Sharpen Your Coding Skills with JavaScript Exercises!

Ready to level up your coding game? Try out these 10 JavaScript exercises covering a wide range of concepts:

Rectangle Area: Calculate the area of a rectangle.

Circle Area: Compute the area of a circle.

Leap Year Checker: Determine if a year is a leap year.

Longest Word Finder: Find the longest word in a sentence.

Vowel Counter: Count the vowels in a string.

Sentence Reversal: Reverse the words in a sentence.

Max Number Finder: Find the maximum number in an array.

Palindrome Detector: Check if a string is a palindrome.

Factorial Calculator: Calculate the factorial of a number.

Title Case Converter: Convert a sentence to title case.

Solving these exercises is not only a fun challenge but also a great way to enhance your problem-solving skills and strengthen your JavaScript knowledge. Ready to give them a try? 💡👨‍💻

#JavaScript #CodingExercises #ProgrammingChallenges #ProblemSolving #LinkedInLearning

Exercise 1: Calculate the Area of a Rectangle

Write a function calculateRectangleArea that takes the length and width of a rectangle and returns its area.

```
function calculateRectangleArea(length, width) {
  return length * width;
}
```

```
// Example usage:
console.log(calculateRectangleArea(5, 8)); // Output:
40
```

Exercise 2: Calculate the Area of a Circle

Write a function calculateCircleArea that takes the radius of a circle and returns its area.

```
function calculateCircleArea(radius) {
  return Math.PI * Math.pow(radius, 2);
}

// Example usage:
console.log(calculateCircleArea(4)); // Output:
50.26548245743669
```

Exercise 3: Check for Leap Year

Write a function isLeapYear that checks if a given year is a leap year (has 366 days).

```
function isLeapYear(year) {
```

```
  return (year % 4 === 0 && year % 100 !== 0) || year %
400 === 0;
}

// Example usage:
console.log(isLeapYear(2024)); // Output: true
```

Exercise 4: Find the Longest Word in a Sentence

Write a function findLongestWord that takes a sentence and returns the longest word in it.

```
function findLongestWord(sentence) {
  const words = sentence.split(' ');
  return words.reduce((longest, word) => (word.length >
longest.length ? word : longest), '');
}

// Example usage:
console.log(findLongestWord('This is a sample
sentence.')); // Output: "sentence."
```

Exercise 5: Count Vowels in a String

Write a function countVowels that counts the number of vowels (a, e, i, o, u) in a given string.

```
function countVowels(str) {
  const vowels = 'aeiouAEIOU';
  return str.split('').filter(char =>
vowels.includes(char)).length;
}

// Example usage:
console.log(countVowels('Hello, World!')); // Output: 3
```

Exercise 6: Reverse a Sentence

Write a function reverseSentence that reverses the words in a sentence.

```
function reverseSentence(sentence) {
  return sentence.split(' ').reverse().join(' ');
}

// Example usage:
```

```
console.log(reverseSentence('This is a sample
sentence.')); // Output: "sentence. sample a is This"
```

Exercise 7: Find the Maximum Number in an Array

Write a function findMax that finds and returns the maximum number in an array.

```
function findMax(arr) {
  return Math.max(...arr);
}

// Example usage:
console.log(findMax([12, 56, 7, 34, 87])); // Output:
87
```

Exercise 8: Check for Palindrome

Write a function isPalindrome that checks if a given string is a palindrome (reads the same forwards and backwards).

```
function isPalindrome(str) {
  const reversedStr = str.split('').reverse().join('');
  return str === reversedStr;
}
```

```
// Example usage:
console.log(isPalindrome('racecar')); // Output: true
```

Exercise 9: Calculate Factorial

Write a function factorial that calculates the factorial of a given number.

```
function factorial(n) {
  if (n === 0 || n === 1) {
    return 1;
  } else {
    return n * factorial(n - 1);
  }
}

// Example usage:
console.log(factorial(5)); // Output: 120
```

Exercise 10: Title Case a Sentence

Write a function titleCase that converts a sentence to title case (the first letter of each word capitalized).

```
function titleCase(sentence) {
  const words = sentence.split(' ');
  const titleCasedWords = words.map(word =>
word.charAt(0).toUpperCase() +
word.slice(1).toLowerCase());
  return titleCasedWords.join(' ');
}

// Example usage:
console.log(titleCase('this is a sample sentence')); //
Output: "This Is A Sample Sentence"
```

These exercises are designed to cover a variety of JavaScript concepts and challenges, helping you improve your coding skills and problem-solving abilities.