Anonymous functions:

1.(a) Print odd numbers of an array.

var arr=[11,13,15,16,8];

var odd = function(){

var temp = " ";

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

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

temp = temp+" "+arr[i];

}

}

console.log(temp.trim());

};

odd(arr);

(b) Convert all the strings to title caps in a string array

var a= function(str) {

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

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

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

}

return str.join(' ');

}

console.log(a("GUVI GEEKS"));

c) Sum of all numbers in an array

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

var sum = function(a) {

var s=0

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

s= s+a[i];

}

return s;

}

console.log(sum(arr));

(d) Prime numbers in an array

var arr=[11,13,15,16,8];

var list=[];

var prime = function(number) {

if (number <= 1) {

return false;

} else {

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

If (number % i == 0) {

return false;

}

}

list.push(number);

}

}

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

prime(arr[i]);

}

console.log(list);

(e) Return all palindromes in an array.

const arr = ['carecar', 1344, 12321, 'dad'];

var res=[];

var k;

var g = function(k){

let str =String(k);

let i = 0;

let j = str.length - 1;

while(i < j) {

if(str[i] === str[j]) {

i++;

j--;

}

else {

return false;

}

}

res.push(k);

}

for(var l=0;l <arr.length;l++){

g(arr[l]);

}

console.log(res);

(f) median of two sorted arrays.

var f= function(ar1, ar2, n)

{

var i = 0;

var j = 0;

var count;

var m1 = -1, m2 = -1;

for (count = 0; count <= n; count++)

{

if (i == n)

{

m1 = m2;

m2 = ar2[0];

break;

}

else if (j == n)

{

m1 = m2;

m2 = ar1[0];

break;

}

if (ar1[i] <= ar2[j])

{

m1 = m2;

m2 = ar1[i];

i++;

}

else

{

m1 = m2;

m2 = ar2[j];

j++;

}

}

return (m1 + m2)/2;

}

var ar1 = [1, 12, 15, 26, 38];

var ar2 = [2, 13, 17, 30, 45];

var n1 = ar1.length;

var n2 = ar2.length;

if (n1 == n2)

console.log(f(ar1, ar2, n1));

else

console.log("Doesn't work for arrays of unequal size");

(g) Remove duplicates from an array.

var dup = function(arr1){

return [...new Set(arr1)];

}

let ar1 = [5, 8, 10, 20, 20, 20];

console.log(dup(ar1));

(h) Rotate an array by k times

const nums= [1,2,3,4,5];

const rotateArray1 = function(nums, k) {

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

nums.unshift(nums.pop());

}

return nums;

}

console.log(rotateArray1(nums, 1));

**IIFE:**

1(a) Print odd numbers of an array.

var arr=[11,13,15,16,8];

(function(){

var temp = " ";

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

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

temp = temp+" "+arr[i];

}

}

console.log(temp.trim());

})(arr);

(b) Convert all the strings to title caps in a string array

(function(str) {

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

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

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

}

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

})("GUVI GEEKS");

c) Sum of all numbers in an array

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

(function() {

var s=0

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

s= s+arr[i];

}

console.log(s);

})(arr);

(d) print prime numbers of an array:

var arr=[11,13,15,16,8];

var list=[];

var res= (function(){

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

if (arr[i] <= 1) {

return false;

} else {

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

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

return false;

}

}

list.push(arr[i]);

}

}

})(arr);

console.log(list);

(e) Palindromes in an array:

const arr = ['carecar', 1344, 12321, 'dad'];

var res=[];

for(var l=0;l <arr.length;l++){

(function(){

let str =String(arr[l]);

let i = 0;

let j = str.length - 1;

while(i < j) {

if(str[i] === str[j]) {

i++;

j--;

}

else {

return false;

}

}

res.push(arr[l]);

})(arr[l]);

}

console.log(res);

(f) Return median of two sorted arrays of same size

var ar1 = [1, 12, 15, 26, 38];

var ar2 = [2, 13, 17, 30, 45];

var n = ar1.length;

var n2 = ar2.length;

if (n == n2){

(function(){

var i = 0;

var j = 0;

var count;

var m1 = -1, m2 = -1;

for (count = 0; count <= n; count++)

{

if (i == n)

{

m1 = m2;

m2 = ar2[0];

break;

}

else if (j == n)

