JS tasks – day 5

1. How to compare two JSON have the same properties without order?
   1. var obj1 = { name: "Person 1", age:5 };
   2. var obj2 = { age:5, name: "Person 1" };

* Ans : Object.entries(obj1).sort().toString() === Object.entries(obj2).sort().toString()

1. Use the rest countries API the country flags in console.

* Ans: var request = new XMLHttpRequest();

request.open('GET', 'https://restcountries.com/v3.1/all', true);

request.send();

request.onload = function() {

var data = JSON.parse(this.response);

//display all the country flags on console

for (var i in data){

console.log(data[i].flag);

}

1. Use the same rest countries and print all countries name, region, sub region and population

* Ans: for (var i in data){

console.log(data[i].name, data[i].region,data[i].subregion,data[i].population);

}

1. <https://medium.com/@reach2arunprakash/www-guvi-io-zen-d395deec1373>

**Task 1: Simple Programs todo for variables**

1. Declare four variables without assigning values and print them in console

Ans: var a,b,c,d;

console.log(a,b,c,d);

1. How to get value of the variable myvar as output

var myvar= 1;  
console.log("myvar");

Ans: console.log(myvar);

1. Declare variables to store your first name, last name, marital status, country and age in multiple lines

Ans: let fn ;

Let ln;

Let ms;

Let country;

Let age;

1. Declare variables to store your first name, last name, marital status, country and age in a single line

Ans : let fn,ln,ms,country,age;

1. Declare variables and assign string, boolean, undefined and null data types

I am 25 years old. You are 30 years old.

Ans: let str="I am 25 years old. You are 30 years old.";

let boo=true;

let a;

let b=null;

6. Convert the string to integer

* parseInt()
* Number()
* Plus sign(+)

Ans:

let a=’1’;

parseInt(a);

Number(a);

let b= +a;

1. Write 6 statement which provide truthy & falsey values.

Ans:

if(1==2) //false

if(1==='1') //false

if(1===1) //true

if(2>3) //false

if(2<3) //true

if("abc"=="abc") //true

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**Task 2: Simple Programs todo for Operators**

1. Square of a number

function square(q){

    return q\*q;

}

console.log(square(2));

1. Swapping 2 numbers

function swap(a=5,b=10){

a=a+b;

b=a-b;

a=a-b;

console.log(a,b)

}

swap(10,20);

1. Addition of 3 numbers

function addition(a,b,c){

    return a\*b\*c;

}

console.log(addition(2,4,5));

1. Celsius to Fahrenheit conversion

function temp(cel){

    return ((cel\* 9/5) + 32);

}

console.log(temp(2));

1. Meter to miles

function conversion(meter){

    return (meter/1609);

}

console.log(conversion(2000));

1. Pounds to kg

function conversion(pound){

    return (pound/2.205);

}

console.log(conversion(2000));

1. Calculate Batting Average

function averg(hits, atbat){

    return (hits/atbat);

}

console.log(averg(10,20));

1. Calculate five test scores and print their average

const averg = (...arr) => arr.reduce((a,b) => a + b, 0) / arr.length;

console.log(averg(10,20,40,50,60));

1. Power of any number x ^ y.

function power(x,y){

return Math.pow(x,y);

}

console.log(power(10,20));

1. Calculate Simple Interest

function SI(p,r,t){ //S.I. = P × R × T,

return p\*r\*t;

}

console.log(SI(1000,0.03,2));

1. Calculate area of an equilateral triangle

function area(side) {

    return (side \* 1.732) / 4;

}

console.log(area(10));

1. Area Of Isosceles Triangle

function area(b,h) {

    return (b\*h) / 2;

}

console.log(area(10,20));

1. Volume Of Sphere

function volume(r) {

    return (r\*r\*r\*3.14\*4) / 3;

}

console.log(volume(10));

1. Volume Of Prism

function volume(bl,bw,h) {

    return bl\*bw\*h;

}

console.log(volume(10,10,5));

1. Find area of a triangle.

function area(b,h) {

    return (b\*h) / 2;

}

console.log(area(10,20));

1. Give the Actual cost and Sold cost, Calculate Discount Of Product

function discount(AC,SC) {

    return(AC-SC);

}

discount(100,20);

