

# JavaScript Coding Exercises



## [JavaScript Coding Exercises](#)

[Exercise 1: Calculate the Sum of an Array](#)

[Exercise 2: Find the Largest Element in an Array](#)

[Exercise 3: Calculate Factorial Using Recursion](#)

[Exercise 4: Check for Even Numbers](#)

[Exercise 5: Count the Number of Words in a String](#)

[Exercise 6: Reverse an Array](#)

[Exercise 7: Check for a Prime Number](#)

[Exercise 8: Remove Duplicates from an Array](#)

[Exercise 9: Calculate the Mean \(Average\) of an Array](#)

[Exercise 10: Check for Anagrams](#)

## Exercise 1: Calculate the Sum of an Array

Write a function `sumArray` that calculates the sum of all the numbers in an array.

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```
function sumArray(arr) {  
  let sum = 0;  
  for (let num of arr) {  
    sum += num;  
  }  
  return sum;  
}
```

// Example usage:

```
console.log(sumArray([1, 2, 3, 4, 5])); // Output: 15
```

## Exercise 2: Find the Largest Element in an Array

Write a function `findLargest` that finds and returns the largest element in an array.

```
function findLargest(arr) {  
  let largest = arr[0];  
  for (let num of arr) {  
    if (num > largest) {  
      largest = num;  
    }  
  }  
  return largest;  
}
```

```
}
```

```
// Example usage:
```

```
console.log(findLargest([12, 56, 7, 34, 87])); //
```

```
Output: 87
```

## Exercise 3: Calculate Factorial Using Recursion

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

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

```
// Example usage:
```

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

## Exercise 4: Check for Even Numbers

Write a function `isEven` that checks if a given number is even and returns `true` if it is, and `false` otherwise.

```
function isEven(num) {  
  return num % 2 === 0;  
}
```

```
// Example usage:  
console.log(isEven(8)); // Output: true
```

## Exercise 5: Count the Number of Words in a String

Write a function `countWords` that counts the number of words in a given string.

```
function countWords(str) {  
  const words = str.split(' ');  
  return words.length;  
}
```

```
// Example usage:  
console.log(countWords("This is a sample sentence."));  
// Output: 5
```

## Exercise 6: Reverse an Array

Write a function `reverseArray` that reverses the elements in an array.

```
function reverseArray(arr) {  
  return arr.reverse();  
}
```

// Example usage:

```
console.log(reverseArray([1, 2, 3, 4, 5])); // Output:  
[5, 4, 3, 2, 1]
```

## Exercise 7: Check for a Prime Number

Write a function `isPrime` that checks if a given number is a prime number.

```
function isPrime(num) {  
  if (num <= 1) {  
    return false;  
  }  
  for (let i = 2; i <= Math.sqrt(num); i++) {  
    if (num % i === 0) {  
      return false;  
    }  
  }  
}
```

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```
    }  
  }  
  return true;  
}  
  
// Example usage:  
console.log(isPrime(11)); // Output: true
```

## Exercise 8: Remove Duplicates from an Array

Write a function `removeDuplicates` that removes duplicate elements from an array.

```
function removeDuplicates(arr) {  
  return [...new Set(arr)];  
}  
  
// Example usage:  
console.log(removeDuplicates([1, 2, 2, 3, 4, 4, 5]));  
// Output: [1, 2, 3, 4, 5]
```

## Exercise 9: Calculate the Mean (Average) of an Array

Write a function `calculateMean` that calculates the mean (average) of all the numbers in an array.

```
function calculateMean(arr) {
  const sum = arr.reduce((acc, num) => acc + num, 0);
  return sum / arr.length;
}

// Example usage:
console.log(calculateMean([1, 2, 3, 4, 5])); // Output:
3
```

## Exercise 10: Check for Anagrams

Write a function `areAnagrams` that checks if two strings are anagrams of each other (they have the same characters but in different orders).

```
function areAnagrams(str1, str2) {
  const sortedStr1 = str1.split('').sort().join('');
  const sortedStr2 = str2.split('').sort().join('');
  return sortedStr1 === sortedStr2;
}
```

```
// Example usage:
```

```
console.log(areAnagrams('listen', 'silent')); //
```

Output: true

These exercises cover a variety of JavaScript concepts and can help you improve your coding skills. Try solving them to enhance your understanding of JavaScript programming.