**1&2 Print details using IIFE,anonymous function and arrow function in an array?**

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

//1.Print odd numbers in an array

//print oddnumbers using anonymous function

var odd = function (num){

let final = [];

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

if(num[i]%2==1){

final.push(num[i]);

}

}

console.log(final);

};

var num = [1,2,3,4,5];

odd(num);

//output

//[1, 3, 5]

//print odd num using IIFE

var num1 = [1,2,3,4,5];

var final1 = [];

(function (){

for(var i = 0; i<num1.length; i++){

if(num1[i]%2==1){

final1.push(num1[i])

}

}

console.log(final1);

})(num1);

//output

//[1, 3, 5]

//Print odd numbers in an array

//Using arrow function

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

let odd1=numberArray.filter((x) => {

return x % 2 !== 0;

});

console.log(odd1);

//output

//[1, 3, 5, 7, 9]

//-----------------------------------------------------------------------------------------------

//2.Convert all the strings to title caps in a string array

// to title case using anonymous function

let title = function (str) {

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

str[i] = str[i].toLowerCase();

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

}

console.log(str.join(' '));

}

var str = ['i','aM','siNgINg',’a’,'sOnG.'];

title(str);

//output

//I Am Singing A Song.

//to title case using IIFE

var str1 = ['i','aM','siNgINg',’a’,'sOnG.'];

(function (){

for (var i = 0; i < str1.length; i++) {

str1[i] = str1[i].toLowerCase();

str1[i] = str1[i].charAt(0).toUpperCase() + str1[i].slice(1);

}

console.log(str1.join(' '));

})(str1);

//output

// I Am Singing A Song.

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

//Using arrow function

let str2 = ["iswariya", "is", "a", "good", "person"];

let strCaps = str2.map((item) => {

return item.charAt(0).toUpperCase() + item.slice(1).toLowerCase();

});

console.log( strCaps.join(' '));

//output

//Iswariya Is A Good Person

//------------------------------------------------------------------------------------------

//3.Sum of all numbers in an array

//sum of numbers using anonymous function

let add = function (n){

let sum = 0;

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

sum+=n[i];

}

console.log(sum);

};

var n= [1,2,3,4,5];

add(n);

//output

//15

//sum of numbers using IIFE

var n= [1,2,3,4,5];

(function (){

let sum = 0;

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

sum+=n[i];

}

console.log(sum);

})(n);

//output

//15

//sum of numbers using arrow function

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

const add1=arr.reduce((a,b)=>a+b);

console.log([add1]);

//output:

//[21]

//--------------------------------------------------------------------------------------------------

//4.Return all the prime numbers in an array

//1. Using Anonymous fucntion.

var prime=function(a){

var res=[];

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

{

var count=0;

for(j=1;j<=a[i];j++)

{

if(a[i]%j===0)

{

count++;

}

}

if(count==2)

{

res.push(a[i]);

}

}

console.log(res);

};

prime([1,2,3,4,5,6,7,8,9,11]);

//output

//[2, 3, 5, 7, 11]

//Using IIFE

(function(a1){

var res1=[];

for(i=0;i<a1.length;i++){

count1=0;

for(j=1;j<=a1[i];j++){

if(a1[i]%j===0){

count1++;

}

}

if(count1==2){

res1.push(a1[i]);

}

}

console.log(res1);

})

([1,2,3,4,5,6,7,8,9,11]);

//output

//[2, 3, 5, 7, 11]

//using arrow function

let prime1 = (arr) => {

return arr.filter((n) => {

for (let i = 2; i < n; i++) {

if (n % i === 0) {

return false;

}

}

return n > 1;

});

};

console.log(prime1([1,2,3,4,5,6,7,8,9,10]));

//output

//[ 2, 3, 5, 7 ]

//------------------------------------------------------------------------------------------

//5.Return all the palindromes in an array

//anonymous function

let palindrome = function(arr){

var N=arr.length;

var out =[];

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

let final = arr[i];

let str = final.split('').reverse().join('');

if(str==arr[i])

out.push(arr[i]);

}

console.log(out);

