1. **How to compare two JSON have the same properties without order?**
2. **Let obj1 = {name: ”Person1” , age : 5};**
3. **Let obj2 = {age : 5, name : ”Person1”};**

Ans: I tried to compare with:

JSON.stringify(obj1) === JSON.stringify(obj2) but this returns false. It seems that the order of the properties is important.

<!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>

       let obj1={name:"Person1", age:5};

        let obj2={age:5, name:"Person1"};

        console.log(JSON.stringify(obj1)===JSON.stringify(obj2));

</script>

</body>

</html>

1. **Use the rest Countries API URL->** [**https://restcountries.com/v3.1/all**](https://restcountries.com/v3.1/all) **and display all the coutry flags in the console.**

<!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>

        var req=new XMLHttpRequest()

        req.open("GET","https://restcountries.com/v2/all")

        req.send()

        console.log(req)

        req.onload=function()

        {

            var data=JSON.parse(req.response)

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

            {

                 console.log(data[i].flag)

            }

        }

       </script>

</body>

</html>

1. **Use the same rest countries and print all countries name, regions , subregion and populations.**

<!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>

        var req=new XMLHttpRequest()

        req.open("GET","https://restcountries.com/v2/all")

        req.send()

        console.log(req)

        req.onload=function()

        {

            var data=JSON.parse(req.response)

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

            {

                 console.log("NAME="+data[i].name,"REGION="+data[i].region,"SUBREGION="+data[i].subregion,"POPULATION="+data[i].population)

            }

        }

       </script>

</body>

</html>

1. [**https://medium.com/@reach2arunprakash/www-guvi-io-zen-d395deec1373**](https://medium.com/@reach2arunprakash/www-guvi-io-zen-d395deec1373)

# TASK1: **SIMPLE PROGRAMS TODO FOR VARIABLES**

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

1. <!DOCTYPE html>
2. <html lang="en">
3. <head>
4. <meta charset="UTF-8">
5. <meta name="viewport" content="width=device-width, initial-scale=1.0">
6. <title>Document</title>
7. </head>
8. <body>
9. <script>
10. var a,b,c,d;
11. console.log(a,b,c,d)
12. </script>
13. </body>
14. </html>

**4.1.2 How to get value of the variable myvar as output**

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

<!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>

        var myvar= 1;

        console.log(myvar);

    </script>

</body>

</html>

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

ANS: var first\_name=”REKHA”,

last\_name=”ANAGODAR”,

marital\_status=”married”,

country=”INDIA”,

age=32;

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

ANS:

var first\_name=”REKHA”,last\_name=”ANAGODAR”,marital\_status=”married”, country=”INDIA”,age=32;

**4.1.5 Declare variables and assign string, boolean, undefined and null data types**

* String: A string is a sequence of characters. We can declare a string by using single or double quotes. For example:

**var string=” Hello GUVI”;**

* Boolean: A Boolean is a value that can be either true or false. We can declare a Boolean by using the true or false keywords. For example:

**var myBoolean=true;**

* Undefined: Undefined is a value that means that a variable has not been assigned a value yet. We can declare an undefined variable by simply not assigning it a value. For example:

**var abc;**

* Null: Null is a value that means that a variable does not have a value. We can declare a null variable by assigning it the null keyword. For example:

**var xyz=null;**

**4.1.6 Convert the string to integer:** parseInt(), Number(), Plus sign(+)

* Us**ing the parseInt() method:**

The syntax for **parseInt()** method is:

**parseInt(string);**

**parseInt(string,radix);**

Where, **string** is the string to be parsed. **radix** is used to mention the base in Number System. 2 for binary, 8 for octal, 10 for decimal and 16 for hexadecimal. This method returns the integer value that is parsed from the string.

Example:a) console.log(parseInt(true));

It returns 1.

b) console.log(parseInt('0xFF', 16));

It returns 255 (upper-case hexadecimal with "0x" prefix)

* **Using the Number() method:**

The syntax for **Number()** method is:

**Number(value);**

Where, **value** can be of any primitive data type that is convertible to number, else it returns NaN. This method returns a number.

**Example:** Console.log(Number(true));

It returns 1.

## Using the unary operator:

The syntax for unary plus operator is :

**+op**

Where, **op** is an operand. The unary operator + is placed before the operand and tries to convert it into a number. A number is returned.

