JavaScript Proficiency Test

Intermediate 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: Basic Variable and Operator Use

Task: Create a JavaScript program that calculates the area and perimeter of a rectangle. Ask the user to enter the length and width as input, and then display both the area and perimeter.

Exercise 2: Basic Looping and Array Manipulation

Task: Given an array of numbers, write a program that finds and displays the sum of all even numbers and the product of all odd numbers in the array.

Exercise 3: Simple Function Implementation

Task: Write a JavaScript function that takes a user's name as input and returns a greeting message using the name. For example, if the user inputs "Alice," the function should return "Hello, Alice!".

Exercise 4: Basic Conditional Statements

Task: Create a program that prompts the user to enter a number. Check if the number is positive, negative, or zero, and display an appropriate message.

Exercise 5: Basic DOM Manipulation

Task: Build a webpage with a button. When the button is clicked, change the background color of the webpage to a random color. Add a text element that displays the new background color.