



# JS Theoretical Resources

**Difficulty Level: Easy, Medium & Hard Mixed**

## Topic 1 : Basic JS

- ☆ What are the pros and cons of for loop
- ☆ *Is JavaScript a compiled or interpreted language*
- ☆ *Is JavaScript a case-sensitive language*
- ☆ What is the difference between == and === operators
- ☆ *What is the use of preventDefault method*
- ☆ *Why is JavaScript treated as Single threaded*
- ☆ *What is ECMAScript*
- ☆☆ *What is eval*
- ☆☆ How do you display the current date in javascript
- ☆☆ How do you compare two date objects
- ☆ What are break and continue statements
- ☆ What is a conditional operator in javascript
- ☆☆☆ Can you apply chaining on conditional operator
- ☆ What are various operators supported by javascript
- ☆ What is the purpose of switch-case
- ☆ What are primitive data types
- ☆ What are the two types of loops in javascript
- ☆☆ What is a comma operator
- ☆☆ What is the advantage of a comma operator
- ☆ What are the different methods to find HTML elements in DOM
- ☆ What is V8 JavaScript engine
- ☆ *Why do we call javascript as dynamic language*
- ☆☆ What is a void operator
- ☆ What is the difference between internal and external javascript
- ☆☆ What are the different ways to deal with Asynchronous Code
- ☆☆☆ What are the differences between for...of and for...in statements

## Topic 2 : var,let,const & Variables

- ☆ What is the purpose of the let keyword
- ☆ *What is the difference between let and var*
- ☆ What is the reason to choose the name let as a keyword
- ☆ *How do you redeclare variables in switch block without an error*
- ☆☆ *What are the differences between undeclared and undefined variables*

- ☆ *What are global variables*
- ☆ *What are the problems with global variables*
- ☆ *What is NaN property*
- ☆ *What are the benefits of keeping declarations at the top*
- ☆ *What are the benefits of initializing variables*
- ☆ *What is the precedence order between local and global variables*
- ☆ *Can I redeclare let and const variables*
- ☆ *Is const variable makes the value immutable*

### Topic 3 : Scope Chain, Scoping

- ☆☆ *What is scope in javascript*

### Topic 4 : String Manipulation

- ☆☆ *How do you make first letter of the string in an uppercase*
- ☆☆☆ *How do you check if a string starts with another string*
- ☆☆ *How do you trim a string in javascript*
- ☆☆☆ *How do you define multiline strings*
- ☆☆ *How do you trim a string at the beginning or ending*
- ☆☆ *How do you check whether a string contains a substring*

### Topic 5 : Strict Mode

- ☆☆ *What is a strict mode in javascript*
- ☆☆ *Why do you need strict mode*
- ☆☆ *How do you declare strict mode*

### Topic 6 : Array methods

- ☆☆☆ *What is the purpose of the array slice method*
- ☆☆☆ *What is the purpose of the array splice method*
- ☆☆☆ *What is the difference between slice and splice*

### Topic 7 : Null vs undefined

- ☆ *What is undefined property*
- ☆ *What is null value*
- ☆☆ *What is the difference between null and undefined*

