**1.Do the below programs in ANONYMOUS function**

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

var arr=[1,2,3,4]

var comput=function(arr)

{

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

if(arr[i]%3===1)

{

console.log(arr[i])

}

}

}

comput(arr)

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

var arr="apple orange guva banana"

var capital=function(arr)

{

var a= arr[0].toUpperCase() + arr.slice(1).toLowerCase()

console.log(a)

}

capital(arr)

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

var arr=[1,2,3,4]

var sum=0

var sum1

var comput=function(arr)

{

for (var i in arr){

sum=arr[i]+sum

}

console.log(sum)

}

comput(arr)

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

var isprime=function(num){

if(num===0||num===1){

return num+" no prime"

}

if(num===2)

{

return num+" prime"

}

for(let i=2;i<num;i++)

{

if(num%i===0)

{

return num+" no prime"

}

}

return num+" prime"

}

var a=[8,7]

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

console.log(isprime(a[i]))

}

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

var isPalindrome= function(inStr)

{

inStr=inStr.toLowerCase()

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

{

if(inStr[i]!==inStr[inStr.length-1-i])

{

return inStr+ " "+"is not Palindrome"

}

}

return inStr +" "+"is Palindrome"

}

var a=["tenet","guvi"]

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

console.log(isPalindrome(a[i]))

}

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

var medianof2Arr=function(arr1,arr2)

{

var concat=arr1.concat(arr2)

concat= concat.sort(function(a,b){return a-b})

console.log(concat)

var length=concat.length

if(length%2===1)

{

console.log(concat[(length/2)-.5])

return concat[(length/2)-.5]

}

else

{

console.log((concat[length/2]+concat[(length/2)-1])/2)

return (concat[length/2]+concat[(length/2)-1])/2

}

let arr1=[1,2,3,6]

let arr2=[5,4,6]

medianof2Arr(arr1,arr2)

**g. Remove duplicates from an array**

let arr=[1,2,3,4,2,2,4,4]

var RemoveDuplicate =function (arr){

let result=[]

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

{

if(result.length===0)

{

result.push(arr[i])

}

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

{

result.push(arr[i])

}

}

return result

}

console.log(RemoveDuplicate(arr))

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

let num=[1,4,7,8,9]

let k=3

let arrayRotation=function (arr,times)

{

for(let i=0;i<times;i++){

arr.unshift(arr.pop())

}

console.log(arr)

}

arrayRotation(num,k)

**Do the below programs in IIFE function**

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

(function(arr)

{

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

if(arr[i]%3===1)

{

console.log(arr[i])

}

}

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

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

(function(arr)

{

var a= arr[0].toUpperCase() + arr.slice(1).toLowerCase()

console.log(a)

})("apple orange guva banana")

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

(function(arr,sum1)

{

var sum=0

for (var i in arr)

{

sum=arr[i]+sum

}

console.log(sum)

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

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

(function(num){

if(num<2){

return num+" no prime"

}

if(num===2)

{

return num+" prime"

}

for(let i=2;i<num;i++)

{

if(num%i===0)

{

return num+" no prime"

}

}

return num+" prime"

})([a])

var a=[101,7,65,8]

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

console.log(a[i])

}

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

(function(inStr)

{

inStr=inStr.toLowerCase()

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

{

if(inStr[i]!==inStr[inStr.length-1-i])

{

return inStr+ " "+"is not Palindrome"

}

}

return inStr +" "+"is Palindrome"

})(a)

var a=["tenet","guvi"]

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

console.log(isPalindrome(a[i]))

}

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

(function(arr1,arr2)

{

var concat=arr1.concat(arr2)

concat= concat.sort(function(a,b){return a-b})

console.log(concat)

var length=concat.length

if(length%2===1)

{

console.log(concat[(length/2)-.5])

return concat[(length/2)-.5]

}

else

{

console.log((concat[length/2]+concat[(length/2)-1])/2)

return (concat[length/2]+concat[(length/2)-1])/2

}

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

**g. Remove duplicates from an array**

(function (arr){

let result=[]

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

{

if(result.length===0)

{

result.push(arr[i])

}

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

{

result.push(arr[i])

