1.Print odd numbers in an array

**const printNumbersOdd= function(d) {**

**return d.filter(function(num) {**

**return num % 2 !== 0;**

**});**

**};**

**console.log(printNumbersOdd ([1, 2, 3, 4, 5, 6, 7, 8, 9]));**

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**Anonymous Function:**

const toTitleCaps = function(arr) {

return arr.map(function(str) {

return str.split(' ').map(function(word) {

return word.charAt(0).toUpperCase() + word.slice(1).toLowerCase();

}).join(' ');

});

};

console.log(toTitleCaps(["hello world", "javascript is fun", "openAI rocks"]));

**IIFE**

**(function(arr) {**

**const titleCapsArray = arr.map(function(str) {**

**return str.split(' ').map(function(word) {**

**return word.charAt(0).toUpperCase() + word.slice(1).toLowerCase();**

**}).join(' ');**

**});**

**console.log(titleCapsArray);**

**})(["hello world", "javascript is fun", "openAI rocks"]);**

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**3.** Sum of all numbers in an array

**Anonymous Function:**

**const sumOfNumbers = function(arr) {**

**return arr.reduce(function(sum, num) {**

**return sum + num;**

**}, 0);**

**};**

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

**IIFE:**

**(function(arr) {**

**const sum = arr.reduce(function(sum, num) {**

**return sum + num;**

**}, 0);**

**console.log(sum);**

**})([1, 2, 3, 4, 5]);**

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**4.** Return all the prime numbers in an array

**Anonymous Function:**

**const findPrimes = function(arr) {**

**return arr.filter(function(num) {**

**if (num < 2) return false;**

**for (let i = 2; i <= Math.sqrt(num); i++) {**

**if (num % i === 0) return false;**

**}**

**return true;**

**});**

**};**

**console.log(findPrimes([1, 2, 3, 4, 5, 6, 7, 8, 9, 10]));**

**IIFE:**

**(function(arr) {**

**const primes = arr.filter(function(num) {**

**if (num < 2) return false;**

**for (let i = 2; i <= Math.sqrt(num); i++) {**

**if (num % i === 0) return false;**

**}**

**return true;**

**});**

**console.log(primes);**

**})([1, 2, 3, 4, 5, 6, 7, 8, 9, 10]);**

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**5.** Return all the palindromes in an array

**Anonymous Function:**

const findPalindromes = function(arr) {

return arr.filter(function(str) {

const reversed = str.split('').reverse().join('');

return str === reversed;

});

};

console.log(findPalindromes(["madam", "racecar", "apple", "hello", "level"]));

**IIFE:**

**(function(arr) {**

**const palindromes = arr.filter(function(str) {**

**const reversed = str.split('').reverse().join('');**

**return str === reversed;**

**});**

**console.log(palindromes);**

**})(["madam", "racecar", "apple", "hello", "level"]);**

**5.** **Return median of two sorted arrays of the same size.**

**Anonymous Function:**

**const findMedian = function(arr1, arr2) {**

**const mergedArray = [...arr1, ...arr2].sort((a, b) => a - b);**

**const mid = mergedArray.length / 2;**

**return (mergedArray[mid - 1] + mergedArray[mid]) / 2;**

**};**

**console.log(findMedian([1, 3, 5], [2, 4, 6]));**

**IIFE:**

**(function(arr1, arr2) {**

**const mergedArray = [...arr1, ...arr2].sort((a, b) => a - b);**

**const mid = mergedArray.length / 2;**

**const median = (mergedArray[mid - 1] + mergedArray[mid]) / 2;**

**console.log(median);**

**})([1, 3, 5], [2, 4, 6]);**

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**6.** Remove duplicates from an array

**Anonymous Function:**

const removeDuplicates = function(arr) {

return [...new Set(arr)];

};

console.log(removeDuplicates([1, 2, 2, 3, 4, 4, 5]));

**IIFE:**

**(function(arr) {**

**const uniqueArray = [...new Set(arr)];**

**console.log(uniqueArray);**

**})([1, 2, 2, 3, 4, 4, 5]);**

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**7.** Rotate an array by k times

**Anonymous Function:**

**const rotateArray = function(arr, k) {**

**const rotations = k % arr.length; // Handles cases where k > arr.length**

**return [...arr.slice(-rotations), ...arr.slice(0, -rotations)];**

**};**

**console.log(rotateArray([1, 2, 3, 4, 5], 2));**

**IIFE**

**(function(arr, k) {**

**const rotations = k % arr.length;**

**const rotatedArray = [...arr.slice(-rotations), ...arr.slice(0, -rotations)];**

**console.log(rotatedArray);**

**})([1, 2, 3, 4, 5], 2);**

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**arrow functions.**

**1.** **Print odd numbers in an array**

const printOddNumbers = (arr) => arr.filter(num => num % 2 !== 0);

console.log(printOddNumbers([1, 2, 3, 4, 5, 6, 7, 8, 9]));

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**2.** **Convert all the strings to title caps in a string array**

const toTitleCaps = (arr) =>

arr.map(str =>

str.toLowerCase().replace(/\b\w/g, char => char.toUpperCase())

);

console.log(toTitleCaps(["hello world", "javascript is fun", "openAI rocks"]));

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**3. Sum of all numbers in an array**

const sumOfNumbers = (arr) =>

arr.reduce((sum, num) => sum + num, 0);

console.log(sumOfNumbers([1, 2, 3, 4, 5]));

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**4. Return all the prime numbers in an array**

const findPrimes = (arr) =>

arr.filter(num => {

if (num < 2) return false; // Handle numbers less than 2

for (let i = 2; i <= Math.sqrt(num); i++) {

if (num % i === 0) return false; // Not prime

}

return true;

});

console.log(findPrimes([1, 2, 3, 4, 5, 6, 7, 8, 9, 10]));

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**5. Return all the palindromes in an array**

const findPalindromes = (arr) =>

arr.filter(str => str === str.split('').reverse().join(''));

console.log(findPalindromes(["madam", "racecar", "apple", "hello", "level"]));

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