### Topic 8 : Decorator

- ☆☆☆☆ *What is a decorator*

## Topic 9 : Event Loop, Queue ,Callstack, heap, event table

☆☆☆ *What is an event loop*

☆☆☆ *What are tasks in event loop*

☆☆☆ *What is call stack*

☆☆☆ *What is an event queue*

☆☆☆ *What is heap*

☆☆☆ *What is an event table*

## Topic 10 : Cookies, Session, Local Storage

☆☆☆ *What is web storage*

☆☆ *What is a cookie*

☆☆ *Why do you need a Cookie*

☆☆☆ *What are the options in a cookie*

☆☆ *How do you delete a cookie*

☆☆☆ *What are the differences between cookie, local storage and session storage*

☆☆☆ *What is the main difference between localStorage and sessionStorage*

☆☆☆ *How do you access web storage*

☆☆☆ *What are the methods available on session storage*

☆☆ *Why do you need web storage*

## Topic 11 : Async await

☆☆☆ *What is an async function*

## Topic 12 : SetTimeout, setInterval

☆☆ *What is the use of setTimeout*

☆☆ *What is the use of setInterval*

☆☆ *What is the purpose of clearTimeout method*

☆☆ *What is the purpose of clearInterval method*

## Topic 13 : Generators

☆☆☆ *What are the different kinds of generators*

Explain generators with code

## Topic 14 : Currying

☆☆☆ *What is the currying function*

## Topic 15 : Regex

☆☆☆ *What is a Regular Expression*

☆☆☆ *What are the string methods available in Regular expression*

☆☆☆ *What are modifiers in regular expression*

☆☆☆ *What are regular expression patterns*

☆☆☆ *How do you search a string for a pattern*

## Topic 16 : Objects & Oops

☆☆ *What are the possible ways to create objects in JavaScript*

☆☆☆ *How do you compare Object and Map*

☆☆ *What is the purpose of delete operator*

☆☆☆ *How do you check if a key exists in an object*

☆☆ *How do you loop through or enumerate javascript object*

☆☆ *How do you test for an empty object*

☆☆ *How do you add a key value pair in javascript*

☆☆☆ *What are the recommendations to create new object*

☆☆☆ *How do you copy properties from one object to other*

☆☆☆ *What are the applications of assign method*

☆☆ *What are the different ways to access object properties*

☆☆☆ *What is the difference between Shallow and Deep copy*

☆☆ *What are classes in ES6*

☆☆ *What is a constructor method*

☆☆☆ *What happens if you write constructor more than once in a class*

☆☆ *How do you call the constructor of a parent class*

☆☆ *How do you extend classes*

☆☆☆ *What are enhanced object literals*

## Topic 17 : Spread-Rest Operator

☆☆☆ *What is a rest parameter*

☆☆☆ *What happens if you do not use rest parameter as a last argument*

☆☆☆ *What is a spread operator*

☆☆☆ *What are the differences between spread operator and rest parameter*

## Topic 18 : Destructuring

☆☆☆ *What is destructuring assignment*

☆☆☆ *What are default values in destructuring assignment*

☆☆☆ *How do you swap variables in destructuring assignment*

## Topic 19 : Template Literals

☆☆ *What are template literals*

☆☆☆ *How do you write multi-line strings in template literals*

## Topic 20 : Callback & Callback Hell

☆☆ *What is a callback function*

☆☆☆ *Why do we need callbacks*

☆☆☆ *What is a callback hell*

☆☆☆ *What is callback in callback*

☆☆☆ *What are the pros and cons of promises over callbacks*

## Topic 21 : Ajax

☆☆☆ *What is AJAX*

## Topic 22 : Inbuilt Methods

## Topic 23 : Call, bind, apply

☆☆ *What is the difference between Call, Apply and Bind*

## Topic 24 : Closures

☆☆ *What are closures*

## Topic 25 : HOF, FCF, FOF & Functions

☆☆☆ *What is a higher order function*

☆☆☆ *What is a first class function*

☆☆☆ *What is a first order function*

☆☆☆ *What is a unary function*

☆☆☆☆ *Can we define properties for functions*

☆☆ *What is an anonymous function*

☆☆☆ *What are the function parameter rules*

☆☆ *What are default parameters*

☆☆ *What is the difference between a parameter and an argument*

☆☆☆ *What is the difference between Function constructor and function declaration*

☆☆☆ *What is the difference between function and class declarations*

## Topic 26 : JS Errors & Error Handling

☆☆☆ *What is an error object*

☆☆ *When you get a syntax error*

☆☆☆ *What are the different error names from error object*

☆☆☆ *What are the various statements in error handling*

## Topic 27 : Event Propagation, Bubbling, Capturing

☆☆☆ *What is an event flow*

☆☆☆ *What is event bubbling*

☆☆☆ *What is the use of stopPropagation method (for stopping event bubbling)*

☆☆☆ *What is event capturing*

## Topic 28 : JS Arrays

☆☆☆ *What is for...of statement*

☆☆ *How do you combine two or more arrays*

☆☆☆ *What happens if we add two arrays*

☆☆☆ *How do you map the array values without using map method*

☆ *How do you empty an array*

☆☆☆ *How do you sort elements in an array*

☆☆☆ *How do you reversing an array*

☆☆☆ *How do you find min and max value in an array*

## Topic 29 : Function Borrowing

☆☆☆☆ Explain function borrowing with example

## Topic 30 : JS Reduce function

☆☆☆ Explain JS Reduce with example

## Topic 31 : JS unshift

☆☆ Explain use of unshift with example

## Topic 32 : Lambda/Arrow Function

☆☆ What are lambda or arrow functions

## Topic 33 : Hoisting

☆☆ What is Hoisting

## Topic 34 : Promise & Promise.all

☆☆ What is a promise

☆☆ Why do you need a promise

☆☆ What are the three states of promise

☆☆☆ What is promise chaining

☆☆☆ What is promise.all

☆☆☆ What is the purpose of race method in promise

☆☆☆ How do you prevent promises swallowing errors

## Topic 35 : Fetch, Axios

☆☆☆ Fetch data from any api and console log the result

☆☆☆ Fetch data from any api using axios and console log the result

☆☆☆☆ What is same-origin policy

## Topic 36 : IIFE

☆☆ What is IIFE(Immediately Invoked Function Expression)

