GUVI: Zen Class — Variables Arrays & Objects

<!DOCTYPE html>  
 <html>  
 <head>  
 <title>JavaScript Beginners</title>  
 <script src="script.js"></script>  
 </head>  
 <body>  
 </body>  
 </html

script.js

console.log("hello world")

# ****Task 1: Simple Programs to do for variables****

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

Solution:

let a,b,c,d;

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

output: undefined undefined undefined undefined

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

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

Solution:

var myvar= 1;

console.log(myvar);

Output:1

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

Solution:

var first\_name = "Priya";

var last\_name = "R";

var marital\_status = "single";

var country = "India";

var Age = 25;

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

Solution: var details = ["Priya","R","single","India",25];

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

Solution:

var name = "Priya";

var Qualified = "True"

var null\_type = null;

var undefn;

console.log(name,Qualified,null\_type,undefn);

Output: "Priya" "True" null undefined

6) 6. Convert the string to integer

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

Solution:

var st = "25";

console.log(parseInt(st));

console.log(Number(st));

console.log(+ (st));

Output: 25

25

25

7) Write 6 statement which provide truthy & falsey values.

Solution:

let a=3;

let b= 4;

let c= 5;

console.log(a<b);

console.log(b>c);

console.log(a<c);

console.log(c>a);

console.log(a>c);

console.log(a == 0);

Output:

true

false

true

true

false

false

# Task 2: Simple Programs to do for Operators

1. Square of a number
2. Swapping 2 numbers
3. Addition of 3 numbers
4. Celsius to Fahrenheit conversion
5. Meter to miles
6. Pounds to kg
7. Calculate Batting Average
8. Calculate five test scores and print their average
9. Power of any number x ^ y.
10. Calculate Simple Interest
11. Calculate area of an equilateral triangle
12. Area Of Isosceles Triangle
13. Volume Of Sphere
14. Volume Of Prism
15. Find area of a triangle.
16. Give the Actual cost and Sold cost, Calculate Discount Of Product
17. Given their radius of a circle and find its diameter, circumference and area.
18. Given two numbers and perform all arithmetic operations.
19. Display the asterisk pattern as shown below(No loop needed):  
    \*\*\*\*\*  
    \*\*\*\*\*  
    \*\*\*\*\*  
    \*\*\*\*\*  
    \*\*\*\*\*
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?
21. Program To Calculate CGPA

*// Task 2: Simple Programs to do for Operators*

*// 1. Square of a number*

let a=2;

console.log("Square a number "+ (a\*a));

*// 2. Swapping 2 numbers*

let b =2 ;

let c =3;

console.log("Real numbers are :"+b ," ", +c );

[b,c]=[c,b];

console.log("swapped numbers are: " +b ," " ,+c);

*// 3. Addition of 3 numbers*

console.log("sum of 3 numbers"+a ,"", +b ,"", +c ,":", a+b+c);

*// 4. Celsius to Fahrenheit conversion*

let Celsius = 5;

let Fahrenheit= (c\*1.8)+32;

console.log("Celsius of " + Celsius ,"is", Fahrenheit ,"Fahrenheit");

*// 5. Meter to miles*

let meter= 5000;

let miles= meter\*0.000621;

console.log("Meter of " + meter ,"is", miles, "Miles")

*//6.  Pounds to kg*

let Pounds= 5000;

let kg= meter\*0.453592;

console.log("Pounds of " + Pounds ,"is", kg ,"Kg")

*// 7. Calculate Batting Average*

let runs = 10;

let innings = 2;

let times\_not\_out = 1;

let Batting\_average = runs/(innings-times\_not\_out);

console.log("Average Batting : " + Batting\_average );

*//8.  Calculate five test scores and print their average*

let score1 = 50; let score2=20; let score3 = 80; let score4=90;let score5 = 75;

average\_score=(score1+score2+score3+score4+score5)/5;

console.log("Average score of 5 is " +average\_score);

