

JavaScript Proficiency Test

Advanced Level

Description:

This 90-minute JavaScript proficiency test is designed to assess your foundational knowledge of web development using JavaScript. The test covers essential concepts including variables, loops, functions, operators, and basic DOM manipulation.

Test Structure:

The test consists of five exercises that progressively test your understanding of JavaScript.

Exercise 1: Variable Declaration and Manipulation

Task: Work with variables, perform arithmetic operations, and display results.

Exercise 2: Looping and Array Manipulation

Task: Utilize loops to manipulate an array of numbers.

Exercise 3: Function Implementation

Task: Create and use JavaScript functions to perform specific tasks.

Exercise 4: Conditional Statements

Task: Apply conditional statements to make decisions based on user input.

Exercise 5: Basic DOM Manipulation

Task: Interact with the Document Object Model (DOM) to modify a webpage.

Note:

You are expected to write JavaScript code for each exercise.

The exercises are designed to challenge your JavaScript skills while still being suitable for those with basic knowledge.

You will be evaluated on code correctness, efficiency, and adherence to the provided tasks.

This test is an opportunity to demonstrate your ability to work with JavaScript, a fundamental language in web development.

Best of luck!

Exercise 1: Advanced Variable and Operator Use

Task: Create a program that generates a random list of 10 integers within a specific range (e.g., 1 to 100) and stores them in an array. Find and display the sum, average, and product of the elements. Additionally, implement a way to identify and display the largest and smallest numbers in the array.

Exercise 2: Advanced Array Manipulation

Task: Given an array of objects with properties like name, age, and country, write a JavaScript program that sorts the array based on age in descending order. Then, filter the array to extract and display the names of people aged 30 or older.

Exercise 3: Advanced Function Implementation

Task: Create a JavaScript function that takes an array of numbers and returns the median value. The function should handle both odd and even-length arrays. Test the function with various arrays to ensure it works correctly.

Exercise 4: Complex Conditional Logic

Task: Create a program that simulates a simple game. Ask the user to guess a random number between 1 and 100. Provide hints like "too high" or "too low" until the user guesses the correct number. Keep track of the number of attempts, and display it once they guess correctly.

Exercise 5: Advanced DOM Manipulation and API Integration

Task: Build a web page that allows users to search for movies by title using the OMDB API. Implement a search input and a "Search" button. When the user enters a title and clicks "Search," display a list of matching movie titles with posters and details.