1. Given their radius of a circle and find its diameter, circumference and area.

function circle(r) {

    console.log(`Diameter: ${2\*r}`);

    console.log(`Circumference: ${2\*3.14\*r}`);

    console.log(`Area: ${3.14\*r\*r}`);

}

circle(10);

1. Given two numbers and perform all arithmetic operations.

function arith(a,b) {

    console.log(`Addition : ${a+b}`);

    console.log(`Subtraction : ${a-b}`);

    console.log(`Multiplication : ${a\*b}`);

    console.log(`Division  : ${a/b}`);

}

arith(10,20);

1. Display the asterisk pattern as shown below(No loop needed):   
   \*\*\*\*\*  
   \*\*\*\*\*  
   \*\*\*\*\*  
   \*\*\*\*\*  
   \*\*\*\*\*

function pattern() {

   console.log("\*\*\*\*\*\n\*\*\*\*\*\n\*\*\*\*\*\n\*\*\*\*\*\n\*\*\*\*\*");

}

pattern();

1. Calculate electricity bill?  
   For example, a consumer consumes 100 watts per hour daily for one month. Calculate the total energy bill of that consumer if per unit rate is 10?

function bill(watt,rate) { //1000watt/hr = 1 unit

   console.log(watt\*24\*30\*rate)/1000;

}

bill(100,10);

1. Program To Calculate CGPA

function CGPA(gpa,cre) { // GPA/ sum credits

   console.log(gpa/cre);

}

CGPA(500,28);

**Task 3: Simple Programs todo for Condition , Looping and Arrays**

1. Write a loop that makes seven calls to console.log to output the following triangle:

#  
##  
###  
####  
#####  
######  
#######

let a="\*";

for(let i=0;i<7;i++)

{

    console.log(a);

    a+="\*";

}

2. Iterate through the string array and print it contents

var strArray= ["<option>Jazz</option>",  
 ,"<option>Blues</option>",  
 ,"<option>New Age</option>",  
 ,"<option>Classical</option>",  
 ,"<option>Opera</option>"]

for(val in strArray)

console.log(strArray[val])

**Arrays**:

var myarray=[11,22,33,44,55]

1. write a code to count the elements in the array . Don’t use length property

var i=0;

while(myarray[i])

{

i++;

}

console.log(i);

1. Declare an empty array;

let arr=[];

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3. Create an array called foods holds the names of your top 20 favorite foods, starting with the best food.

let foods=["Briyani","chicken 65","payasam",

"sambar","idly","chatni","buha","pani puri","bel puri",

"fried rice","tomato rice","parotta",

"kothu parotta","pavbaji","bajji","sundal","pongal","dosa",

"puri","rasam"]

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4. Foods variable holds the names of your top 20 favorite foods, starting with the best food. How can you find your fifth favorite food?

console.log(foods[5]);

5.Find the length of your foods array

console.log(foods.length);

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6. Starting from the existing friends variable below, change the element that is currently “Mari” to “Munnabai”.

let friends = [  
“Mari”,  
“MaryJane”,  
“CaptianAmerica”,  
“Munnabai”,  
“Jeff”,  
“AAK chandran”  
];

function dataHandling(input) {

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

       if(input[i]==="Mari")

       input[i]="Munnabai";

    }

    console.log(input);

}

dataHandling(friends);

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7. Starting from the friends variable below, Loop and Print the names till you meet CaptianAmerica.

const friends = [  
“Mari”,  
“MaryJane”,  
“CaptianAmerica”,  
“Munnabai”,  
“Jeff”,  
“AAK chandran”  
];

function dataHandling(input) {

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

       console.log(input[i]);

       if(input[i]==="CaptianAmerica")

       break;

    }

}

dataHandling(friends);

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8. Find the person is ur friend or not.

const friends = [  
“Mari”,  
“MaryJane”,  
“CaptianAmerica”,  
“Munnabai”,  
“Jeff”,  
“AAK chandran”  
];

function dataHandling(input, name) {

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

        if (input[i] === name)

            return ("yes");

        else if (i == length - 1 && input[i] !== name)

            return ("no");

    }

}

let found = dataHandling(friends,”Jeff”);

console.log(found);

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9. We have two lists of friends below. Use array methods to combine them into one alphabetically-sorted list.