**Example:** var a=”100”;

console.log(+a);

It returns 100 as a number.

**4.1.7 Write 6 statement which provide truthy & falsey values.**

console.log(Boolean(undefined)); //false

        console.log(Boolean(null)); //false

        console.log(Boolean("")); //false

        console.log(Boolean(NaN)); //false

        console.log(Boolean(0)); //false

        console.log(Boolean(-0)); //false

        console.log(Boolean(true)); //true

        console.log(Boolean(1)); //true

        console.log(Boolean('hi')); //true

        console.log(Boolean([0])); //true

        console.log(Boolean({})); //true

        console.log(Boolean({a:1})); //true

# **TASK 2: SIMPLE PROGRAMS TODO FOR OPERATORS**

**4.2.1 Square of a number**

<!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>

        //var myvar= 1;

        var num=5;

        console.log(Math.pow(num,2));

    </script>

</body>

</html>

**4.2.2 Swapping 2 numbers**

<!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>

        var a=10;

        var b=20;

        console.log(a,b);

        var temp=a;

            a=b;

            b=temp;

        console.log(a,b);

    </script>

</body>

</html>

**4.2.3 Addition of 3 numbers.**

<!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>

        var a=10,b=20,c=40;

        console.log(a+b+c);

    </script>

</body>

</html>

**4.2.4 Celsius to Fahrenheit conversion**

<!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>

        var Celsius=100;

        var Fahrenheit=(Celsius \* 9/5) + 32;

        console.log(Fahrenheit);

    </script>

</body>

</html>

**4.2.5 Meter to miles**

<!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>

        //metr to mile

        //miles = meters × 0.000621

        var meters=1000;

        var miles = meters \* 0.000621;

        console.log(miles);

    </script>

</body>

</html>

**4.2.6 Pounds to Kg**

<!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>

       //kilograms = pounds \* 0.453592

        var pounds=1000;

        var kg = pounds \* 0.453592;

        console.log(kg);

    </script>

</body>

</html>

**4.2.7 Calculate Batting Average**

<!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>

     //Batting Average (BA) = Total Runs Scored / Total Outs

     var runsScored=[40,50,0,65,70];

     var totalOuts=2;

     var totalRuns=0;

     for(var run of runsScored)

     {

        totalRuns=totalRuns+run;

     }

    var battingAverage = parseFloat(totalRuns/totalOuts);

    console.log(battingAverage);

    </script>

</body>

</html>

**4.2.8 Calculate five test scores and print their average**

<!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>

     var arr=[23,22,24,21,25];

     var total=0;

     for(var marks of arr)

     {

        total=total+marks;

     }

     var avg=total/arr.length;

     console.log("Average="+avg)

    </script>

</body>

</html>

**4.2.9 Power of any number x ^ y.**

<!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>

     var x=10,y=2;

     console.log(Math.pow(x,y));

    </script>

</body>

</html>

**4.2.10 Calculate Simple Interest**

<!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>

     var P=10000,T=2,R=8.5;

     var SI = parseFloat((P \* T \* R) / 100);

     console.log(SI);

    </script>

</body>

</html>

**4.2.11 Calculate area of an equilateral triangle**

<!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>

       var side=5;

       var area=(Math.sqrt(3)/4)\*(side\*side);

       console.log("area of equilateral triangle is="+area.toFixed(2));

    </script>

</body>

</html>

4.2.12 Area Of Isosceles Triangle

<!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>

       var base=5,height=12;

       var area=0.5\*base\*height;

       console.log("area of Isosceles triangle is="+area.toFixed(2));

    </script>

</body>

</html>

**4.2.13 Volume Of Sphere**

<!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>

        var radius=3.5;

        var volume = (4/3) \* Math.PI \* Math.pow(radius, 3);

        console.log("Volume of Sphere="+volume.toFixed(4));

</script>

</body>

</html>

**4.2.14 Volume Of Prism**

<!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>

        var length=10,base=8,height=6;

        var volume = ( length \* base \* height ) / 2;

        console.log("Volume of Triangular prism="+volume.toFixed(2));

