//ANONYMOUS FUNCTION

//odd numbers in an array

let a = [1,2,3,4,5,6,7,8,9];

let fun = function(){

    let res = [];

    for(i=0;i<a.length;i++){

        if(a[i] % 2 !==0){

            res.push(a[i]);

        }

    }

    return res;

}

console.log(fun());

//all strings to title caps in string array

let b = ["hello","everyone","how","are","you"];

 function toTitleCase(txt){

    return txt.charAt(0).toUpperCase() + txt.substr(1).toLowerCase();

}

let c = b.map(toTitleCase);

console.log(c);

//Sum of all numbers in an array

let d = [1,2,3,4,5,6,7,8,9];

 function sumArray(arr){

    let sum = 0;

    for(i=0;i<d.length;i++){

        sum += arr[i];

    }

    return sum;

}

let result = sumArray(d);

console.log(result);

//Return all the prime numbers in an array

function isPrime(num) {

    if (num < 2) {

        return false;

    }

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

        if (num % i === 0) {

            return false;

        }

    }

    return true;

}

let e = [1, 2, 3, 4, 5, 6, 7, 8, 9];

let f = e.filter(function(num) {

    return isPrime(num);

});

console.log(f);

//Remove duplicates from an array

let arrayWithDuplicates = [1, 2, 3, 4, 1, 2, 5, 6, 3];

// Use Set to remove duplicates

let arrayWithoutDuplicates = [...new Set(arrayWithDuplicates)];

console.log(arrayWithoutDuplicates);

//Rotate an array by k times

function rotateArray(arr, k) {

    const n = arr.length;

    // Calculate the effective rotation count to handle multiple rotations

    const rotations = k % n;

    // Use array slicing and concatenation to perform the rotation

    const rotatedArray = arr.slice(rotations).concat(arr.slice(0, rotations));

    return rotatedArray;

}

let originalArray = [1, 2, 3, 4, 5];

let rotations = 2;

let rotatedArray = rotateArray(originalArray, rotations);

console.log(rotatedArray);

//Return median of two sorted arrays of the same size

function findMedianSortedArrays(arr1, arr2) {

    const mergedArray = arr1.concat(arr2);

    const sortedArray = mergedArray.sort((a, b) => a - b);

    const n = sortedArray.length;

    const mid = Math.floor(n / 2);

    if (n % 2 === 0) {

        // If the length is even, return the average of the two middle elements

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

    } else {

        // If the length is odd, return the middle element

        return sortedArray[mid];

    }

}

// Example usage

let arr1 = [1, 2, 3];

let arr2 = [4, 5, 6];

let median = findMedianSortedArrays(arr1, arr2);

console.log(median);

//Return all the palindromes in an array

function isPalindrome(str) {

    const cleanStr = str.toLowerCase().replace(/[^a-zA-Z0-9]/g, ''); // Remove non-alphanumeric characters

    const reversedStr = cleanStr.split('').reverse().join('');

    return cleanStr === reversedStr;

}

function findPalindromesInArray(arr) {

    return arr.filter((word) => isPalindrome(word));

}

// Example usage

let words = ["hello", "level", "civic", "world", "radar", "A man, a plan, a canal, Panama!"];

let palindromeWords = findPalindromesInArray(words);

console.log(palindromeWords);\*/

//ARROW FUNCTION

Print odd numbers in an array

let numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9];

// Use filter with an arrow function to get odd numbers

let oddNumbers = numbers.filter((number) => number % 2 !== 0);

// Print the odd numbers

console.log(oddNumbers);\*

//Convert all the strings to title caps in a string array

let b = ["hello", "everyone", "how", "are", "you"];

// Convert the toTitleCase function to an arrow function

const toTitleCase = txt => txt.charAt(0).toUpperCase() + txt.substr(1).toLowerCase();

// Use the map method to apply the arrow function to each element in the array

let c = b.map(toTitleCase);

// Log the title-cased array to the console

console.log(c);

//Sum of all numbers in an array

let d = [1, 2, 3, 4, 5, 6, 7, 8, 9];

// Convert the sumArray function to an arrow function

const sumArray = arr => {

    let sum = 0;

    for (let i = 0; i < arr.length; i++) {

        sum += arr[i];

    }

    return sum;

};

let result = sumArray(d);

console.log(result);

//Return all the prime numbers in an array

const isPrime = num => {

    if (num < 2) {

        return false;

    }

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

        if (num % i === 0) {

            return false;

        }

    }

    return true;

};

let numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9];

// Use the filter method with the arrow function

let primeNumbers = numbers.filter(num => isPrime(num));

console.log(primeNumbers);

//Return all the palindromes in an array

const isPalindrome = str => {

    const cleanStr = str.toLowerCase().replace(/[^a-zA-Z0-9]/g, ''); // Remove non-alphanumeric characters

    const reversedStr = cleanStr.split('').reverse().join('');

    return cleanStr === reversedStr;

};

let words = ["hello", "level", "civic", "world", "radar", "A man, a plan, a canal, Panama!"];

let palindromeWords = words.filter(word => isPalindrome(word));

console.log(palindromeWords);