{

m1 = m2;

m2 = ar1[0];

break;

}

if (ar1[i] <= ar2[j])

{

m1 = m2;

m2 = ar1[i];

i++;

}

else

{

m1 = m2;

m2 = ar2[j];

j++;

}

}

console.log((m1 + m2)/2);

})(ar1,ar2,n)

}

else

console.log("Doesn't work for arrays of unequal size");

(g) Remove duplicates from an array.

let ar1 = [5, 8, 10, 20, 20, 20];

( function(){

console.log( [...new Set(ar1)]);

})(ar1);

(h) Rotate an array by K times.

const nums= [1,2,3,4,5];

const k=2;

console.log((function() {

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

nums.unshift(nums.pop());

}

return nums;

})(nums,k));

2.

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

var num = 0;

function addFive(num) {

console.log(num= num+5);

}

var result = addFive(num);

(b) Write a function called “getOpposite”.  
Given a number, return its opposite

var num = 5.5 ;

function getOpposite(num) {

if( num ==0){

console.log(0);

}

if( (num >0) && (num%1 == 0) ){

console.log(num= num- (num\*2));

}

if(typeof(num) == 'string' || (num%1 !== 0) )

console.log(-1);

}

var result = getOpposite(num);

(c) Fill in your code that takes an number minutes and converts it to seconds

var min = 2;

function toSeconds(min) {

console.log(min\*60);

}

var secs = toSeconds(min);

(d) Create a function that takes a string and returns it as an integer.

var mystr = "5";

function toInteger(mystr) {

console.log(parseInt(mystr));

}

var myint = toInteger(mystr);

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

var myint = -3;

function nextNumber(myint) {

return myint+1;

}

var myNextint = nextNumber(myint);

console.log(myNextint);

(f) 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);

(g) Convert Hours into SecondsWrite a function that converts hours into seconds.

var arr = [1, 2, 3];

var res= [];

function hourToSeconds(arr) {

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

res.push(arr[i]\*60\*60);

}

return res;

}

var data = hourToSeconds(arr);

console.log(data);

(h) 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(20,10);

console.log(peri);

(i)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;

}

else{

return false;

}

}

var res = lessThan100(22,15);

console.log(res);

(j) 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(5,5);

console.log(res);

(k) ld 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(1,2,3);

console.log(legs);

(l) 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) {

console.log(num1\*num2\*60);

}

var fps = frames(1,2);

(m) 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;

}

else

return false;

}

var divisible = divisibleByFive(37);

console.log(divisible);

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

function isEven(num){

if(typeof(num) == 'number'){

if(num % 2 == 0){

return true;

}

else

return false;

}

else

return -1;

}

var even = isEven(4);

console.log(even);

(o) 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 != 0) && (num2 % 2 != 0)){

return true;

}

else

return false;

}

var res = areBothOdd(1,4);

console.log(res);

(p) 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){

return (firstName+" "+lastName);

}

var res = getFullName("GUVI", "GEEK");

console.log(res);

(q) Write a function called “getLengthOfWord”.  
Given a word, “getLengthOfWord” returns the length of the given word

function getLengthOfWord(word1){

if(typeof(word1) == 'string'){

return (word1.length);

}

else

return -1;

}

var res = getLengthOfWord("guvi");

console.log(res);

(r) Write a function called “isSameLength”.  
Given two words, “isSameLength” returns whether the given words have the same length.

function isSameLength(word1, word2){

if(word1.length === word2.length){

return true;

}

else

return false;

}

var res = isSameLength("GUVI", "GEEK");

console.log(res);

(s) 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){

console.log(array[n]);

}

getNthElement([1, 3, 5], 1);

(t) 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’.

function getLastElement(array){

if(array.length >0){

console.log(array[array.length-1]);

}

if(array.length === 0){

console.log(-1);

}

}

getLastElement([]);

(u) 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 getProperty(obj, key) {

return obj[key];

}

var r=getProperty(obj,'mykey');

var s= getProperty(obj,'dummykey');

console.log(r);

console.log(s);

(v) Write a function called “addProperty”.  
Given an object and a key, “addProperty” adds a new property on the given object with a value of true.

function addProperty(obj, key){

obj[key] = true;

console.log(obj);

}

addProperty(obj, 'mykey');

