

LEVEL 1: JavaScript Basics & Syntax

Goal: Core understanding of JS syntax and execution

1. What is JavaScript
2. JavaScript vs Java
3. How JavaScript works in browsers
4. Including JavaScript
 - `<script>` tag
 - external JS file
5. JavaScript output methods
 - `console.log()`
 - `alert()`
 - `document.write()`
6. Variables
 - `var`
 - `let`
 - `const`
7. Data types
 - Number
 - String
 - Boolean
 - Undefined
 - Null
8. Operators
 - Arithmetic
 - Assignment
 - Comparison
 - Logical
9. Comments
 - Single line
 - Multi-line
10. Type conversion
 - Implicit
 - Explicit
11. Basic input handling
 - `prompt()`
12. Keywords & identifiers
13. JavaScript case sensitivity
14. Semicolons & statements

● LEVEL 2: Control Flow & Functions

Goal: Logic building and reusable code

1. Conditional statements
 - if
 - if else
 - else if
 - switch
2. Loops
 - for
 - while
 - do while
 - for...in
 - for...of
3. break and continue
4. Functions
 - Function declaration
 - Function expression
5. Function parameters & arguments
6. Return values
7. Default parameters
8. Arrow functions
9. Scope
 - Global
 - Local
 - Block
10. Hoisting (intro)
11. Call stack basics
12. Nested functions
13. Immediately Invoked Function Expressions (IIFE)
14. Recursion basics

LEVEL 3: Arrays, Objects & Built-in Methods

Goal: Data manipulation mastery

Arrays

1. Creating arrays
2. Accessing & modifying elements
3. Array properties (length)
4. Array methods
 - push, pop
 - shift, unshift
 - slice, splice

- concat
- join
- sort, reverse
- 5. Iteration methods
 - forEach
 - map
 - filter
 - reduce
 - find

Objects

6. Object creation
7. Properties & methods
8. Dot vs bracket notation
9. this keyword
10. Object destructuring
11. Spread operator
12. JSON basics
13. Object.keys()
14. Object.values()
15. Object.entries()

LEVEL 4: DOM, Events & Browser APIs

Goal: Dynamic web interaction

1. What is DOM
2. DOM tree structure
3. Selecting elements
 - getElementById
 - getElementsByClassName
 - querySelector
 - querySelectorAll
4. Modifying DOM elements
 - innerHTML
 - textContent
 - style
 - classList
5. Creating & removing elements
6. Event handling
 - onclick
 - addEventListener
7. Event types

- Mouse events
 - Keyboard events
 - Form events
 - 8. Event bubbling & capturing
 - 9. Event delegation
 - 10. Browser objects
 - window
 - document
 - navigator
 - 11. Timers
 - setTimeout
 - setInterval
 - 12. LocalStorage & SessionStorage
 - 13. Cookies (basic)
 - 14. Form validation (JS)
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LEVEL 5: Advanced JavaScript (ES6+)

Goal: Modern JavaScript & async programming

1. ES6 features overview
2. let vs const vs var
3. Template literals
4. Destructuring
 - Array
 - Object
5. Spread & rest operators
6. Enhanced object literals
7. Classes
 - Constructor
 - Methods
8. Inheritance
9. Modules
 - export
 - import
10. Promises
 - then
 - catch
 - finally
11. Async / Await
12. Error handling
 - try...catch

13. Callbacks
 14. Event loop
 15. Microtasks vs macrotasks
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LEVEL 6: Professional & Interview-Grade JavaScript

Goal: Deep internals & best practices

1. JavaScript engine & execution context
2. Call stack & memory heap
3. Scope chain
4. Closures
5. Hoisting (deep)
6. this keyword (advanced)
7. Prototype & prototypal inheritance
8. bind, call, apply
9. Debouncing & throttling
10. Shallow vs deep copy
11. Currying
12. Composition
13. Immutability
14. Functional programming concepts
15. Performance optimization
16. Security basics
 - XSS
 - CSRF (overview)
17. Garbage collection
18. Design patterns (intro)
19. Clean code principles
20. JavaScript interview pitfalls