</script>

</body>

</html>

**4.2.15 Find area of a triangle.**

<!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>

        var a=5,b=6,c=7;

        var s=(a+b+c)/2;  //a,b ,c are side of a triangle

        var area=Math.sqrt(s\*((s-a)\*(s-b)\*(s-c)));   //s is a semi-perimeter of a triangle

        console.log("area of a triangle="+area.toFixed(2));

</script>

</body>

</html>

**4.2.16 Give the Actual cost and Sold cost, Calculate Discount Of Product**

<!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>

        var actualCost=2988, soldCost=2689;

        var discount = actualCost-soldCost;

        var discountPercentage = (discount / actualCost) \* 100;

        console.log("Discount of product is="+discountPercentage.toFixed(3));

</script>

</body>

</html>

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

<!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>

        var radius=3;

        var diameter= 2 \* radius;

        var area= Math.PI \* radius \* radius;

        var circumference=2 \* Math.PI \* radius;

        console.log("diameter of a circle="+diameter);

        console.log("area of a circle="+area.toFixed(3));

        console.log("circumference of a circle="+circumference.toFixed(3));

</script>

</body>

</html>

**4.2.18 Given two numbers and perform all arithmetic operations.**

<!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>

        var a=8,b=4,sum,diff,mul,div;

        sum=a+b;  //addition

        diff=a-b;  //subtraction

        mul=a\*b;  //multiplication

        div=a/b;  //division

        mod=a%b;  //modulus

        console.log("Addition="+sum);

        console.log("Diffference="+diff);

        console.log("multiplication="+mul);

        console.log("division="+div);

        console.log("modulus="+mod);

</script>

</body>

</html>

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

<!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>

       var string="";

       for(var i=0;i<4;i++)

       {

        for(var j=0;j<4;j++)

        {

            string=string+"\*";

        }

        string=string+"\n";

       }

       console.log(string);

</script>

</body>

</html>

**4.2.20 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?**

<!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>

        var watts= 100;  //given watts

        var kwh= watts/1000; //conversion watts to kilowatts

        var bill= kwh \* 24 \* 30 \* 10;//totalKilowatts\*numberOfHoursPerMonth\*costPerKilowattHour

        console.log("electricity bill="+bill+"rs");

    </script>

</body>

</html>

* + 1. **Program To Calculate CGPA**

1. <!DOCTYPE html>
2. <html lang="en">
3. <head>
4. <meta charset="UTF-8">
5. <meta name="viewport" content="width=device-width, initial-scale=1.0">
6. <title>Document</title>
7. </head>
8. <body>
9. <script>
10. var marks=[95,85,75,80,95];
11. var n=marks.length;
12. var grade=[];
13. var sum=0;
14. //CGPA% = CGPA \* 9.5
15. for(var i=0;i<n;i++)
16. {
17. grade[i]=(marks[i]/10);
18. }
19. for(var i=0;i<n;i++)
20. {
21. sum=sum+grade[i];
22. }
23. var cgpa=sum/n;
24. console.log("CGPA ="+cgpa);
25. console.log("CGPA % ="+cgpa\*9.5);
26. </script>
27. </body>
28. </html>

# **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:**

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

<!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>

    var output ="";

    for (var i = 1; i <= 5; i++)

    {

        for (var j = 1; j <= i; j++)

        {

            output = output + "#";

        }

            output=output +"\n";

    }

             console.log(output);

    </script>

</body>

</html>

* + 1. **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>"]**

<!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>

       var strArray= ["<option>Jazz</option>",

                      "<option>Blues</option>",

                      "<option>New Age</option>",

                      "<option>Classical</option>",

                      "<option>Opera</option>"];

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

        {

            console.log(strArray[i]);

        }

    </script>

</body>

</html>

* + 1. **Arrays: var myarray=[11,22,33,44,55]**

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

<!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>

       var num=0;

       var myArray=[11,22,33,44,55];

        for(var value of myArray)

        {

            num++;

        }

        console.log("Length of the array="+num);

    </script>

</body>

</html>

* + 1. **Declare an empty array  
       Create an array called foods holds the names of your top 20 favorite foods, starting with the best food.**