(w) Write a function called “removeProperty”.  
Given an object and a key, “removeProperty” removes the given key from the given object.

var obj = {

mykey: "value"

};

function removeProperty(obj, key){

for(var i in obj){

if(key == obj[i]){

delete obj[key];

}

else

console.log(undefined);

}

}

removeProperty(obj, "name");

(x) 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 ar2 = function countPositivesSumNegatives() {

var sum1 =0;

var sum2=0;

var res =[];

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

if(arr[i] > 0){

sum1= sum1+ arr[i];

}

if(arr[i] < 0){

sum2= sum2+ arr[i];

}

}

res.push(sum1);

res.push(sum2);

return res;

}

console.log(ar2(arr));

(y) Create a function that receives an array of numbers and returns an array containing only the positive numbers

function getPositives(ar)

{

var res= [];

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

if(ar[i] > 0){

res.push(ar[i]);

}

}

return res;

}

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

var ar2 = getPositives(ar);

console.log(ar2);

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

function powersOfTwo(n){

var res =[];

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

var r= Math.pow(2,i);

res.push(r);

}

return res;

}

console.log(powersOfTwo(0));

console.log(powersOfTwo(1));

console.log(powersOfTwo(2));

(z.1) Find the maximum number in an array of numbers

function findMax(ar)

{

return Math.max(...ar);

}

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

var max = findMax(ar);

console.log("Max: ", max);

(z.2) Print the first 100 prime numbers.

printPrimes(100);

// Function prints the first nPrimes numbers

function printPrimes(nPrimes)

{

var n = 0;

var i = 2;

while(n < nPrimes)

{

if (isPrime(i))

{

console.log(n, " →" , i);

n++;

}

i++;

}

}

function isPrime(n)

{

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

if (n % i == 0) {

return false;

}

return true;

}

}

(z.3) Create a function that will return in an array the first “nPrimes” prime numbers greater than a particular number “startAt”

onsole.log(getPrimes(10, 100));

function getPrimes(nPrimes, startAt)

{

// your code here

var n = 0;

var i = startAt;

while(n < nPrimes)

{

if (isPrime(i))

{

console.log(n, " →" , i);

n++;

}

i++;

}

}

// Returns true if a number is prime

function isPrime(n)

{

// your code here

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

if (n % i === 0) {

return false;

}

return true;

}

}

(z.4) Reverse a string

var s = reverseString("JavaScript");

console.log(s);

function reverseString(s)

{

return s.split('').reverse().join('');

}

(z.5) 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];

var ar = mergeArrays(ar1, ar2);

console.log(ar);

function mergeArrays(ar1, ar2)

{

var result = [];

//this will add the first array to the result array

for(let el of ar1)

{

result.push(el);

}

//Some piece of code goes here

for(let el of ar2)

{

result.push(el);

}

return result;

}

Z.6 Calculate the sum of numbers received in a comma delimited string

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

function sumCSV(s)

{let strArr = s.split(",");

let sum = strArr.reduce(function(total, num){

return parseFloat(total) + parseFloat(num);

});

return sum;

}

3.Arrow functions (short-hand for anonymous function):

(a) Print odd numbers in an array.

var arr=[11,13,15,16,8];

var odd = (arr) =>{

var temp = " ";

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

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

temp = temp+" "+arr[i];

}

}

console.log(temp.trim());

};

(b) Convert all the strings to title caps in a string array

var title = (str)=> {

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

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

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

}

return str.join(' ');

}

console.log(title("GUVI GEEKS"));

c) Sum of all numbers in an array

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

var sum = (arr)=> {

var s=0

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

s= s+arr[i];

}

return s;

}

console.log(sum(arr));

(d) print prime numbers.

var arr=[11,13,15,16,8];

var res= arr.filter((ele)=> {

if (ele <= 1) {

return false;

} else {

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

if (ele % i == 0) {

return false;

}

}

return true;

}

});

console.log(res);

e. Return palindrome in an array:

const arr = ['carecar', 1344, 12321, 'dad'];

const isPalindrome = el => {

const str = String(el);

let i = 0;

let j = str.length - 1;

while(i < j) {

if(str[i] === str[j]) {

i++;

j--;

}

else {

return false;

}

}

return true;

};

const findPalindrome = arr => {

return arr.filter(el => isPalindrome(el));

};

console.log(findPalindrome(arr));