

Coding Challenges - Day 6

Challenges 4

Even or Odd Checker

- Write an `if...else` statement that checks if a `number` variable is even or odd, and logs the result.
- (Hint: Use the modulo operator `%`)

Traffic Light Simulator

- Use a `switch` statement to simulate a traffic light. Given a `lightColor` variable ("red", "yellow", "green"), log the appropriate action ("Stop", "Prepare to stop", "Go").
- If the color is unknown, log "Invalid color."

Sum of Numbers

- Write a `for` loop that calculates the sum of all numbers from 1 to 100 and prints the total.

Count Down from 5 to 1 (using `while`)

- Write a `while` loop that counts down from 5 to 1, logging each number.

Find First Even Number (using `for` and `break`)

- Given an array of numbers, use a `for` loop to find and log the *first* even number. Once found, stop the loop.
- `const numbers = [1, 3, 5, 8, 9, 10];`

Challenges 5

- **Greeting Function (Declaration):**

- Create a function declaration named `greet` that takes one parameter `name` and logs `"Hello, [name]!"` to the console. Call the function with your name.

- **Square Function (Expression):**

- Create a function expression named `square` that takes one parameter `number` and returns its square. Store this function in a `const` variable. Call it and log the result.

- **Calculator Function (Parameters & Return):**

- Write a function called `calculate` that takes three parameters: `num1`, `num2`, and `operation` (a string like "add", "subtract", "multiply", "divide").
- Use `if/else if/else` or `switch` inside the function to perform the specified operation and `return` the result. Handle invalid operations.

- **Is Palindrome (Arrow Function):**

- Write an arrow function `isPalindrome` that takes a `string` parameter
 - It should return `true` if the string is a palindrome (reads the same forwards and backward), and `false` otherwise. (Ignore case and spaces for extra challenge if desired, but keep it simple for now).
 - (Hint: `string.split('').reverse().join('')` is useful)
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Challenges 6

Map - Squared Numbers

Given an array of numbers `[1, 2, 3, 4, 5]`, use `map()` to create a new array where each number is squared.

Filter - Adult Users

- Given an array of user objects: `const people = [{ name: 'Anna', age: 28 }, { name: 'Bob', age: 17 }, { name: 'Charlie', age: 35 }];`
- Use `filter()` to create a new array containing only users who are 18 or older.

Reduce - Calculate Average

Given an array of grades `[85, 90, 78, 92, 88]`, use `reduce()` to calculate the average grade.

Array Destructuring with Default Values and Rest

You have a list of tasks: `const allTasks = ["Learn JS", "Build Project", "Practice DSA", "Exercise", "Read"];`

Use array destructuring to:

- Extract the first task into a variable `firstTask`.
 - Skip the second task.
 - Extract the third task into `importantTask`.
 - Collect the remaining tasks into an array called `otherTasks`.
 - Assume you might sometimes not have a third task, so provide a default value "Review Concepts" for `importantTask`.
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