### **1–10: Syntax Shortcuts and Essentials**

// 1. Ternary Operator

const isAdult = age >= 18 ? "Yes" : "No";

// 2. Default Parameters

function greet(name = "Guest") {

return `Hello, ${name}`;

}

// 3. Arrow Functions

const add = (a, b) => a + b;

// 4. Destructuring Objects

const { name, age } = person;

// 5. Destructuring Arrays

const [first, second] = colors;

// 6. Template Literals

const message = `Hi, ${user.name}!`;

// 7. Spread Operator

const newArray = [...oldArray, 4];

// 8. Rest Parameters

function sum(...numbers) {

return numbers.reduce((a, b) => a + b);

}

// 9. Optional Chaining

const street = user?.address?.street;

// 10. Nullish Coalescing

const username = inputName ?? "Anonymous";

### 

### **11–20: Logic, Loops, and Arrays**

// 11. Short-circuit Evaluation

const status = isLoggedIn && "Welcome!";

// 12. Logical OR Assignment

user.name ||= "Guest";

// 13. Logical AND Assignment

settings.debug &&= false;

// 14. Object Property Shorthand

const age = 30;

const person = { name, age };

// 15. Computed Property Names

const key = "level";

const player = { [key]: 42 };

// 16. For-of Loop

for (const item of items) {

console.log(item);

}

// 17. forEach Loop

items.forEach(item => console.log(item));

// 18. Map Function

const squared = nums.map(n => n \* n);

// 19. Filter Function

const evens = nums.filter(n => n % 2 === 0);

// 20. Reduce Function

const total = nums.reduce((a, b) => a + b, 0);

### **21–30: Object & Array Utilities**

// 21. Includes Check

const found = list.includes("apple");

// 22. Set for Unique Values

const unique = [...new Set(array)];

// 23. Object.entries

Object.entries(obj).forEach(([key, value]) => {

console.log(key, value);

});

// 24. Object.values

const vals = Object.values(obj);

// 25. Object.keys

const keys = Object.keys(obj);

// 26. Chaining Array Methods

const result = data.filter(a => a.active).map(a => a.name);

// 27. Flatten Array

const flat = arr.flat();

// 28. Trim String

const cleaned = str.trim();

// 29. Pad String

const padded = "5".padStart(2, "0");

// 30. Intl.NumberFormat

const price = new Intl.NumberFormat().format(1234567);

### **31–40: Modern Tricks & Utilities**

// 31. Dynamic Import

const module = await import('./module.js');

// 32. Promise.all

await Promise.all([fetchData(), loadUI()]);

// 33. Async/Await

const fetchData = async () => {

const res = await fetch(url);

return res.json();

};

// 34. Optional Parameters in Functions

function log(message, level = "info") {

console[level](message);

}

// 35. Number Conversion with Unary +

const num = +"42";

// 36. Boolean Conversion with !!

const isTrue = !!value;

// 37. Short Array Swap

[a, b] = [b, a];

// 38. Quick String to Array

const chars = [..."hello"];

// 39. Quick Object Clone

const copy = { ...original };

// 40. Debounce Function (Utility)

const debounce = (fn, delay) => {

let timeout;

return (...args) => {

clearTimeout(timeout);

timeout = setTimeout(() => fn(...args), delay);

};

};