}

}

console.log(result)

return result

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

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

(function (arr,times)

{

for(let i=0;i<times;i++){

arr.unshift(arr.pop())

}

console.log(arr)

}([1,4,7,8,9],3))

**2.PROBLEMS**

**Problem**:

**Write a function called “addFive”.  
Given a number, “addFive” returns 5 added to that number.**

var num = -5;

function addFive(num) {

return num+5

}

var result = addFive(num)

console.log(result)

**Problem**:

**Write a function called “getOpposite”.  
Given a number, return its opposite**

var num = -5;

function getOpposite(num) {

if(num<0)

{

return num+ Math.abs(num\*2)

}

return num-(num\*2)

}

var result = getOpposite(num)

console.log(result)

**Problem**  
**Create a function that takes a string and returns it as an integer.**

var mystr = "5";

function toInteger(mystr) {

return +mystr

}

var myint = toInteger(mystr)

console.log(myint)

**Problem**

**Create a function that takes a number as an argument, increments the number by +1 and returns the result.**

var myint = 5;

function nextNumber(myint)

{

return myint+1

}

var myNextint = nextNumber(myint)

console.log(myNextint)

**Problem**

**Create a function that takes an array and returns the first element**.

var arr = [1, 2, 3];

function getFirstElement(arr) {

return arr[0]

}

var data = getFirstElement(arr)

console.log(data)

**Problem**

**Convert Hours into Seconds**

Write a function that converts hours into seconds.

var arr = [1, 2, 3];

let arr1=[]

function hourToSeconds(arr)

{

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

{

arr1=arr[i]\*3600

console.log(arr1)

}

}

hourToSeconds(arr)

**Problem**

**Find the Perimeter of a Rectangle  
Create a function that takes height and width and finds the perimeter of a rectangle.**

function findPerimeter(num1,num2)

{

return 2\*(num1+num2)

}

var peri = findPerimeter(6,7)

console.log(peri)

**Problem**

**Less Than 100?  
Given two numbers, return true if the sum of both numbers is less than 100. Otherwise return false.**

function lessThan100(num1,num2) {

if((num1+num2)<100){

return true

}

return false

}

var res = lessThan100(22,15)

console.log(res)

**Problem**

**There is a single operator in JavaScript, capable of providing the remainder of a division operation. Two numbers are passed as parameters. The first parameter divided by the second parameter will have a remainder, possibly zero. Return that value**.

function remainder(num1,num2) {

return num1%num2

}

var res = remainder(-9,45)

console.log(res)

**Problem**

**Old macdonald had a farm:**

**MacDonald is asking you to tell him how many legs can be counted among all his animals. The farmer breeds three species:**

**turkey = 2 legs  
horse = 4 legs  
pigs = 4 legs**

**The farmer has counted his animals and he gives you a subtotal for each species. You have to implement a function that returns the total number of legs of all the animals.**

function CountAnimals(tur,horse,pigs)

{

return tur\*2+horse\*4+pigs\*4

}

var legs = CountAnimals(2,3,5)

console.log(legs)

**Problem**

**Frames Per Second  
Create a function that returns the number of frames shown in a given number of minutes for a certain FPS**.

function frames(num1,num2)

{

return num1\*num2\*60

}

var fps = frames(10,25)

console.log(fps)

**Problem**

**Check if an Integer is Divisible By Five  
Create a function that returns true if an integer is evenly divisible by 5, and false otherwise.**

function divisibleByFive(num1)

{

if(num1%5===0)

{

return true

}

return false

}

var divisible = divisibleByFive(5)

console.log(divisible)

**Problem**:

**Write a function called “isEven”.  
Given a number, “isEven” returns whether it is even.**

function isEven(num){

if(num%2===0)

{

return true

}

return false

}

var even = isEven(5)

console.log(even)

**Problem**:  
**Write a function called “areBothOdd”.  
Given 2 numbers, “areBothOdd” returns whether or not both of the given numbers are odd.**

function areBothOdd(num1,num2){

if(num1%2===1 && num2%2===1)

{

return true

}

return false

}

var odd = areBothOdd(1,3)

console.log(odd)

