# JavaScript Interview Questions for .NET Full-Stack Developers

## 1. Variables, Scopes, and Data Types

- What’s the difference between `var`, `let`, and `const`?

- How does hoisting work in JavaScript?

- What is the temporal dead zone?

- What are primitive and non-primitive data types?

- How does JavaScript handle type coercion? (`==` vs `===`)

## 2. Functions and Closures

- What are function declarations vs expressions?

- What is an arrow function, and how is `this` handled differently?

- What are closures? Give a practical use case.

- What is an IIFE (Immediately Invoked Function Expression)?

- Explain currying in JavaScript.

## 3. Objects and Arrays

- How do you clone an object or array in JavaScript?

- What are the differences between `Object.assign`, spread operator, and `structuredClone`?

- How do you use destructuring on arrays and objects?

- What is the difference between shallow and deep copy?

## 4. ES6+ Features

- Explain template literals.

- What is the difference between `...rest` and `...spread`?

- What are default parameters and why are they useful?

- What is optional chaining (`obj?.prop`)?

- What is the nullish coalescing operator (`??`)?

## 5. Array & Object Methods

- Explain how `.map()`, `.filter()`, `.reduce()`, `.find()` work.

- What is the difference between `.forEach()` and `.map()`?

- How do you sort an array of objects?

- How do you remove duplicates from an array?

### 6. Asynchronous JavaScript

- What are callbacks, and what is 'callback hell'?
- Explain how Promises work. What are `.then()`, `.catch()` and `.finally()`?
- What is `async/await` and how does it simplify asynchronous code?
- How do you handle multiple API calls concurrently? (e.g., `Promise.all`)
- What is the event loop? How does it handle asynchronous code?

### 7. Error Handling

- How do you handle errors in JavaScript?
- What’s the difference between `throw` and `return` an error?
- How do you catch errors in an `async` function?

### 8. DOM Manipulation & Events

- How do you select and manipulate DOM elements?
- What is the difference between `innerHTML`, `textContent`, and `innerText`?
- How do you attach an event listener to an element?
- What is event bubbling vs capturing?
- What is event delegation, and when would you use it?

### 9. Storage and Browser APIs

- What is the difference between `localStorage`, `sessionStorage`, and `cookies`?
- How do you use `fetch()` to call an API?
- How do you stringify and parse JSON?
- How do you debounce or throttle an event in JS?

### 10. Security and Performance

- What is XSS and how can you prevent it?
- What is CORS and how does it work?
- How can you optimize performance in a JavaScript-heavy web page?
- What are memory leaks in JS and how do you avoid them?

### Bonus: Mini Coding Exercises

- Reverse a string without using `.reverse()`.

- Write a debounce function.
- Flatten a nested array.
- Implement a custom `filter()` function.
- Write a function that counts character frequency in a string.