**let foods=[]**

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

**let foods=[]**

**Find the length of your foods array**<!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>

       var foods=["pullav","chitranna","benne\_dosa","avalakki","uppittu",

                "kesaribath","idli\_vada","buns","uttappa","masala\_dosa",

                "rawa\_idli","gobi\_manchuri","talipettu","jamoon","puliyogare",

                "vangibath","bisibelebath","shavige\_uppittu","jowar\_rotti","chapati"];

        console.log(foods[4]);  //my favorite fifth food

        console.log(foods.length);

    </script>

</body>

</html>

* + 1. **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++) {  
  
}  
}**

**dataHandling(friends);**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        var currentName="Mari";

        var newName="Munnabai";

        function dataHandling(input)

        {

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

            {

                if(input[i]===currentName)

                {

                    input[i]=newName;

                }

            }

        }

        dataHandling(friends);

        console.log(friends);

    </script>

</body>

</html>

* + 1. **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++) {  
         
       }  
       }dataHandling(friends);**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        var searchName="CaptianAmerica";

        function dataHandling(input)

        {

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

            {

                if(input[i]===searchName)

                {

                    break;

                }

                console.log(input[i]);

            }

        }

        dataHandling(friends);

    </script>

</body>

</html>

**4.3.7 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++) {  
  
}  
} let found = dataHandling(friends,”Jeff”); console.log(found);**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        var myFriend="CaptianAmerica";

        function dataHandling(input,name)

        {

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

            {

                if(input[i]===name)

                {

                    return input[i];

                }

            }

        }

        var found=dataHandling(friends,myFriend);

        console.log(found+"is my friend");

    </script>

</body>

</html>

* + 1. **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(input){  
       //Your code goes here  
       } dataHandling(friends);**

<!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>

        var friends1=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        var friend2=["Gabbar","Rajanikanth","Mass","Spriderman","Jeff","ET"];

        var allFriends = [...friends1,...friend2];

        allFriends.sort();

        function dataHandling(input)

        {

            console.log(input);

        }

        dataHandling(allFriends);

       </script>

</body>

</html>

**TASK 4. 4.4.1 Get the first item, the middle item and the last item of the array**

<!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>

        var arr=[11,22,33,44,55];

        var firstItem=arr[0];

        var middleItem=arr[Math.trunc(arr.length/2)];

        var lastItem=arr[arr.length-1];

        console.log(firstItem,middleItem,lastItem);

       </script>

</body>

</html>

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

<!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>

        var arr=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        arr.push("rekha");

        arr.unshift("madhu");

        console.log(arr);

        </script>

</body>

</html>

**4.4.3. Add Mr or Ms to the names in the friends array.**

<!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>

         var friends=[{"name":"Rekha","gender":"female"},

                    {"name":"Mari","gender":"female"},

                    {"name":"MarryJane","gender":"female"},

                    {"name":"CaptianAmerica","gender":"male"},

                    {"name":"Munnabai","gender":"male"},

                    {"name":"Jeff","gender":"male"},

                    {"name":"AAK chandran","gender":"male"}];

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

        {

            if (friends[i].gender === "male")

            {

                friends[i].name = "Mr. " + friends[i].name;

            }

            else

            {

                friends[i].name = "Ms. " + friends[i].name;

             }

        }

        console.log(friends);

    </script>

</body>

</html>

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

<!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>

        var friends1=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran"];

        var friends2=["Gabbar","Rajanikanth","Mass","Spriderman","Jeff","ET"];

        var allFriends=friends1.concat(friends2);

        console.log(allFriends);

       </script>

</body>

</html>

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

<!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>

        var friends=["Gabbar","Rajanikanth","Mass","Spriderman","Jeff","ET","Yuvik"];

       for(i=0;i<friends.length;i++)

       {

        x=friends[i].includes('a');

        if(x)

        console.log(friends[i]);

       }

       </script>

</body>

</html>

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

<!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>

        var friends=["Gabbar","Rajanikanth","Mass","Spriderman","Jeff","ET","Yuvik"];

        avg=friends.join('').length/friends.length;

        console.log(avg);

       </script>

</body>

</html>

**4.4.7. Find the names and return the list starting with letter M.**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran","Madhu"];

       for(i=0;i<friends.length;i++)

       {

            if(friends[i].startsWith("M"))

            console.log(friends[i]);

       }

       </script>

</body>

</html>

**4.4.8. Find the name with max characters and return the name.**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran","Madhu"];

        var result=friends[0];

        var max\_str=friends[0].length;

