**Do the below programs in anonymous function and IIFE**

 \* Print odd numbers in an array

let arr = [1,2,3,4,5,6,7,8,9,11];

**//anonymous function to print the odd numbers in an Array**

let anany\_func = function(arr){

let arr1 = arr.filter((element)=>{ return element%2!==0});

console.log(arr1);

}

anany\_func(arr);

**//iife function to print the odd numbers in an Array**

console.log(arr);

let arr2 =(function(arr){let i=0;

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

{

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

console.log(arr[i]);

}

})(arr);

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

let arr = ['abc','def','ghi','lmn'];

**//ananymous function to convert lowercase string array into uppercase string array**

let anany\_func = function(arr){

let arr1 = arr.map((element)=>{ return element.toUpperCase()});

console.log(arr1);

}

anany\_func(arr);

**//iife function to convert lowercase string array into uppercase string array**

//console.log(arr);

let arr2 =(function(arr){

console.log(arr.map((element)=>{return element.toUpperCase()}));

})(arr);

**Sum of all numbers in an array**

let arr = [1,2,3,4,5,6,7];

**//ananymous function to print sum of all numbers**

let sum=0;

let anany\_func = function(arr){

arr.forEach((element)=>{

sum+=element;

})

console.log(sum);

}

anany\_func(arr);

**//iife function to print sum of all numbers**

//console.log(arr);

(function(arr){

let res = arr.reduce((acc, item)=>{return acc+item;},0);

console.log(res);

})(arr);

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

**let arr=[1,2,3,4,5,6];**

**//Ananymous function to print all prime numbers**

**let res1 = function(arr)**

**{**

**let i=0, j=0;**

**let r\_arr=[];**

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

**{**

**if(arr[i]===1)**

**r\_arr.push(arr[i]);**

**else**

**{**

**let count=0;**

**for(j=2;j<arr[i];j++)**

**{**

**if(arr[i]%j===0)**

**{**

**count++; break;**

**}**

**}**

**if(count===0)**

**r\_arr.push(arr[i]);**

**}**

**}**

**console.log(r\_arr);**

**}**

**res1(arr);**

**//console.log(arr);**

**//iife function to print all prime numbers**

**(function(arr){**

**let i=0, j=0;**

**let r\_arr=[];**

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

**{**

**if(arr[i]===1)**

**r\_arr.push(arr[i]);**

**else**

**{**

**let count=0;**

**for(j=2;j<arr[i];j++)**

**{**

**if(arr[i]%j===0)**

**{**

**count++; break;**

**}**

**}**

**if(count===0)**

**r\_arr.push(arr[i]);**

**}**

**}**

**console.log(r\_arr);**

**})(arr);**

**Return all the palindromes in an array**

let arr=['aba','cddc','abc','rtr','ojkhuyjlg'];

console.log(arr);

// ananymous function

let res1 = function(arr){

let i=0, j=0,k=0, count=0, arr2=[];

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

{

let arr1 = arr[i].split('');

//console.log(arr1);

for(j=0, k=arr1.length-1;j<k;j++,k--)

{

if(arr1[j]!==arr1[k])

{

count++;

break;

}

}

if(count===0)

arr2.push(arr[i]);

count=0;

}

console.log('ananymous function: ',arr2);

}

res1(arr);

//iife function

(function(arr){

let i=0, j=0,k=0, count=0, arr2=[];

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

{

let arr1 = arr[i].split('');

//console.log(arr1);

for(j=0, k=arr1.length-1;j<k;j++,k--)

{

if(arr1[j]!==arr1[k])

{

count++;

break;

}

}

if(count===0)

arr2.push(arr[i]);

count=0;

}

console.log('iife function: ',arr2);

})(arr);

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

let arr1 = [1,8,3,5,4];

let arr2 = [11,12,13,15,14];

arr1.sort(function(a,b){

return a-b;

});

arr2.sort(function(a,b){

return a-b;

});

console.log(arr1,arr2);

**//ananymous function to print median**

let res = function(arr1, arr2)

{

let x = arr1[arr1.length-1]+arr2[0];

console.log('median of two sorted arrays: ',parseInt(x/2));

}

res(arr1,arr2);

**//iife function to print median**

(function(arr1,arr2){

let x = arr1[arr1.length-1]+arr2[0];

console.log('median of two sorted arrays: ',parseInt(x/2));

})(arr1,arr2);

**Remove duplicates from an array**

let arr=[1,3,4,5,3,4,8,9];

