JavaScript Course Outline

Module 1: Basics of JavaScript

- Introduction to JavaScript (History, uses, role in web development)
- Setting Up Environment (Browsers, editors, running JS)
- First JavaScript Program (console.log, inline, internal, external JS)
- Variables & Constants (var, let, const, scope, hoisting)
- Data Types (primitive & reference types)
- Operators (arithmetic, assignment, comparison, logical, ternary)

Module 2: Control Flow

- Conditional Statements (if, else if, else, switch)
- Loops (for, while, do...while, for...in, for...of)
- Break & Continue

Module 3: Functions

- Functions Basics (declaration, expression, parameters, return values)
- Arrow Functions
- Scope & Closures
- Callback Functions
- Higher Order Functions

Module 4: Arrays & Objects

- Arrays (creation, methods: push, pop, map, filter, reduce, etc.)
- Objects (properties, methods, this keyword)
- JSON (JavaScript Object Notation)

Module 5: DOM Manipulation

- The DOM (Document Object Model)
- Selecting Elements (getElementById, querySelector, etc.)
- Changing Content & Styles
- Creating & Deleting Elements
- Events & Event Listeners

Module 6: Advanced JavaScript

- ES6+ Features (template literals, destructuring, spread/rest, default params)
- Classes & Objects
- Modules (import/export)
- Error Handling (try...catch, throw)

Module 7: Asynchronous JavaScript

- Introduction to Asynchronous JS
- Callbacks vs Promises
- async & await
- Fetch API & AJAX

Module 8: JavaScript in Practice

- LocalStorage & SessionStorage
- Date & Time in JS
- Regular Expressions
- JavaScript Debugging & Best Practices

Module 9: Projects

- Project 1: Calculator
- Project 2: To-Do List App
- Project 3: Weather App (using API)
- Project 4: Quiz Game
- Project 5: Notes App with LocalStorage

Module 10: Advanced Topics (Optional)

- Event Loop & Execution Context
- JavaScript Design Patterns
- Introduction to TypeScript
- Basics of Frameworks (React, Vue, Angular)