};

var arr =["abc", "mom", "dad", "madam", "teacher"];

palindrome(arr);

//output

//['mom', 'dad', 'madam']

//IIFE function

(function(){

var arr1 =["abc", "mom", "dad", "madam", "teacher"];

var N1=arr1.length;

var out =[];

for(let i=0;i<arr1.length;i++){

let final = arr1[i];

let str = final.split('').reverse().join('');

if(str==arr1[i])

out.push(arr1[i]);

}

console.log(out);

})();

//output

//['mom', 'dad', 'madam']

//using arrow function

var arr =["abc", "mom", "dad", "madam", "teacher"];

arr = arr.filter((s) =>{

let len = s.length;

for (var i = 0; i<len / 2; i++) {

if (s[i] == s[len - i - 1]){

return true;

}

else{

return false;

}

}

});

console.log(arr);

//output

//[ 'mom', 'dad', 'madam' ]

//-----------------------------------------------------------------------------------------------------

//6.Return median of two sorted arrays of the same size.

//anonymous function

let median = function (arr1,arr2){

let arr = [...arr1, ...arr2];

arr.sort((a,b) => a-b);

let len = arr.length;

if(len%2!==0){

let ans = arr[Math.round(len/2)-1];

let final = ans;

}else{

ans = arr[Math.round(len/2)-1]+arr[Math.round(len/2)];

final = ans;

}

console.log(final);

};

var arr1 = [3,2,1,4,5];

var arr2 = [8,6,7,9,10];

median(arr1,arr2);

//output

//11

//Return median of two sorted array using IIFE

var arr1 = [3,2,1,4,5];

var arr2 = [8,6,7,9,10];

(function (){

let arr = [...arr1, ...arr2];

arr.sort((a,b) => a-b);

let len = arr.length;

if(len%2!==0){

let ans = arr[Math.round(len/2)-1];

let final = ans;

}else{

ans = arr[Math.round(len/2)-1]+arr[Math.round(len/2)];

final = ans;

}

console.log(final);

})(arr1,arr2);

//output

//11

//----------------------------------------------------------------------------------------------------

//7.Remove duplicates from an array

//Using anonymous function

var dup=function(arr){

var frequency = {};

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

if(frequency[arr[i]]) {

frequency[arr[i]] = frequency[arr[i]] + 1;

} else {

frequency[arr[i]] = 1;

}

}

let final = [];

for(let x in frequency) {

if(frequency[x] === 1) {

final.push(x);

}

}

console.log(final);

};

dup([1,12,11,3,4,5,12]);

//output

//[ '1', '3', '4', '5', '11' ]

//Using IIFE

(function (arr){

var frequency = {};

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

if(frequency[arr[i]]) {

frequency[arr[i]] = frequency[arr[i]] + 1;

} else {

frequency[arr[i]] = 1;

}

}

let final = [];

for(let x in frequency) {

if(frequency[x] === 1) {

final.push(x);

}

}

console.log(final);

})([1,2,3,4,4,5,6,7,5]);

//output

//[ '1', '2', '3', '6', '7' ]

//---------------------------------------------------------------------------------------------------------

//8.Rotate an array by k times

//Using anonymous function

let rotation = function (arr,n,d)

{

let p = 1;

while (p <= k) {

let last = arr[0];

for (let i = 0; i < n - 1; i++) {

arr[i] = arr[i + 1];

}

arr[n - 1] = last;

p++;

}

let out = [];

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

out.push(arr[i]);

}

console.log(out);

};

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

var n = arr.length;

var k = 3;

rotation(arr, n,k);

//output

//[ 1, 2, 3, 4, 5, 6 ]

//Using IIFE

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

var n = arr.length;

var k = 3;

(function(arr,n,k){

let p = 1;

while (p <= k) {

let last = arr[0];

for (let i = 0; i < n - 1; i++) {

arr[i] = arr[i + 1];

}

arr[n - 1] = last;

p++;

}

let out = [];

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

out.push(arr[i]);

}

console.log(out);

})(arr,n,k);

//output

//[ 1, 2, 3, 4, 5, 6 ]