Task-3

1.a) Print odd numbers in an array

function printOddNumbers(arr) {

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

if (arr[i] % 2 !== 0) {

console.log(arr[i]);

}

}

}

// Example usage:

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

printOddNumbers(numbers);

b)convert all string to title caps in an string array

function toTitleCase(str) {

return str.replace(/\b\w/g, function(char) {

return char.toUpperCase();

});

}

function convertToTitleCaps(arr) {

return arr.map(function(str) {

return toTitleCase(str);

});

}

// Example usage:

const strings = ["hello world", "this is a test", "javascript is awesome"];

const titleCapsStrings = convertToTitleCaps(strings);

console.log(titleCapsStrings);

c)Sum of all numbers in an array

function sumArray(arr) {

let sum = 0;

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

sum += arr[i];

}

return sum;

}

// Example usage:

const numbers = [1, 2, 3, 4, 5];

const total = sumArray(numbers);

console.log("Sum of numbers:", total);

d)return all prime numbers in an array js

function isPrime(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

}

function findPrimeNumbers(arr) {

return arr.filter(function(num) {

return isPrime(num);

});

}

// Example usage:

const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];

const primeNumbers = findPrimeNumbers(numbers);

console.log("Prime numbers:", primeNumbers);

e)return all palindromes in an array js

function isPalindrome(str) {

const reversedStr = str.split("").reverse().join("");

return str === reversedStr;

}

function findPalindromes(arr) {

return arr.filter(function(str) {

return isPalindrome(str);

});

}

// Example usage:

const words = ["level", "hello", "racecar", "world", "deified"];

const palindromes = findPalindromes(words);

console.log("Palindromes:", palindromes);

f)Return median of two sorted arrays of the same size.

function findMedianSortedArrays(nums1, nums2) {

const mergedArray = mergeSortedArrays(nums1, nums2);

const n = mergedArray.length;

if (n % 2 === 0) {

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

const mid = n / 2;

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

} else {

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

return mergedArray[Math.floor(n / 2)];

}

}

function mergeSortedArrays(nums1, nums2) {

const mergedArray = [];

let i = 0, j = 0;

while (i < nums1.length && j < nums2.length) {

if (nums1[i] < nums2[j]) {

mergedArray.push(nums1[i]);

i++;

} else {

mergedArray.push(nums2[j]);

j++;

}

}

// Push remaining elements from nums1

while (i < nums1.length) {

mergedArray.push(nums1[i]);

i++;

}

// Push remaining elements from nums2

while (j < nums2.length) {

mergedArray.push(nums2[j]);

j++;

}

return mergedArray;

}

// Example usage:

const nums1 = [1, 3, 5];

const nums2 = [2, 4, 6];

const median = findMedianSortedArrays(nums1, nums2);

console.log("Median:", median);

g)Remove duplicates from an array

function removeDuplicates(arr) {

return Array.from(new Set(arr));

}

// Example usage:

const numbers = [1, 2, 3, 2, 4, 5, 4];

const uniqueNumbers = removeDuplicates(numbers);

console.log("Array without duplicates:", uniqueNumbers);

h)Rotate an array by k times

function rotateLeft(arr, k) {

const n = arr.length;

const rotations = k % n; // Handle cases where k > n

return arr.slice(rotations).concat(arr.slice(0, rotations));

}

// Example usage:

const array = [1, 2, 3, 4, 5];

const k = 2;

const rotatedArray = rotateLeft(array, k);

console.log("Rotated array:", rotatedArray);

function rotateRight(arr, k) {

const n = arr.length;

const rotations = n - (k % n); // Handle cases where k > n

return arr.slice(rotations).concat(arr.slice(0, rotations));

}

// Example usage:

const array = [1, 2, 3, 4, 5];

const k = 2;

const rotatedArray = rotateRight(array, k);

console.log("Rotated array:", rotatedArray);

2.a)Print odd numbers in an array

function printOddNumbers(arr) {

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

if (arr[i] % 2 !== 0) {

console.log(arr[i]);

}

}

}

// Example usage:

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

printOddNumbers(numbers);