**DAY-05**

1.Do the below programs in anonymous function

* 1. Print odd numbers in an array

let arr = [1,2,3,4,25,6,7]

  let res = []

    var odd = function(arr){

    for (let i=0;i<arr.length;i++){

        if(arr[i]%2 !=0){

            res.push(arr[i])

        }

    }

        return res;

    }

    console.log(odd(arr))

 Output:

[ 1, 3, 25, 7 ]

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

let string = ["Sugumar", "Gayathridevi"]

  let res = []

  let caps = function(string){

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

          res.push(string[i].toUpperCase());

      }

      return res;

  }

  console.log(caps(string))

Output:

SUGUMAR GAYATHRIDEVI

* 1. Sum of all numbers in an array

let arr = [2,4,3,5,6,78,22]

let s = 0

  var sum = function (arr){

      for(let i=0;i<arr.length;i++){

          s+=arr[i]

      }

      return s;

  }

  console.log(sum(arr))

Output:

  120

* 1. Return all the prime numbers in an array

let  arr = [11,12,1,314,15,16,17,20];

let  isPrime = function(n) {

   if (n<=1 ){

   return false;

   }else if(n === 2){

      return true;

   }else{

      for(let x = 2; x < n; x++){

         if(n % x === 0){

            return false;

         }

      }

      return true;

   };

};

let  filterPrime = function() {

   let  filtered = arr.filter(ele=> isPrime(ele));

   return filtered;

};

console.log(...filterPrime(arr));

Output:

11 17

* 1. Return all the palindromes in an array

let arr = ['MADAM','AMA','SUGUMAR','GAYATHRI','242']

let s = []

let g = []

  var palindrome = function(arr){

      for(let i=0;i<arr.length;i++){

           let res = arr[i].split('').reverse().join('')

             s.push(res)

             if(s[i]==arr[i]){

                g.push(s[i])

             }

         }

        return g

  }

console.log(...palindrome(arr))

Output:

MADAM AMA 242

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

let arr1 = [1,12,15,26,38,50]

let arr2 = [2,13,17,30,45,55]

let total = [...arr1,...arr2]

total.sort((a,b)=> a-b)

let middle = []

let firsthalf = total.slice(Math.floor(total.length/2))

let secondhalf = total.slice(0,Math.floor(total.length/2))

middle.push(firsthalf.shift())

middle.push(secondhalf.pop())

let average = ((+middle[0]+middle[1])/2)

let median = function(){

    return average;

}

console.log(median(average))

Output:

21.5

* 1. Remove duplicates from an array

 let arr = [1,1,3,3,4,4,5,5]

 let duplicates = function(arr){

     return[...new Set(arr)]

 }

  console.log(...duplicates(arr))

Output:

1 3 4 5

* 1. Rotate an array by k times

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

    let k = 1

let rotate\_Right = function(arr,k){

   let last =  arr.pop()

   arr.unshift(last)

   return arr;

}

  console.log(rotate\_Right(arr))

 Output:

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

**Do the below programs in IIFE**

a.Print odd numbers in an array

(function(){

  let arr = [1,2,3,4,25,6,7]

    let res = []

      var odd = function(arr){

      for (let i=0;i<arr.length;i++){

          if(arr[i]%2 !=0){

              res.push(arr[i])

          }

      }

          return res;

      }

      console.log(odd(arr))

  })()

Output:

[ 1, 3, 25, 7 ]

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

(function(){

  let string = ["Sugumar", "Gayathridevi"]

    let res = []

    let caps = function(string){

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

            res.push(string[i].toUpperCase());

        }

        return res;

    }

    console.log(...caps(string))

  })()

Output:

SUGUMAR GAYATHRIDEVI

c. Sum of all numbers in an array

(function(){

  let arr = [2,4,3,5,6,78,22]

  let s = 0

    var sum = function (arr){

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

            s+=arr[i]

        }

        return s;

    }

    console.log(sum(arr))

  })()

Output:

120

d. Return all the prime numbers in an array

(function(){

  let  arr = [11,12,1,314,15,16,17,20];

  let  isPrime = function(n) {

     if (n<=1 ){

     return false;

     }else if(n === 2){

        return true;

     }else{

        for(let x = 2; x < n; x++){

           if(n % x === 0){

              return false;

           }

        }

        return true;

     };

  };

  let  filterPrime = function() {

     let  filtered = arr.filter(ele=> isPrime(ele));

     return filtered;

  };

  console.log(...filterPrime(arr));

  })()

Output:

11 17

e. Return all the palindromes in an array

(function(){

  let arr = ['MADAM','AMA','SUGUMAR','GAYATHRI','242']

  let s = []

  let g = []

    var palindrome = function(arr){

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

             let res = arr[i].split('').reverse().join('')

               s.push(res)

               if(s[i]==arr[i]){

                  g.push(s[i])

               }

           }

          return g

    }

  console.log(palindrome(arr))

  })()

Output:

MADAM AMA 242

f. Return median of two sorted arrays of same size

(function(){

  let arr1 = [1,12,15,26,38,50]

  let arr2 = [2,13,17,30,45,55]

  let total = [...arr1,...arr2]

  total.sort((a,b)=> a-b)

  let middle = []

  let firsthalf = total.slice(Math.floor(total.length/2))

  let secondhalf = total.slice(0,Math.floor(total.length/2))

  middle.push(firsthalf.shift())

  middle.push(secondhalf.pop())

  let average = ((+middle[0]+middle[1])/2)

  let median = function(){

      return average;

  }

  console.log(median(average))

  })()

Output:

21.5

g.Remove duplicates from an array

(function(){

  let arr = [1,1,3,3,4,4,5,5]

   let duplicates = function(arr){

       return[...new Set(arr)]

