Task 4

1. Do the below programs in anonymous function & IIFE
   1. Print odd numbers in an array
   2. Convert all the strings to title caps in a string array
   3. Sum of all numbers in an array
   4. Return all the prime numbers in an array
   5. Return all the palindromes in an array
   6. Return median of two sorted arrays of the same size.
   7. Remove duplicates from an array
   8. Rotate an array by k times

Answer

a)

Anonymous function

let odd = function(arr){

    let oddArray = [];

    for(let i of arr){

        if (i % 2 != 0){

            oddArray.push(i);

        }

    }

    return oddArray;

}

console.log(odd([1,2,3,4,5,6]))

IIFE

var abc = (function(arr){

    let oddArray = [];

    for(let i of arr){

        if (i % 2 != 0){

            oddArray.push(i);

        }

    }

   console.log(oddArray)

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

b)

Anonymous function

let titleCaps=function (arr) {

    arr = arr.toLowerCase().split(' ');

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

        arr[i] = arr[i].charAt(0).toUpperCase() + arr[i].slice(1);

    }

    return arr.join(' ');

}

let result=titleCaps("hi hello from Guvi team")

console.log(result);

IIFE

let titleCaps=(function (arr) {

    arr = arr.toLowerCase().split(' ');

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

        arr[i] = arr[i].charAt(0).toUpperCase() + arr[i].slice(1);

    }

    return arr.join(' ');

})("hi hello from Guvi team")

console.log(titleCaps);

c)

Anonymous Function

var sum = function(inputArr){

    let result = 0;

    for (let i of inputArr){

        result += i;

    }

    return result;

}

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

IIFE

let result = (function(inputArr){

    let result = 0;

    for (let i of inputArr){

        result += i;

    }

    return result;

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

console.log(result)

d)

Anonymous Function

let prime = function(array){

    let primeArray = []

    for (let i of array){

        let flag = true;

        if (i == 1)

        continue;

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

            if (i % k === 0) {

              flag = false

            }

          }

          if (flag === true){

            primeArray.push(i)

          }

    }

    return primeArray;

}

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

IIFE

let primee = (function(array){

    let primeArray = []

    for (let i of array){

        let flag = true;

        if (i == 1)

        continue;

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

            if (i % k === 0) {

              flag = false

            }

          }

          if (flag === true){

            primeArray.push(i)

          }

    }

    return primeArray;

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

console.log(primee)

e)

Anonymous function

const findAllPalindromes = function(arr){

    const result = [];

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

        const item = arr[i];

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

        if (item === reversed) {

            result.push(item);

        }

    }

    return result;

}

console.log(findAllPalindromes(["level", "hello", "madam", "guvi", "malayalam"]))

IIFE

const findAllPalindromes = (function(arr){

    const result = [];

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

        const item = arr[i];

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

        if (item === reversed) {

            result.push(item);

        }

    }

    return result;

})(["level", "hello","anam mana", "radar", "madam", "malayalam"]);

console.log(findAllPalindromes)

f)

Anonymous Function

let findMedianSortedArrays = function (arr1, arr2) {

    const mergedArray = [];

    let i = 0, j = 0;

    let arrayLength = arr1.length;

    while (i < arrayLength) {

        if (arr1[i] < arr2[j]) {

            mergedArray.push(arr1[i]);

            i++;

        } else {

            mergedArray.push(arr2[j]);

            j++;

        }

    }

    while (i < arrayLength) {

        mergedArray.push(arr1[i]);

        i++;

    }

    while (j < arrayLength) {

        mergedArray.push(arr2[j]);

        j++;

    }

    // Calculate median

    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([1, 3, 5],[2, 4, 6]));

IIFE

let findMedianSortedArrays = (function (arr1, arr2) {

    const mergedArray = [];

    let i = 0, j = 0;

    let arrayLength = arr1.length;

    while (i < arrayLength) {

        if (arr1[i] < arr2[j]) {

            mergedArray.push(arr1[i]);

            i++;

        } else {

            mergedArray.push(arr2[j]);

            j++;

        }

    }

    while (i < arrayLength) {

        mergedArray.push(arr1[i]);

        i++;

    }

    while (j < arrayLength) {

        mergedArray.push(arr2[j]);

        j++;

    }

    // Calculate median

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

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

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

    } else {

        return mergedArray[mid];

    }

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

console.log(findMedianSortedArrays);

g)

Anonymous Function

const noDuplicatesArray = function(arr){

    const result = [];

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

        if (result.indexOf(arr[i]) === -1) {

            result.push(arr[i]);

        }

    }

    return result;

}

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

IIFE//Output : [ 1, 2, 3, 4, 5 ]

const output = (function(arr){

    const result = [];

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

        if (result.indexOf(arr[i]) === -1) {

            result.push(arr[i]);

        }

    }

    return result;

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

console.log(output)

h)

Anonymous Function

const rotateArray = function(arr,r){

        r = r % arr.length;

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

}

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

IIFE

let rotatedArray = (function(arr,r){

    r = r % arr.length;

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

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

console.log(rotatedArray);

1. Do the below programs in arrow functions.
   1. Print odd numbers in an array
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   3. Sum of all numbers in an array
   4. Return all the prime numbers in an array
   5. Return all the palindromes in an array

a)

let odd = (arr) =>{

    let oddArray = [];

    for(let i of arr){

        if (i % 2 != 0){

            oddArray.push(i);

        }

    }

    return oddArray;

}

console.log(odd([1,2,3,4,5,6]))

b)

let titleCaps= (arr)=> {

    arr = arr.toLowerCase().split(' ');

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

        arr[i] = arr[i].charAt(0).toUpperCase() + arr[i].slice(1);

    }

    return arr.join(' ');

}

console.log(titleCaps("hello from canada"))

c)

var sum = (inputArr)=>{

    let result = 0;

    for (let i of inputArr){

        result += i;

    }

    return result;

}

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

d)

let prime = (array)=>{

    let primeArray = []

    for (let i of array){

        let flag = true;

        if (i == 1)

        continue;

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

            if (i % k === 0) {

              flag = false

            }

          }

          if (flag === true){

            primeArray.push(i)

          }

    }

    return primeArray;

}

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

e)

const findAllPalindromes = (arr)=>{

    const result = [];

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

        const item = arr[i];

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

        if (item === reversed) {

            result.push(item);

        }

    }

    return result;

}

console.log(findAllPalindromes(["level", "hello", "madam", "guvi", "malayalam"]))