*// 9. Power of any number x ^ y.*

console.log("Power of 2 and 3 is " +Math.pow(2,3))

*// 10. Calculate Simple Interest*

let principle=10000; ri=2; n=12;

console.log("Simple interest " + (principle\*ri\*n/100) );

*//11.  Calculate area of an equilateral triangle*

let side= 5;

console.log("Area of Equilateral trianglr of 5 is " + ((Math.sqrt(3)/4)\*(side\*side)));

*// 12. Area Of Isosceles Triangle*

let base= 5; let height = 8;

console.log("Area of Isosceles trianglr of 5 and 8 is " + ((base\*height)/2));

*// 13. Volume Of Sphere*

let radius=6;

console.log("Volume Of Sphere for radius 6 is " + ((4/3)\* Math.PI \* Math.pow(radius,3)));

*// 14. Volume Of Prism*

console.log("Volume Of Prism for 5 and 8 is " + (base\*height));

*// 15. Find area of a triangle.*

console.log("Area of trianglr of 5 and 8 is " + ((base\*height)/2));

*// 16. Give the Actual cost and Sold cost, Calculate Discount Of Product*

let actual\_cost=100; let sold\_cost=90;

console.log("Discount for the product: " + ((actual\_cost-sold\_cost)/actual\_cost)\*100,"%");

*// 17. Given their radius of a circle and find its diameter, circumference and area.*

console.log("diameter, circumference and area for the radius 6 is " + (radius\*radius), + (2\*Math.PI\*radius).toFixed(2), + ((Math.PI)\*radius\*radius).toFixed(2));

*// 18. Given two numbers and perform all arithmetic operations.*

let num1=5; let num2=6;

console.log("arithmetic operations");

console.log("Addition of 5 and 6: " + (num1+num2));

console.log("Subraction of 5 and 6: " + (num1-num2));

console.log("Multiplication of 5 and 6: " + (num1\*num2));

console.log("Division of 5 and 6: " + (num1/num2).toFixed(2));

*// 19. Display the asterisk pattern as shown below(No loop needed):*

*// \*\*\*\*\**

*// \*\*\*\*\**

*// \*\*\*\*\**

*// \*\*\*\*\**

*// \*\*\*\*\**

let s="\*";

console.log(s,s,s,s,s);

console.log(s,s,s,s,s);

console.log(s,s,s,s,s);

console.log(s,s,s,s,s);

console.log(s,s,s,s,s);

*// 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?*

let watts=100;

console.log("Total Enery bill for the customer for 30 days/ 1 month is :"+ (watts\*24\*30)/1000\*10, "Rs");

*// 21. Program To Calculate CGPA*

let sem1\_gpa = 6.9; let sem2\_gpa = 9.1; let sem3\_gpa = 8.5;

console.log("CGPA : "+ ((sem1\_gpa+sem2\_gpa+sem3\_gpa)/3).toFixed(2));

# 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:

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

Solution:

let n = 5;

let string = "";

for (let i = 1; i <= n; i++) {

  for (let j = 0; j < i; j++) {

    string = string + "\*";

  }

  string = string + "\n";

}

console.log(string);

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>"]

**Solutions:**

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

,"<option>Blues</option>",

,"<option>New Age</option>",

,"<option>Classical</option>",

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

strArray.forEach(function(*strArray*) {

    console.log(*strArray*);

});

**Arrays**:

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

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

Solution:

var myarray=[11,22,33,44,55];

let count =0;

    for(let i in myarray)

    {

       count +=1;

    }

    console.log(count);

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=[]

Solution:

let foods=["biriyani","fried rice", "grill", "falooda", "bismilabath","palkova","Rasamalai","basunthi","Gulab jammun", "Ice cream","dairymilk",

"fish curry","chicken curry", "prawn","crab", "curd rice","burger" , "Sandwhich","Pani poori", "Thai poori"];

