**1.Do the below programs in anonymous function & IIFE**

**ANONYMOUS FUNCTION:**

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

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

const printOddNumbers = function(arr) {

arr.forEach(function(num) {

if (num % 2 !== 0) {

console.log(num);

}

});

};

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

const strings = ["hello world", "good morning", "have a nice day"];

const convertToTitleCaps = function(arr) {

return arr.map(function(string) {

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

return char.toUpperCase();

});

});

};

const titleCapsArray = convertToTitleCaps(strings);

console.log(titleCapsArray);

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

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

const sumOfNumbers = function(arr) {

return arr.reduce(function(acc, curr) {

return acc + curr;

}, 0);

};

const sum = sumOfNumbers(numbers);

console.log(sum);

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

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

const isPrime = function(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

};

const primeNumbers = function(arr) {

return arr.filter(function(num) {

return isPrime(num);

});

};

console.log(primeNumbers(numbers));

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

const words = ["radar", "level", "hello", "noon", "world"];

const isPalindrome = function(word) {

const reversedWord = word.split('').reverse().join('');

return word === reversedWord;

};

const palindromes = function(arr) {

return arr.filter(function(word) {

return isPalindrome(word);

});

};

console.log(palindromes(words));

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

const arr1 = [1, 3, 5];

const arr2 = [2, 4, 6];

const findMedianSortedArrays = function(arr1, arr2) {

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

const mid = Math.floor(mergedArray.length / 2);

if (mergedArray.length % 2 === 0) {

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

} else {

return mergedArray[mid];

}

};

console.log(findMedianSortedArrays(arr1, arr2));

**g.Remove duplicates from an array**

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

const removeDuplicates = function(arr) {

return arr.filter((value, index, self) => self.indexOf(value) === index);

};

const arrayWithoutDuplicates = removeDuplicates(arrayWithDuplicates);

console.log(arrayWithoutDuplicates);

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

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

const k = 2;

const rotateArray = function(arr, k) {

const n = arr.length;

const rotation = k % n;

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

};

console.log(rotateArray(array, k));

**IIFE FUNCTION:**

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

printOddNumbers(arr);

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

const printOddNumbers = function(arr) {

arr.forEach(function(num) {

if (num % 2 !== 0) {

console.log(num);

}

});

};

printOddNumbers(arr);

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

const strings = ["hello world", "good morning", "have a nice day"];

const titleCapsArray = (function(arr) {

return arr.map(function(string) {

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

return char.toUpperCase();

});

});

})(strings);

console.log(titleCapsArray);

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

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

const sum = (function(arr) {

return arr.reduce(function(acc, curr) {

return acc + curr;

}, 0);

})(numbers);

console.log(sum);

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

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

const primeNumbers = (function(arr) {

const isPrime = function(num) {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

};

return arr.filter(function(num) {

return isPrime(num);

});

})(numbers);

console.log(primeNumbers);

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

const words = ["radar", "level", "hello", "noon", "world"];

const palindromes = (function(arr) {

const isPalindrome = function(word) {

const reversedWord = word.split('').reverse().join('');

return word === reversedWord;

};

return arr.filter(function(word) {

return isPalindrome(word);

});

})(words);

console.log(palindromes);

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

const arr1 = [1, 3, 5];

const arr2 = [2, 4, 6];

const median = (function(arr1, arr2) {

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

const mid = Math.floor(mergedArray.length / 2);

if (mergedArray.length % 2 === 0) {

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

} else {

return mergedArray[mid];

}

})(arr1, arr2);

console.log(median);

**g.Remove duplicates from an array**

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

const arrayWithoutDuplicates = (function(arr) {

return arr.filter((value, index, self) => self.indexOf(value) === index);

})(arrayWithDuplicates);

console.log(arrayWithoutDuplicates);

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

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

const k = 2;

const rotatedArray = (function(arr, k) {

const n = arr.length;

const rotation = k % n;

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

})(array, k);

console.log(rotatedArray);

**2.Do the below programs in arrow functions.**

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

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

const printOddNumbers = arr => {

arr.forEach(num => {

if (num % 2 !== 0) {

console.log(num);

}

});

};

printOddNumbers(arr);

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

const strings = ["hello world", "good morning", "have a nice day"];

const convertToTitleCaps = arr => {

return arr.map(string => {

return string.replace(/\b\w/g, char => char.toUpperCase());

});

};

const titleCapsArray = convertToTitleCaps(strings);

console.log(titleCapsArray);

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

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

const sumOfNumbers = arr => {

return arr.reduce((acc, curr) => acc + curr, 0);

};

const sum = sumOfNumbers(numbers);

console.log(sum);

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

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

const isPrime = num => {

if (num <= 1) {

return false;

}

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

if (num % i === 0) {

return false;

}

}

return true;

};

const primeNumbers = arr => {

return arr.filter(num => isPrime(num));

};

console.log(primeNumbers(numbers));

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

const words = ["radar", "level", "hello", "noon", "world"];

const isPalindrome = word => {

const reversedWord = word.split('').reverse().join('');

return word === reversedWord;

};

const palindromes = arr => {

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

};

console.log(palindromes(words));