

# JavaScript Notes by ME 😊

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**\*\* Topics \*\***

hosting

new keyword

scope

This

lexical scope

temporal deadzone

shadowing

map

filter

reduce

polyfills

lexical scope

params vs arguments

spread operator/rest operator

prototype inheritance

Object literals

2. Constructor function

- instance (new, this)

3. prototypes

4. classes

Core JavaScript Concepts

## Data Types and Variables

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Primitive and reference types (e.g., strings, numbers, objects, arrays).

var, let, const keywords and their scopes.

## Functions

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Function declarations, expressions, and arrow functions.

Default parameters, rest parameters, and spread operator.

Higher-order functions and callbacks.

## Objects

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Creating and manipulating objects.

Object methods, this keyword, and prototypes.

Object destructuring and property shorthand.

## Closures

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Persistent data with closures.

Definition and use-cases.

Practical examples in real-world scenarios.

## DOM Manipulation

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Selecting and modifying DOM elements.

Event listeners and delegation.

Handling user inputs and form validations.

## ES6+ Features

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let and const, template literals.

Modules (import/export).

Classes and inheritance.

Iterators and generators.

## Advanced JavaScript

## Execution Context and Scope

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Global and local scope.

Hoisting and Temporal Dead Zone.

## Prototype and Inheritance

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Prototypal inheritance.

Understanding **proto** and prototype.

## Event Loop and Concurrency

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Callbacks, promises, and async/await.

Event loop phases.

## Memory Management

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Garbage collection.  
Common memory leaks.

## Error Handling

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try-catch blocks.  
Custom error creation.

## Performance Optimization

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Debouncing and throttling.  
Lazy loading and code splitting.

## JavaScript in the Browser

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### Browser APIs

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LocalStorage, SessionStorage, and Cookies.  
Fetch API and AJAX.  
Geolocation, Web Workers.

## Event Propagation

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Event bubbling and capturing.  
Stopping propagation.

## Cross-Origin Communication

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CORS basics and solutions.

## Data Structures

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Arrays (methods like map, filter, reduce, etc.).  
Sets, Maps, and WeakMaps.  
Stacks, Queues, Linked Lists (basic).

## Algorithms

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Sorting and searching algorithms.  
String manipulation.

Recursion basics.