— — — — — — — — — — — — — — — -  
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=[]

Solution:

let foods=["biriyani","fried rice", "grill", "falooda", "bismilabath","palkova","Rasamalai","basunthi","Gulab jammun", "Ice cream","dairymilk",

"fish curry","chicken curry", "prawn","crab", "curd rice","burger" , "Sandwhich","Pani poori", "Thai poori"];

console.log(foods[5-1])

Find the length of your foods array

Solution:

let foods=["biriyani","fried rice", "grill", "falooda", "bismilabath","palkova","Rasamalai","basunthi","Gulab jammun", "Ice cream","dairymilk",

"fish curry","chicken curry", "prawn","crab", "curd rice","burger" , "Sandwhich","Pani poori", "Thai poori"];

console.log(foods.length)

— — — — — — — — — — — — — — — -  
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);

Solution:

let friends = [

   "Mari",

   "MaryJane",

   "CaptianAmerica",

   "Munnabai",

   "Jeff",

   "AAK chandran"

   ];

   function dataHandling(*input*){

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

   friends.splice(0,1,"Munnabai");

   }

   }

   dataHandling(friends);

   console.log(friends);

— — — — — — — — — — — — — — — -  
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);

Solution:

let friends = [

   "Mari",

   "MaryJane",

   "CaptianAmerica",

   "Munnabai",

   "Jeff",

   "AAK chandran"

   ];

   function dataHandling(*input*){

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

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

      {

         break;

      }

      else

      console.log(friends[i]);

   }

   }

   dataHandling(friends);

— — — — — — — — — — — — — — — -  
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);

Solution:

const friends = [

   "Mari",

   "MaryJane",

   "CaptianAmerica",

   "Munnabai",

   "Jeff",

   "AAK chandran"

   ];

   function dataHandling(*input*, *name*){

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

   if(*name* === friends[i])

   {

     return true;

   }

   }

   }

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

   console.log(found);

— — — — — — — — — — — — — — — -  
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);

Solution:

var friends1 = [

   "Mari",

   "MaryJane",

   "CaptianAmerica",

   "Munnabai",

   "Jeff",

   "AAK chandran"

   ];

   var friends2 = [

      "Gabbar",

      "Rajinikanth",

      "Mass",

      "Spiderman",

      "Jeff",

      "ET"

      ];

      function dataHandling(*input*){

         let friends= friends1.concat(friends2);

        console.log(friends.sort());

      }

      dataHandling(friends1);

— — — — — — — — — — — — — — — -

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

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

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

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

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

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

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

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

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

var friends = [

   "Mari",

   "MaryJane",

   "CaptianAmerica",

   "Munnabai",

   "Jeff",

   "AAK chandran"

   ];

      function dataHandling(*input*){

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

       let first = friends[0];

       let last= friends[friends.length-1];

       let middle = friends[Math.round(friends.length/2)];

       console.log("First item: " + first, "Middle item: " + middle, "last item: " +last)

*//Output: First item: Mari Middle item: Munnabai last item: AAK chandran*

*//  2. Add your name to the end of the friends array, and add another name to beginning.*

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

       friends.push("Priya");

       console.log(friends);

*//Output:["Dharsini", "Mari", "MaryJane", "CaptianAmerica", "Munnabai", "Jeff", "AAK chandran", "Priya"]*

*// 3. Add Mr or Ms to the names in the friends array.*

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

         let n=friends[i].concat("Mr")

         console.log(n);}

*// 4. Concat all the names the friends array and return as comma “,” seperated string.*

                console.log(friends.join(","));

*//Output:Dharsini,Mari,MaryJane,CaptianAmerica,Munnabai,Jeff,AAK chandran,Priya*

*// 5. Find the friends names who has letter ‘a’ and return the list.*

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

         {

         let a= friends[i].split("");

         for ( let j=0;j<a.length;j++)

         {

            if(a[j] === "a")

            console.log(friends[i])