**Problem**:  
**Write a function called “getFullName”.  
Given a first and a last name, “getFullName” returns a single string with the given first and last names separated by a single space.**

function getFullName(firstName, lastName){

console.log( firstName)

console.log( lastName)

}

getFullName("GUVI","GEEK")

**Problem**:  
**Write a function called “getLengthOfWord”.  
Given a word, “getLengthOfWord” returns the length of the given word.**

function getLengthOfWord(word1)

{

console.log(word1.length)

}

getLengthOfWord("GUVI")

**Problem**:  
**Write a function called “isSameLength”.  
Given two words, “isSameLength” returns whether the given words have the same length.**

function isSameLength(word1, word2){

let a=word1.length

let b=word2.length

if(a===b)

{

return true

}

return false

}

let output=isSameLength("GUVI","GEEK")

console.log(output)

**Problem**:

**Write a function called “getNthElement”.  
Given an array and an integer, “getNthElement” returns the element at the given integer, within the given array. If the array has a length of 0, it should return ‘undefined’.**

function getNthElement(array,n){

if(n===0)

{

return undefined

}

return array[n]

}

let ans=getNthElement([1, 3, 5], 0)

console.log(ans)

**Problem**:

**Write a function called “getLastElement”.  
Given an array, “getLastElement” returns the last element of the given array. If the given array has a length of 0, it should return ‘-1’.  
Input:  
getLastElement([1, 2, 3, 4]);**

function getLastElement(array){

if(array.length===0)

{

return -1

}

return array[array.length-1]

}

let ans=getLastElement([1,2, 3, 4])

console.log(ans)

**Problem**:

**Create a function to calculate the distance between two points defined by their x, y coordinates**

function getDistance(x1, y1, x2, y2)

{

let x=(x2)-(x1)

let y=(y2)-(y1)

let z=((x\*\*2)+(y\*\*2))

let ans= Math.sqrt(z)

return ans

}

let distance=getDistance(100, 100, 400, 300)

console.log(distance)

**Problem**:

**Write a function called “getProperty”.  
Given an object and a key, “getProperty” returns the value of the property at the given key. If there is no property at the given key, it should return undefined.**

var obj = {

mykey: "value"

};

function addProperty(obj,key){

obj[key]="true"

return obj

}

console.log(addProperty(obj))

var obj = { mykey: "value" }

function getProperty(obj, key)

{

if(obj===undefined)

{

return undefined

}

return obj

}

let object=getProperty(obj)

console.log(object)

**Problem**:

**Return an array, where the first element is the count of positives numbers and the second element is sum of negative numbers.**

var arr = [-5, 10, -3, 12, -9, 5, 90, 0, 1];

var sum=0

let a=[]

function countPositivesSumNegatives(arr)

{

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

{

if(arr[i]>=0)

{

a.push(arr[i])

}

if(arr[i]<0)

{

sum=sum +arr[i]

}

}

console.log(a.length)

console.log(sum)

}

countPositivesSumNegatives(arr);

**Problem**:

**Create a function that receives an array of numbers and returns an array containing only the positive numbers**

var arr = [-5, 10, -3, 12, -9, 5, 90, 0, 1];

let a=[]

function getPositives(arr)

{

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

{

if(arr[i]>0)

{

a.push(arr[i])

}

}

console.log(a)

}

getPositives(arr);

**Problem**:

**Write a function `powersOfTwo` which will return list of all powers of 2 from 0 to n (where n is an exponent).**

n = 0 -> 2⁰ -> [1]

n = 1 -> 2⁰, 2¹ -> [1,2]

n = 2 -> 2⁰, 2¹, 2² -> [1,2,4]

let b=[]

function powersOfTwo(n)

{

for(let i=0;i<n;i++)

{

var power=2\*\*i;

b.push(power)

console.log(b)

}

}powersOfTwo(3)

**Problem**:

**Find the maximum number in an array of numbers**

function findMax(ar)

{

var max = Math.max(...ar);

return max

}

var ar = [-5, 10, -3, 12, -9, 5, 90, 0, 1];

console.log(findMax(ar));

**Problem**:

**Print the first 100 prime numbers**

function isPrime(n)

{

var isPrime

for(var i=2;i<=n;i++)

{

isPrime=1

for(var j=2;j<=i/2;j++)

