JavaScript Learning Roadmap (Basics and Intermediate)

Week 1: JavaScript Basics

- Topics:
  - Introduction to JavaScript
  - Syntax, Variables, Data Types
  - Operators (Arithmetic, Comparison, Logical, Assignment)
  - Conditionals (if, else, switch)
  - Loops (for, while, do...while)
- Project: Create a simple number guessing game.
- Resources:
  - MDN Web Docs: JavaScript Guide (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide)
  - JavaScript Basics on FreeCodeCamp (https://www.freecodecamp.org/learn/)

Week 2: Functions and Arrays

- Topics:
  - Functions (declarations, expressions, arrow functions)
  - Scope and Closures
  - Arrays (creating, manipulating, looping through arrays)
- Project: Build a simple to-do list application.
- Resources:
  - JavaScript Functions (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Functions)
  - JavaScript Arrays (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Arrays)

Week 3: Objects and DOM Manipulation

- Topics:
    - Objects (creation, methods, this keyword)
    - DOM Manipulation (querySelector, event listeners)
    - Creating interactive web pages (form validation, button clicks)
- Project: Build a simple calculator that takes user input and performs arithmetic operations.
- Resources:
    - JavaScript Objects (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Working_with_Objects)
    - DOM Manipulation on MDN (https://developer.mozilla.org/en-US/docs/Web/API/Document_object_model)

Week 4: Intermediate JavaScript (ES6+ Features)

- Topics:
    - ES6+ Syntax (let/const, template literals, destructuring)
    - Spread and Rest operators
    - Classes and Inheritance
    - Modules (import/export)
- Project: Create a weather app using an external API.
- Resources:
    - ES6 Features on MDN (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Statements/let)
    - JavaScript Classes and Inheritance (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Classes)

Week 5: Asynchronous JavaScript

- Topics:
    - Callbacks

- Promises and async/await
- Fetch API (making network requests)

- Project: Build a movie search app using the OMDB API that fetches movie details and displays them.

- Resources:
  - Promises and async/await (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Statements/async_function)
  - Using the Fetch API (https://developer.mozilla.org/en-US/docs/Web/API/Fetch_API)

Week 6: Final Projects & Practice

- Topics:
  - Review everything learned
  - Refactor code and improve project structure
  - Debugging and best practices

- Projects:
  - Final Project (Choose between these options):
    - A quiz app that fetches random questions from an API.
    - A task manager with the ability to add/edit/delete tasks and store them in local storage.

- Resources:
  - JavaScript Algorithms and Data Structures on FreeCodeCamp (https://www.freecodecamp.org/learn/)
  - JavaScript Best Practices (https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/JavaScript_best_practices)