JavaScript Basics Outline (Essential Operators Only)

1. Introduction to JavaScript

- What is JavaScript?

- History & Purpose

- JavaScript in the Browser vs. Server-side (Node.js)

2. Basic Syntax

- Statements and Semicolons

- Comments: //, /* */

- Case Sensitivity

- Whitespace and Indentation

3. Variables and Data Types

- var, let, and const

- Primitive Types: Number, String, Boolean, null, undefined, Symbol, BigInt

- Reference Types: Object, Array, Function

4. Operators

Arithmetic Operators:

- +, -, *, /, %, **

Assignment Operators:

- =, +=, -=, *=, /=, %=, **=

Comparison Operators:

- ==, ===, !=, !==, >, <, >=, <=

Logical Operators:

- &&, ||, !

Ternary Operator:

- condition ? value1 : value2

Unary Operators:

- ++ (Increment)

- -- (Decrement)

5. Control Structures

- Conditional Statements: if, else if, else, switch

- Loops: for, while, do...while, for...in, for...of, break, continue

6. Functions

- Function Declaration, Expression, Arrow Functions (=>)

- Parameters and Return Values

- Scope and Closures

7. Objects and Arrays

- Object Literals and Properties

- Methods in Objects

- Array Creation and Manipulation

- Array Methods: push(), pop(), shift(), unshift(), map(), filter(), reduce(), forEach(), find()

8. Events (in the Browser)

- addEventListener()

- Common Events: click, submit, load, mouseover, etc.

- Event Object and event.preventDefault()

9. DOM Manipulation

- Selecting Elements: getElementById, querySelector, etc.

- Changing Content: textContent, innerHTML, value

- Modifying Styles

- Creating/Removing Elements

10. Error Handling

- try, catch, finally

- throw - Custom Errors

11. ES6+ Features

- Template Literals

- Destructuring

- Spread/Rest Operators

- Default Parameters

- Classes and Inheritance

- Modules: import, export

- Promises & async/await

12. JavaScript in Practice

- Form Validation

- API Calls with fetch()

- Local Storage

- Mini Projects (e.g., To-do List, Calculator)