

JavaScript Beginning to Mastery Syllabus

(Beginner to Next Level Concepts)

- JavaScript vs EcmaScript
- Install vscode and run first program

1. Basics of Programming in JavaScript:

- 1) Hello world program
- 2) Variable Declaration
- 3) String Indexing
- 4) Useful string methods
- 5) Template Strings
- 6) Primitive Data Types
- 7) Non-Primitive Data Types
- 8) Operators
- 9) Truthy and Falsy Values
- 10) Conditionals & nested conditions
- 11) Ternary Operator
- 12) && || operators
- 13) Switch statement
- 14) Loops (while, do while, for, forEach, for of, for in)
- 15) Break and continue keyword

2. Arrays in JavaScript:

- 1) Intro to arrays
- 2) Push pop shift unshift splice
- 3) Clone array & spread operator
- 4) Array Destructuring

3. Objects in JavaScript:

- 1) Intro to objects
- 2) Dot vs Bracket Notation
- 3) Object iterations (For in loop & Object.keys method)
- 4) Computed properties
- 5) Spread operator in objects
- 6) Object Destructuring
- 7) Objects inside an Array
- 8) Nested Destructuring

4. Functions in JavaScript:

- 1) Function declaration
- 2) Function Expression
- 3) Arrow Functions
- 4) Function declarations are hoisted
- 5) Function inside function
- 6) Lexical Scope
- 7) Block Scope Vs Function Scope
- 8) Default Parameters
- 9) Rest Parameters
- 10) Parameter Destructuring
- 11) Very brief intro to callback functions
- 12) Functions returning Functions

5. Array Methods in JavaScript:

- 1) Foreach method
- 2) Map method
- 3) Filter
- 4) Reduce
- 5) Sort
- 6) Find
- 7) Every
- 8) Some
- 9) Fill method
- 10) Splice method

6. More useful things in JavaScript:

- 1) Iterables
- 2) Sets
- 3) Maps
- 4) Object.assign
- 5) Optional chaining

7. OOP in JavaScript / Prototypal Inheritance:

- 1) Methods
- 2) This keyword, Window object
- 3) Call, apply & bind method
- 4) Some warnings
- 5) This inside arrow functions
- 6) Short syntax for methods
- 7) Factory functions & discuss some memory related problems
- 8) First solution to that problem
- 9) Why that solution isn't that great
- 10) What is `__proto__` , `[[prototype]]`
- 11) What is prototype
- 12) Use prototype
- 13) New keyword
- 14) Constructor function with new keyword
- 15) More discussion about proto and prototype
- 16) Class keyword
- 17) Example using class keyword
- 18) Super keyword
- 19) Method overriding
- 20) Getters and setters
- 21) Static methods and properties

8. How JavaScript Works:

- 1) Global Execution context
- 2) This and window in global execution context
- 3) Hoisting
- 4) Are let and const are hoisted? What is a reference Error?
- 5) Function execution context
- 6) Scope chain and lexical environment

9. Closures in JavaScript:

- 1) Intro to closures
- 2) Closure example 1
- 3) Closure Example 2
- 4) Closure Example 3

10. DOM in JavaScript:

- 1) HTML and CSS (Around 30-40 minutes)
- 2) Async vs defer
- 3) Select elements using id
- 4) querySelector
- 5) textContent & innerText
- 6) Change the styles of elements using js
- 7) Get and set attributes
- 8) Select multiple elements and loop through them
- 9) innerHTML
- 10) Deeply understand dom tree, root node , element nodes, text nodes
- 11) classList
- 12) Add new elements to page
- 13) Create elements
- 14) Insert adjacent elements
- 15) Clone nodes
- 16) More methods to add elements on page
- 17) How to get the dimensions of the element

11. Events in JavaScript:

- 1) Intro to events
- 2) This keyword inside eventListener callback
- 3) Add events on multiple elements
- 4) Event object
- 5) How event listener works
- 6) Practice with events
- 7) Create demo project
- 8) More events
- 9) Event bubbling
- 10) Event Capturing
- 11) Event delegation
- 12) Create project using event delegation

12. Asynchronous JavaScript:

- 1) Is Javascript a synchronous or asynchronous programming language ?
- 2) SetTimeout()
- 3) SetTimeout() with 0 millisecond
- 4) Callback Queue
- 5) setInterval and create little project with setInterval
- 6) Understand callbacks in general
- 7) Callbacks in asynchronous programming
- 8) Callback Hell and Pyramid of dom

13. Promises & Network Requests:

- 1) Intro to promises
- 2) Microtask Queue
- 3) Function that returns promise
- 4) Promise and setTimeout
- 5) Promise.resolve and more about then method
- 6) Convert nested Callbacks to flat code using promises
- 7) Intro to Ajax, HTTP Request
- 8) XHR requests
- 9) Error handling in XHR requests
- 10) XHR request Chaining
- 11) Promisifying XHR requests and chaining using then method
- 12) Fetch API
- 13) Error Handling in Fetch API
- 14) Consume Promises with async and Await

14. ES6 (ES2015) Modules:

- 1) Split code into multiple files using ES6 modules.
- 2) Congratulations
- 3) Now you know javascript in Great Details
- 4) What next?