:
1. What is JavaScript? How does it differ from Java?
2. Explain the difference between "null" and "undefined" in JavaScript.
3. What is the purpose of the "strict mode" in JavaScript?
4. Describe the event loop and how it enables asynchronous behavior in JavaScript.
5. What are the differences between "let", "const", and "var" for variable declaration?

Data Types and Variables:
6. List and explain the primitive data types in JavaScript.
7. What is type coercion in JavaScript? Provide an example.
8. Explain the concept of "hoisting" in JavaScript.
9. How would you clone an object in JavaScript?

Functions:
10. What is a closure in JavaScript? Provide an example.
11. Explain the concept of "function scope" and "block scope".
12. Describe the differences between function declarations and function expressions.
13. What is a higher-order function? Provide an example.
14. Explain the "this" keyword in JavaScript.

Arrays and Objects:
15. How would you iterate over an array in JavaScript?
16. Explain the difference between "map", "forEach", "filter", and "reduce" functions.
17. How do you add and remove properties from an object in JavaScript?
18. Describe the purpose of the "spread operator" and provide an example.
19. What is object destructuring and how does it work?

Asynchronous Programming:
20. What are Promises in JavaScript? How do they help in managing asynchronous operations?
21. Describe the async/await syntax. How does it improve asynchronous code readability?
22. Explain the concept of callbacks and callback hell in asynchronous programming.
23. How does the "fetch" API work for making HTTP requests in JavaScript?
24. What is the purpose of the "try...catch" statement in handling errors?

ES6 Features:
25. Explain the purpose of arrow functions in JavaScript.
26. What are template literals? How do they differ from regular strings?
27. Describe the "class" syntax in ES6 for creating object-oriented structures.
28. What is a "generator" function? How is it different from a regular function?
29. Explain the concept of modules in ES6 JavaScript.

Scope and Closures:
30. Describe the differences between global scope, function scope, and block scope.
31. What is the "lexical scope" in JavaScript?

32. How does closure work in JavaScript? Provide an example.
33. Explain the "IIFE" (Immediately Invoked Function Expression) pattern.

Prototypes and Inheritance:
34. What is prototypal inheritance in JavaScript?
35. Explain the relationship between prototypes and constructor functions.
36. How would you create an object that inherits from another object in JavaScript?
37. Describe the difference between "classical inheritance" and "prototypal inheritance".

Event Handling:
38. How do you attach event listeners to DOM elements in JavaScript?
39. Explain event delegation and its advantages.
40. What is the event object in JavaScript? How can you access properties from it?

Error Handling and Debugging:
41. Describe different ways to handle errors in JavaScript code.
42. How do you use the "console" object for debugging JavaScript applications?
43. What are JavaScript source maps and how do they assist in debugging?
44. Explain the concept of stack traces and how they aid in identifying errors.

DOM Manipulation:
45. What is the Document Object Model (DOM) in relation to web development?
46. How do you create, modify, and delete DOM elements using JavaScript?
47. Explain the difference between the "innerHTML" and "textContent" properties.
48. Describe how you would traverse and manipulate the DOM tree in JavaScript.

Browser APIs:
49. What are Web APIs in the context of JavaScript? Provide examples.
50. How do you work with local storage and session storage using JavaScript?