   }

    console.log(...duplicates(arr))

  })()

Output:

1 3 4 5

h. Rotate an array by k times

(function(){

  let arr = [1,2,3,4,5,6]

      let k = 1

  let rotate\_Right = function(arr,k){

     let last =  arr.pop()

     arr.unshift(last)

     return arr;

  }

    console.log(rotate\_Right(arr))

  })()

Output:

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

3. <https://medium.com/@reach2arunprakash/guvi-zen-class-javascript-warm-up-programming-problems-15973c74b87f>

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

addFive(5);  
addFive(0);  
addFive(-5);

Output:

10  
5  
0

var num = 0;

function addFive(num) {

    return num+5;

}

var result = addFive(num)

console.log(result)

2)Fill in your code that takes an number minutes and converts it to seconds.

Examples  
toSeconds(5) ➞ 300

toSeconds(3) ➞ 180

toSeconds(2) ➞ 120

var min = 3;

function toSeconds(min) {

    return min\*60;

}

var secs = toSeconds(min)

console.log(secs)

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

Examples  
nextNumber(0) ➞ 1

nextNumber(9) ➞ 10

nextNumber(-3) ➞ -2

var myint = -3;

function nextNumber(myint) {

    return myint+1;

}

var myNextint = nextNumber(myint)

console.log(myNextint)

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

Examples  
getFirstElement([1, 2, 3]) ➞ 1

getFirstElement([80, 5, 100]) ➞ 80

getFirstElement([-500, 0, 50]) ➞ -500

var arr = [1, 2, 3];

function getFirstElement(arr) {

    return arr.shift()

}

var data = getFirstElement(arr)

console.log(data)

5)Convert Hours into Seconds

Write a function that converts hours into seconds.

Examples  
hourToSeconds(2) ➞ 7200

hourToSeconds(10) ➞ 36000

hourToSeconds(24) ➞ 86400

var arr = [2,10,24];

function hourToSeconds(arr) {

    const s = arr.map(item=>item\*60\*60)

    return s;

}

var data = hourToSeconds(arr)

console.log(data)

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

Examples  
findPerimeter(6, 7) ➞ 26

findPerimeter(20, 10) ➞ 60

findPerimeter(2, 9) ➞ 22

function findPerimeter(num1,num2) {

  return 2\*(num1+num2);

}

var peri = findPerimeter(6,7)

console.log(peri)

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

Examples  
lessThan100(22, 15) ➞ true  
// 22 + 15 = 37

lessThan100(83, 34) ➞ false  
// 83 + 34 = 117

function lessThan100(num1,num2) {

  if((num1+num2)==100){

      return true;

  }

  else{

      return false;

  }

}

var res = lessThan100(50,50)

console.log(res)

8) 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.

Examples  
CountAnimals(2, 3, 5) ➞ 36

CountAnimals(1, 2, 3) ➞ 22

CountAnimals(5, 2, 8) ➞ 50

function CountAnimals(tur,horse,pigs) {

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

}

var legs = CountAnimals(5,2,8)

console.log(legs)

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

Examples  
frames(1, 1) ➞ 60

frames(10, 1) ➞ 600

frames(10, 25) ➞ 15000

function frames(num1,num2) {

  return num2\*60\*num1

}

var fps = frames(10,25)

console.log(fps)

10)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.

Examples  
divisibleByFive(5) ➞ true

divisibleByFive(-55) ➞ true

divisibleByFive(37) ➞ false

function divisibleByFive(num1) {

    if(num1%5==0){

        return true;

    }

    else{

        return false;

    }

}

var divisible = divisibleByFive(51)

console.log(divisible)

3.Do the below programs in arrow functions

* 1. Print odd numbers in an array

let arr = [1,2,3,4,25,6,7]

  let res = []

    const odd = arr => { return res}

    for (let i=0;i<arr.length;i++){

        if(arr[i]%2 !=0){

            res.push(arr[i])

        }

    }

    console.log(odd(arr))

    Output:

    [ 1, 3, 25, 7 ]

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

let arr = ['sugumar','gayathri devi']

let s = []

  var caps = arr => {return s}

      for(let i=0;i<arr.length;i++){

           let res = arr[i].toUpperCase()

             s.push(res)

         }

console.log(caps(arr))

Output:

[ 'SUGUMAR', 'GAYATHRI DEVI' ]

* 1. Sum of all numbers in an array

let arr = [2,4,3,5,6,78,22]

let s = 0

  var sum = arr => {return s}

      for(let i=0;i<arr.length;i++){

          s+=arr[i]

      }

  console.log(sum(arr))

 Output:

  120

* 1. Return all the prime numbers in an array

let  arr = [11,12,1,314,15,16,17,20];

let  isPrime = n => {

   if (n<=1 ){

   return false;

   }else if(n === 2){

      return true;

   }else{

      for(let x = 2; x < n; x++){

         if(n % x === 0){

            return false;

         }

      }

      return true;

   };

};

let  filterPrime = arr => {

   let  filtered = arr.filter(el => isPrime(el));

   return filtered;

};

console.log(...filterPrime(arr));

Output:

11 17

* 1. Return all the palindromes in an array

let arr = ['MADAM','AMA','SUGU','GAYATHRI','242']

let s = []

let g = []

  var palindrome = arr => {return g}

      for(let i=0;i<arr.length;i++){

           let res = arr[i].split('').reverse().join('')

             s.push(res)

             if(s[i]==arr[i]){

                g.push(s[i])

             }

         }

console.log(palindrome(arr))

Output:

[ 'MADAM', 'AMA', '242' ]