**1. Do below programs in anonymous functions and IIFE:**

1. **Print odd numbers in array:**

**Anonymous Function:**

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

var odd=function(a){

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

{

if(a[i]%2!=0)

{

console.log(a[i])

}

}

}

odd(a)

**Output:**

1

3

**IIFE:**

**(function odd(a)**

**{**

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

**{**

**if(a[i]%2!=0)**

**{**

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

**}**

**}**

**})([5,8,9,2])**

**Output:**

5

9

1. **Convert all strings to title caps in a string array:**

**Anonymous Function:**

**let str = ["guvi", "geek"]**

**var capital = function (str) {**

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

**str[i] = str[i].charAt(0).toUpperCase() + str[i].slice(1)**

**}**

**return str**

**}**

**console.log(capital(str))**

**Output:**

[ 'Guvi', 'Geek' ]

**IIFE:**

**(function (str) {**

**for (var i = 0; i < str.length; i++) {**

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

**}**

**console.log(str)**

**})(["guvi", "geek"]);**

**Output:**

[ 'Guvi', 'Geek' ]

1. **Sum of all numbers in array:**

**Anonymous Function:**

**let a = [1, 2, 10]**

**var sum = function (a) {**

**var temp = 0;**

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

**temp = temp + a[i]**

**}**

**return temp;**

**}**

**console.log(sum(a))**

**Output:**

13

**IIFE:**

**(function sum(a) {**

**var temp = 0;**

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

**temp = temp + a[i]**

**}**

**console.log(temp)**

**})([5, 8, 9, 2])**

**Output:**

24

1. **Return all the prime numbers in array:**

**Anonymous Function:**

**let a = [2, 3, 5, 8, 6, 9, 11]**

**var prime= function (a) {**

**a = a.filter((number) => {**

**for (var i = 2; i <= Math.sqrt(number); i++) {**

**if (number % i === 0) return false;**

**}**

**return true;**

**});**

**console.log(a);**

**}**

**prime(a)**

**Output:**

[ 2, 3, 5, 11 ]

**IIFE:**

**(function prime(a) {**

**a = a.filter((number) => {**

**for (var i = 2; i <= Math.sqrt(number); i++) {**

**if (number % i === 0) return false;**

**}**

**return true;**

**});**

**console.log(a);**

**})([5, 8, 9, 2, 11])**

**Output:**

[ 5, 2, 11 ]

1. **Return all palindromes in array:**

**Anonymous Function:**

**let array = [1, 6, 53, 96, 525];**

**var palindrome = function (arr) {**

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

**let str = array[i].toString();**

**let strReverse = str.split("").reverse().join("");**

**if (str === strReverse) {**

**console.log(str);**

**}**

**}**

**}**

**palindrome(array)**

**Output:**

1

6

525

**IIFE:**

**(function palindrome(array) {**

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

**let str = array[i].toString();**

**let strReverse = str.split("").reverse().join("");**

**if (str === strReverse) {**

**console.log(str);**

**}**

**}**

**})([121, 52, 323, 98, 1221])**

**Output:**

121

323

1221

1. **Return median of two sorted arrays of same size:**

**Anonymous Function:**

**var a = [1, 3, 2, 11]**

**var b = [6, 4, 5, 10]**

**let median = function (a, b) {**

**let c = [...a, ...b].sort((a, b) => a - b);**

**let half = c.length / 2 | 0;**

**if (c.length % 2) return c[half];**

**return (c[half] + c[half - 1]) / 2;**

**}**

**console.log(median(a, b));**

**Output:**

4.5

**IIFE:**

**(function median(a, b) {**

**let c = [...a, ...b].sort((a, b) => a - b);**

**let half = c.length / 2 | 0;**

**if (c.length % 2) return c[half];**

**console.log((c[half] + c[half - 1]) / 2);**

**})([1, 3, 2], [5, 7, 6])**

**Output:**

**4**

1. **Removes duplicates from an array:**

**Anonymous Function:**

**var array = [1, 2, 3, 1, 2, 4]**

**var duplicate = function (array) {**

**let dup = [...new Set(array)];**

**console.log(dup);**

**}**

**duplicate(array)**

**Output:**

[ 1, 2, 3, 4 ]

**IIFE:**

**(function (array) {**

**let dup = [...new Set(array)];**

**console.log(dup);**

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

**Output:**

[ 1, 2, 3, 4 ]

**f. Rotate an array by K times:**

**Anonymous Function:**

**var arr = [1, 2, 3, 4, 5]**

**var k = 2;**

**var rotate = function (arr, k) {**

**for (let i = 0; i <= k; i++) {**

**arr.push(arr.shift())**

**}**

**return arr;**

**}**

**console.log(rotate(arr, k))**

**Output:**

[ 4, 5, 1, 2, 3 ]

**IIFE:**

**(function median(arr, k) {**

**for (let i = 0; i <= k; i++) {**

**arr.push(arr.shift())**

**}**

**console.log(arr)**

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

**Output:**

[ 4, 5, 1, 2, 3 ]

**2. Do below programs in Arrow Functions:**

1. **Print odd numbers in array:**

**let a = [1, 2, 3, 4]**

**let odd = (a) => {**

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

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

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

**}**

**}**

**return a[i]**

**}**

**odd(a)**

**Output:**

1

3

1. **Convert all strings to title caps in a string array:**

**let str = ["hello", "world"]**

**let capital = (a) => {**

**for (var i = 0; i < str.length; i++) {**

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

**}**

**return str;**

**}**

**console.log(capital(str))**

**Output:**

[ 'Hello', 'World' ]

1. **Sum of all numbers in array:**

**let a = [1, 2, 3, 4]**

**let sum = (a) => {**

**var temp = 0;**

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

**temp = temp + a[i]**

**}**

**return temp;**

**}**

**console.log(sum(a))**

**Output:**

10

1. **Return all the prime numbers in array:**

**let a = [3, 4, 5, 6, 7]**

**let prime= (a) => {**

**a = a.filter((number) => {**

**for (var i = 2; i <= Math.sqrt(number); i++) {**

**if (number % i === 0) return false;**

**}**

**return true;**

**});**

**console.log(a);**

**}**

**prime(a)**

**Output:**

[ 3, 5, 7 ]

1. **Return all palindromes in array:**

**var array = [121, 52, 63, 65, 525];**

**let palindrome = (array) => {**

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

**let str = array[i].toString();**

**let strReverse = str.split("").reverse().join("");**

**if (str === strReverse) {**

**console.log(str)**

**}**

**}**

**}**

**palindrome(array)**

**Output:**

121

525