var friends1 = [  
“Mari”,  
“MaryJane”,  
“CaptianAmerica”,  
“Munnabai”,  
“Jeff”,  
“AAK chandran”  
];

var friends2 = [  
“Gabbar”,  
“Rajinikanth”,  
“Mass”,  
“Spiderman”,  
“Jeff”,  
“ET”  
];

function dataHandling(friends1,friends2){

let out = [...friends1,...friends2].sort();

console.log(out);

    }

dataHandling(friends);

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1. Get the first item, the middle item and the last item of the array

  console.log(friends[0], friends[Math.trunc(friends.length/2)], friends[friends.length -1]);

1. Add your name to the end of the friends array, and add another name to beginning.

friends.splice(0,0,"Philo");

    friends[friends.length]="Mina";

1. Add Mr or Ms to the names in the friends array.

 friends.map((e)=> "Ms. "+e);

1. Concat all the names the friends array and return as comma “,” seperated string.

friends.join(",");

1. Find the friends names who has letter ‘a’ and return the list.

friends.filter((e)=> e.toLowerCase().includes('a'));

1. Find the avg length of all the friends names. Get the individual length of the names and do the avg.

const averg = (arr) => arr.reduce((a,b) => a.length + b.length, 0) / arr.length;

1. Find the names and return the list starting with letter M.

friends.filter((e)=> e[0].toLowerCase()=="m");

1. Find the name with max characters and return the name.

var max = friends.reduce(

        function (a, b) {

        return a.length > b.length ? a : b;

    }

);

1. Find the name with min characters and return the name.

var min = friends.reduce(

        function (a, b) {

        return a.length < b.length ? a : b;

   });

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Find the average in the array below.   
Make sure you add only the numbers and do avg.

const friendsInfo = [6, 12, ‘Mari’, 1, true, ‘Munnabai’, ‘200’, ‘CaptianAmerica’, 8, 10];

friendsInfo.filter((e)=> typeof(e)!= 'boolean' && Number(e)).reduce((a,b)=>parseInt(a)+parseInt(b) , 0);

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Print the contents of the input variable

var input = [  
[“0001”, “Roman Alamsyah”, “Bandar Lampung”, “21/05/1989”, “Membaca”],  
[“0002”, “Dika Sembiring”, “Medan”, “10/10/1992”, “Bermain Gitar”],  
[“0003”, “Winona”, “Ambon”, “25/12/1965”, “Memasak”],  
[“0004”, “Bintang Senjaya”, “Martapura”, “6/4/1970”, “Berkebun”]  
]

function dataHandling(input){  
for (var i = 0; i < input.length; i++) {

console.log(input[i].join(','))

}  
}

dataHandling(input);

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**Objects:**

1. What the output

myobject = {1:one,”11":1,”name”:”arun”}

console.log(myobject.11);   
console.log(myobject.name);

Ans: 1

arun

1. Add a new key value pair to myobject  
   key : ten  
   value : ten

myobject = {1:one,”11":1,”name”:”arun”}

myobject[‘ten’] =”ten”;

console.log(myobject);

{"1":"one","11":1,"name":"arun","ten":"ten"}

1. Write out an object literal to represent the data below

Guvi, Geek, 6, IIT-M RP,Chennai.

Ans: {

“firstName”:”Guvi”,

“lastName”:”Geek”,

“blockNo”:6,

“place”:”IIT-M RP”,

“area”:”Chennai”

}

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How would you represent the following data using a combination of object literals and arrays? (You can describe a strategy without typing or writing out the whole thing.)

Guvi, Geek, 6, IIT-M RP,Chennai.  
Amazon, Inc, 31, SP Infocity, Chennai.  
Google, Alphabet, 34 Amphitheater Parkway, MountainView.  
Tesla, Inc , 32, 333 Santana Row,San Jose.

Ans: [{

“firstName”:”Guvi”,

“lastName”:”Geek”,

“blockNo”:6,

“place”:”IIT-M RP”,

“area”:”Chennai”

},

{

“firstName”:”Amazon”,

“lastName”:”Inc”,

“blockNo”:31,

“place”:”SP Infocity”,

“area”:”Chennai”

},

{

“firstName”:” Google”,

“lastName”:” Alphabet”,

“blockNo”:34,

“place”:” Amphitheater Parkway”,

“area”:” MountainView”

},

{

“firstName”:”Tesla”,

“lastName”:”Inc”,

“blockNo”:32,

“place”:” 333 Santana Row”,

“area”:” San Jose”

}];