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

        {

            var max=friends[i].length;

            if(max>max\_str)

            {

                result=friends[i];

                max\_str=max;

            }

        }

        console.log(result);

       </script>

</body>

</html>

**4.4.9. Find the name with min characters and return the name.**

<!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>

        var friends=["Mari", "MarryJane","CaptianAmerica","Munnabai","Jeff","AAK chandran","Madhu"];

        var result=friends[0];

        var min\_str=friends[0].length;

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

        {

            var min=friends[i].length;

            if(min<min\_str)

            {

                result=friends[i];

                min\_str=min;

            }

        }

        console.log(result);

       </script>

</body>

</html>

TASK 5

**4.5.1.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];**

<!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>

        var friends=[6, 12, "Mari", 1, true, "Munnabai", "200", "CaptianAmerica", 8, 10];

        var sum=0,count=0;

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

        {

            var val=parseInt(friends[i]);

           if(val)

           {

            sum=sum+val;

            count++;

           }

        }

        console.log(sum/count);

       </script>

</body>

</html>

TASK 6  
**4.6.1. 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++) {  
//Your code goes here}  
} dataHandling(input);**

<!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>

        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++)

        {

            var arr=input[i].join(',');

            console.log(arr);

        }

        }

        dataHandling(input);

       </script>

</body>

</html>

**5. Objects: 5.1. What the output**

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

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

<!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>

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

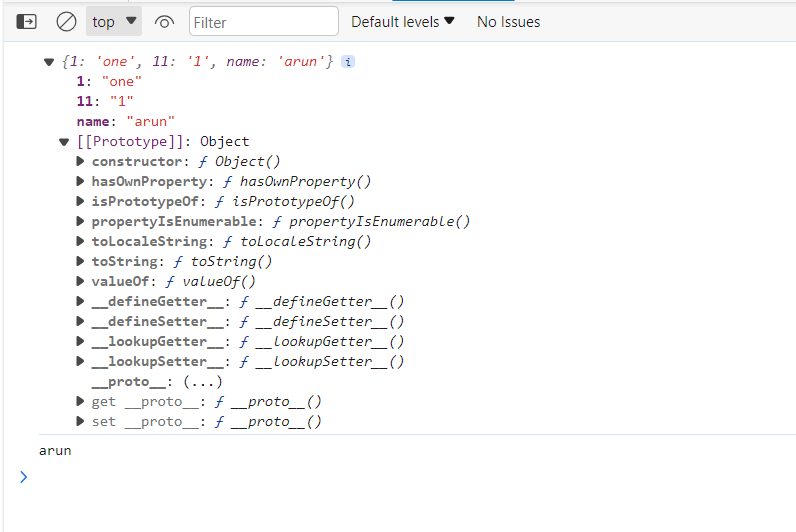
        console.log(myobject);

        console.log(myobject.name);

       </script>

</body>

</html>



**5.2 Add a new key value pair to myobject  
key : ten  
value : ten**

**myobject = {1:one,”11":1,”name”:”arun”}//your code goes**

**here**

**console.log(myobject);**

**{"1":"one","11":1,"name":"arun","ten":"ten"} // Quotes might not get displayed that fine.**

<!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>

        var myObject = {1:"one","11":1,"name":"arun"}

        console.log(myObject);

        Object.assign(myObject,{"ten":"ten"});

        console.log(myObject);

       </script>

</body>

</html>

**5.3 Write out an object literal to represent the data below. Guvi, Geek, 6, IIT-M RP,Chennai.**

<!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>

        var myObject = {1:"Guvi",2:"Geek",3:"IIT-M RP",4:"Chennai"};

        console.log(Object.values(myObject));

           </script>

</body>

</html>

**6. 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.**

<!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>

       var address1=["Guvi", "Geek", 6, "IIT-M RP","Chennai"];

       var address2=["Amazon", "Inc", 31, "SP Infocity", "Chennai"];

       var address3=["Google", "Alphabet", 34, "Amphitheater Parkway", "MountainView"];

       var address4=["Tesla", "Inc" , 32, "333 Santana Row","San Jose"];

        var addessess={address1,address2,address3,address4};

        console.log(addessess);

           </script>

</body>

</html>