         }

         }

*//Output: MaryJane,CaptianAmerica,Munnabai,AAK chandran,Priya*

*// 6. Find the avg length of all the friends names. Get the individual length of the names and do the avg.*

         var count= 0;

         var cnt=0;

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

         {

             cnt+=1;

                  let str= friends[i].split("");

         for ( let j=0;j<str.length;j++)

         {

            count+=1;

         }

         }

         console.log("Average length is " + Math.round(count/cnt));

*//Output: 8*

*// 7. Find the names and return the list starting with letter M.*

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

         {

         let a= friends[i].split("");

         for ( let j=0;j<a.length;j++)

         {

            if(a[0]==="M")

            console.log(friends[i])

         }

         }

*//Output: Mari,MaryJane,Munnabai*

*// 8. Find the name with max characters and return the name.*

         function longest\_string(*friends*) {

            let max = *friends*[0].length;

*friends*.map(*v* => max = Math.max(max, *v*.length));

            result = *friends*.filter(*v* => *v*.length == max);

            return result;

          }

          console.log(longest\_string(friends))

*//Output:["CaptianAmerica"]*

*// 9. Find the name with min characters and return the name.*

         function longest\_string(*friends*) {

            let min = *friends*[0].length;

*friends*.map(*v* => min = Math.min(min, *v*.length));

            result = *friends*.filter(*v* => *v*.length == min);

            return result;

          }

          console.log(longest\_string(friends))

*//Output:["Mari", "Jeff"] ["Mari", "Jeff"]*

      }

      dataHandling(friends);

— — — — — — — — — — — — — — — -

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];

Solution:

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

let sum =0;

let cnt=0;

for(let i=0;i<friendsInfo.length;i++)

{

   if(Number.isInteger(+(friendsInfo[i])))

   {

      str= +(friendsInfo[i]);

   sum+=str;

      cnt+=1;

   }

}

console.log("Average is " + (sum/cnt));

Output:

Average is 34

— — — — — — — — — — — — — — — -  
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);

Solution:

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])

   }

   }

   dataHandling(input);

Output:

(5) ["0001", "Roman Alamsyah", "Bandar Lampung", "21/05/1989", "Membaca"]

(5) ["0002", "Dika Sembiring", "Medan", "10/10/1992", "Bermain Gitar"]

(5) ["0003", "Winona", "Ambon", "25/12/1965", "Memasak"]

(5) ["0004", "Bintang Senjaya", "Martapura", "6/4/1970", "Berkebun"]

— — — — — — — — — — — — — — — -

**Objects:**

What the output

myobject = {1:one,”11":1,”name”:”arun”}console.log(myobject.11);   
console.log(myobject.name);

Correct Code:

myobject = ({1:"one","11":1,"name":"arun"});

console.log(myobject[11]);

console.log(myobject.name);

Output:

1

arun

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

myobject = {1:one,”11":1,”name”:”arun”}//your code goes hereconsole.log(myobject);{"1":"one","11":1,"name":"arun","ten":"ten"} // Quotes might not get displayed that fine.

Solution:

myobject = ({1:"one","11":1,"name":"arun"});

console.log(myobject[11]);

console.log(myobject.name);

myobject["ten"]="ten";

console.log(myobject)

Output:

1. *{1: "one", 11: 1, name: "arun", ten: "ten"}*
   1. 1: "one"
   2. 11: 1
   3. name: "arun"
   4. ten: "ten"

Write out an object literal to represent the data below.

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

Solution:

let myobject= {"name": "Guvi","name2":"Greek","number":6,"address":"IIT-M-RP","city":"Chennai"};

 console.log(Object.values(myobject))

— — — — — — — — — — — — — — — -

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.

**Solution**

* Have to create a object with 4 arrays inside the object.
* Each array will have 4 key: value pair for each values of above.
* Print the Object.values(myobject), will give the result as above.