{

if(i%j==0)

{

isPrime=0

break

}

}

if(isPrime==1)

{

console.log(i)

}

}

}

isPrime(100)

**Problem**:

**Create a function that will return in an array the first “nPrimes” prime numbers greater than a particular number “startAt”**

function getPrime(nPrime,start)

{

let a=start

let n=nPrime

var isPrime

for(var i=a;i<=n;i++)

{

isPrime=1

for(var j=2;j<=i/2;j++)

{

if(i%j==0)

{

isPrime=0

break

}

}

if(isPrime==1)

{

console.log(i)

}

}

}

getPrime(100,10)

**Problem**:

**Reverse a string**

function reverseString(s)

{

const newstr=s.split('')

console.log(newstr.reverse().join(""))

}

reverseString("javascript")

**Problem:**

**Create a function that will merge two arrays and return the result as a new array**

var ar1 = [1, 2, 3];

var ar2 = [4, 5, 6];

function mergeArrays(ar1, ar2)

{

let ar3=[...ar1,...ar2]

return ar3

}

console.log(mergeArrays(ar1,ar2))

**Problem:**

**Calculate the sum of numbers received in a comma delimited string**

function sumCSV(s)

{

var result=0

var numberstr=""

for(var i=0;i<s.length;i++)

{

var c=s[i]

if(c>='0' &&c<='9')

{

numberstr+=c

if(i==s.length-1)

{

result+=Number.parseFloat(numberstr )

}

}

else if(numberstr!=="")

{

result+=Number.parseFloat(numberstr)

numberstr=""

}

}

return result

}

console.log(sumCSV("1.5, 2.3, 3.1, 4, 5.5, 6, 7, 8, 9, 10.9"));

**3.ARROW FUNCTION**

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

var arr=[1,2,3,4]

var comput=(arr)=>

{

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

if(arr[i]%3===1)

{

console.log(arr[i])

}

}

}

comput(arr)

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

var arr="apple orange guva banana"

var capital=(str) => str[0].toUpperCase() +

str.slice(1).toLowerCase()

var string=arr.split(' ').map(capital)

console.log(string)

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

var arr=[1,2,3,4]

var sum=0

var sum1

var comput=(arr)=>

{

for (var i in arr)

{

sum=arr[i]+sum

}

console.log(sum)

}

comput(arr)

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

var isprime=(num) =>{

if(num===0||num===1){

return num+" no prime"

}

if(num===2)

{

return num+" prime"

}

for(let i=2;i<num;i++)

{

if(num%i===0)

{

return num+" no prime"

}

}

return num+" prime"

}

var a=[8,7,15,23,49]

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

console.log(isprime(a[i]))

}

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

var isPalindrome=(inStr)=>

{

inStr=inStr.toLowerCase()

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

{

if(inStr[i]!==inStr[inStr.length-1-i])

{

return "not Palindrome" +" "+inStr

}

}

return "Palindrome"+" "+inStr

}

var a=["tenet","guvi"]

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

console.log(isPalindrome(a[i]))

}

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

var medianof2Arr=(arr1,arr2)=>

{

var concat=arr1.concat(arr2)

concat= concat.sort(function(a,b){return a-b})

console.log(concat)

var length=concat.length

if(length%2===1)

{

console.log(concat[(length/2)-.5])

return concat[(length/2)-.5]

}

else

{

console.log((concat[length/2]+concat[(length/2)-1])/2)

return (concat[length/2]+concat[(length/2)-1])/2

}

}

let arr1=[1,2,3,6]

let arr2=[5,4,6]

medianof2Arr(arr1,arr2)

**g.Remove duplicates from an array**

let arr=[1,2,3,4,2,2,4,4]

var RemoveDuplicate = (arr) =>{

let result=[]

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

{

if(result.length===0)

{

result.push(arr[i])

}

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

{

result.push(arr[i])

}

}

return result

}

console.log(RemoveDuplicate(arr))

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

let num=[1,4,7,8,9]

let k=3

let arrayRotation=(arr,times)=>

{

for(let i=0;i<times;i++){

arr.unshift(arr.pop())

}

console.log(arr)

}

arrayRotation(num,k)