**//ananymous function to remove the duplicates in an array**

let res = function(arr)

{

let i=0,j=0,arr2=[];

arr2[0]=arr[0];

for(i=1;i<arr.length;i++)

{

var count=0;

for(j=0;j<arr2.length;j++)

{

if(arr[i]===arr2[j])

{

count++;

break;

}

}

if(count===0)

{

arr2.push(arr[i]);

}

}

console.log(arr2);

}

res(arr);

**//iife function to remove the duplicates in an array**

(function(arr){

{

let i=0,j=0,arr2=[];

arr2[0]=arr[0];

for(i=1;i<arr.length;i++)

{

var count=0;

for(j=0;j<arr2.length;j++)

{

if(arr[i]===arr2[j])

{

count++;

break;

}

}

if(count===0)

{

arr2.push(arr[i]);

}

}

console.log(arr2);

}

})(arr);

**Rotate an array by k times and return the rotated array**

let arr=[1,3,4,5,2];

console.log(arr);

let arr1 = arr.map((items)=>{return items});

console.log(arr1);

let k=5;

**//ananymous function to rotate an array**

let res = function(arr,k)

{

if(arr.length===k)

console.log(arr);

else

{

var i=0,j=0,x=0;

while(i<k)

{

x=arr[0]

for(j=0;j<arr.length-1;j++)

{

let dummy =arr[j];

arr[j]=arr[j+1];

arr[j+1]=dummy;

}

arr[arr.length-1]=x;

i++;

}

console.log(arr);

}

}

res(arr,k);

**//iife function to rotate an array**

(function(arr,k)

{

if(arr.length===k)

console.log(arr);

else

{

var i=0,j=0,x=0;

while(i<k)

{

x=arr[0]

for(j=0;j<arr.length-1;j++)

{

let dummy =arr[j];

arr[j]=arr[j+1];

arr[j+1]=dummy;

}

arr[arr.length-1]=x;

i++;

}

console.log(arr);

}

})(arr1,k);

**Use the  open weather api [https://home.openweathermap.org](https://home.openweathermap.org/) to get the city weather information using latitude & longitude and city name**

**Solution:**

**Js code:**

*var* req = new *XMLHttpRequest*();

req.open('GET','https://restcountries.eu/rest/v2',true)

req.send();

req.onload = *function*() {

*let* data =JSON.parse(req.response);

*let* cityname = prompt("Enter city name");

*let* countryname=prompt("Enter country name");

    //console.log(data);

    //console.log(countryname);

*let* i=0, latlng=[], count1=0, count2=0;

    for(i=0;i<data.length;i++)

    {

        if(cityname.toLowerCase()===data[i].capital.toLowerCase())

        {

            cityname=data[i].capital;

            count1++;

        }

        if(countryname.toLowerCase() === data[i].name.toLowerCase())

        {

            latlng=data[i].latlng;

            count2++;

        }

    }

    try{

        if(count1 === 0)

        {

            throw new *ReferenceError*("City name not found. Try giving a correct city name");

        }

    }

    catch(err)

    {

        alert(err.message);

    }

    try{

        if(count2 === 0)

        {

            throw new *ReferenceError*("Coutry name not found. Try giving a correct city name");

        }

    }

    catch(err)

    {

        alert(err.message);

    }

    //console.log(latlng[0], latlng[1]);

    //console.log(cityname);

*let* api\_key='51063eb4a536752727e0e6c33d0d6935';

findweather\_cityname(cityname, api\_key);

findweather\_latlng(latlng,api\_key);

*function* findweather\_cityname(*cityname*, *api\_key*)

{

*var* req=new *XMLHttpRequest*();

req.open('GET','https://api.openweathermap.org/data/2.5/weather?q='+*cityname*+'&appid='+*api\_key*+'', true);

req.send()

req.onload= *function*(){

    console.log(req.response);

}

}

*function* findweather\_latlng(*latlng*, *api\_key*)

{

*var* req=new *XMLHttpRequest*();

//req.open('GET','https://api.openweathermap.org/data/2.5/weather?q='+cityname+'&appid='+api\_key+'', true);

req.open('GET','https://api.openweathermap.org/data/2.5/weather?lat='+*latlng*[0]+'&lon='+*latlng*[1]+'&appid='+*api\_key*+'', true);

req.send()

req.onload= *function*(){

    console.log(req.response);

}

}

};

**HTML Code:**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

</head>

<body>

    <script src='script.js'></script>

    <h1>API Demo</h1>

</body>

</html>