## Topic 37 : ES6

☆☆☆ List down some of the features of ES6

☆☆ What is ES6

## Topic 38 : Prototypes, Prototype Chain, Prototype Inheritance

☆☆☆ What is prototype chain

☆☆☆ What is the difference between proto and prototype

☆☆☆ How do you get the prototype of an object

☆☆☆ What happens If I pass string type for getPrototype method

☆☆☆☆ How do you set prototype of one object to another

☆☆ Do all objects have prototypes

## Topic 39 : Coercions

☆☆☆ Explain coercions in JS

## Topic 40 : JS Validations

☆☆☆ How do you validate an email in javascript

☆☆☆ How do you perform form validation using javascript

☆☆☆ How do you perform form validation without javascript

## Topic 41 : Object.freeze vs Object.seal vs const

☆☆☆ What is a freeze method

☆☆☆ What is the purpose of freeze method

☆☆☆ Why do I need to use freeze method

☆☆☆ What is the purpose of seal method

☆☆☆ What are the applications of seal method

☆☆☆ What are the differences between freeze and seal methods

☆☆☆ How do you determine if an object is sealed or not

☆☆ How do you get enumerable key and value pairs

☆☆ How can you get the list of keys of any object

☆☆☆☆ How do you create an object with prototype

## Topic 42 : new keyword

☆☆☆ Explain use of new keyword.

## Topic 43 : this keyword

☆☆☆ Explain this keyword in JS

## Topic 44 : Transpiling

**Answer in meta material**

## Topic 45 : Temporal Dead Zone

☆☆☆ What is the Temporal Dead Zone



## Topic 46 : Callback Hell

☆☆☆ Explain callback hell with example.

## Topic 47 : Map & Weakmap, Weakset & set

☆☆☆☆ What is a WeakSet

☆☆☆☆ What are the differences between WeakSet and Set

☆☆☆☆ List down the collection of methods available on WeakSet

☆☆☆☆ What is a WeakMap

☆☆☆☆ What are the differences between WeakMap and Map

## Topic 48 : Pass by ref vs Pass by value

☆☆ Explain pass by value vs pass by reference with example

## Topic 49 : JSON

☆☆☆ What is JSON and its common operations

☆☆ What is JSON

☆☆ What are the syntax rules of JSON

☆☆☆ What is the purpose JSON stringify

☆☆☆ How do you parse JSON string

☆☆ Why do you need JSON

## Topic 50 : Pure Function

☆☆☆ What is a pure function

## Topic 51 : Memoization

☆☆☆ What is memoization

## Topic 52 : Babel

☆☆ What is babel

## Topic 53 : JS Debugging

☆☆☆ What are the tools or techniques used for debugging JavaScript code

## Topic 54 : Miscellaneous

☆☆ What is the benefit of using modules

☆☆ What are modules

☆☆ Why do you need modules

- ☆☆☆☆ *What is a service worker*
- ☆☆ *What is typeof operator*
- ☆☆ *What is the difference between window and document*
- ☆☆☆ *How do you access history in javascript*
- ☆☆☆ *What is NaN*
- ☆☆☆ *What is an arguments object*
- ☆☆☆ *What is a debugger statement*
- ☆☆☆ *What is the purpose of breakpoints in debugging*
- ☆☆☆☆ *How do you detect a mobile browser*
- ☆☆☆☆ *What Is Obfuscation in javascript*
- ☆☆☆☆ *What is an enum*
- ☆☆☆☆ *Does javascript supports namespace*
- ☆☆☆☆ *How do you declare namespace*
- ☆☆☆☆ *How do you get the current url with javascript*
- ☆☆☆ *How do you generate random integers*
- ☆☆☆ *Can you write a random integers function to print integers with in a range*
- ☆☆ *How do you change style of a HTML element*
- ☆☆ *What would be the result of 1+2+'3'*
- ☆☆☆☆ *What are the ways to execute javascript after page load*
- ☆☆☆ *How do you determine two values same or not using object*
- ☆☆☆☆ *How do you rounding numbers to certain decimals*



