JavaScript (Client Side language)

First of all, inspect element in any website & then go to console (short cut open console is Ctrl+ Shift+ i) & perform any calculation. You can also use this to print anything using console.log ("Hello World") or alert ("Hello World"). It doesn't need internet to run.

JavaScript: Client Side Scripting (High Level Dynamic Interpreted Language)

- In case you want to run JS outside the web browser then you can use node.js.
- It can be executed on browser as well as server.
- There are languages the get trans piled into JS like Coffee Script, TypeScript etc
- OOP's concept can also be easy to implement.
- It can be used for both front & backend (node & mongoDB)

This is to perform click in console using any class

```
Document.querySelector(".something").click()
```

You can also search an element by class or id in console using

```
document.getElementById(id)
```

```
How to Include Js in HTML
<script src="js.js"></script>

<script>
document.write("This is a document write") #To print anything
alert("This is an Alert!") #If you want to display anything in MessageBox

//JavaScript Console API
console.log("Hello World!",4+6,"Fine !")#If you want to print anything on console
console.warn("this is a warning !") #To print warning in console
console.error("this is an error") #To print error in console
console.assert(4==6) #To check for any assertion, will give error on wrong condition
console.clear() #To clear the console

/*
Data Type & Declaring Variables
Primitive: Data Types that are not made up of anything like undefined, null,
 number, string, Boolean, symbol
Reference Data Type: Arrays & Objects
*/


//Numbers
var num1 = 123
var num2 = 345.5
console.log(num1+num2)

//Strings
Str1 = "Gurudutt"
Str2 = "Goswami"
Console.log(Str1+Str2)

//Objects
var marks = {
Ravi : 56,
```

```
Sanjeev : 78,
Ashish: 84,
Deepak : 67
}
Console.log(marks)

//Undefined
var und = undefined
var und1;
console.log(und, und1)
/*In case you don’t specify any value for a variable & print it even then its
value is going to be undefined */

//Boolean
a = true
b = false
console.log(a, b)

//Null
n = null
console.log(n)

//Arrays
var arr = [1,3,2,5, true, "Fight Club",45.6,88,23]
console.log(arr)


//Operators

//Arithmetic Operators
var a = 100
var b = 50
console.log("The value of a+b is ",a+b)
console.log("The value of a-b is ",a-b)
console.log("The value of a*b is ",a*b)
console.log("The value of a/b is ",a/b)
console.log("The value of a%b is ",a%b)

//Shorthand
a +=10      // a = a+10
a -=10
a *=10
a /=10
console.log(a)

//Comparison Operators
console.log("The value of a>b is ",a>b)
console.log("The value of a>=b is ",a>=b)
console.log("The value of a<b is ",a<b)
console.log("The value of a<=b is ",a<=b)
console.log("The value of a==b is ",a==b)

//Logical Operators
console.log(true && true)
console.log(true && false)
```

```
console.log(false && false)

console.log(true || true)
console.log(true || false)
console.log(false || false)
//Note: Single vertical line is bitwise operator

console.log(!true)
console.log(!false)

//Conditionals
if(a>b)
{console.log("A is greater than B")}
else
{console.log("B is greater than A")}
/*Note: Any type of conditionals is possible like only if statement, multiple if
 statements, if else statements & if else if else (ladder if else statements) */


//Loops
names = ["Anurag","Deepak","Shudhanshu","Prasoon","Abhishek",”Prabhat"]
console.log(names)

for(i=0;i<names.length;i++)
{console.log(names[i])}

names.forEach(function(element)
{console.log(element);})

var j=0
while(j<names.length)
{console.log(names[j])
j++;}

do{
console.log(names[j])
j++;
}while(j<names.length)



//Break & continue
Num_array = [12,3,4,5,56,74,7,6,8,7,464,46,3]
for(i=0;i<Num_array.length;i++)
{
    if(i==3)
    {
        //break;
        continue;
    }
    console.log(Num_array[i])
}
//Array Functions
new_array = [12,3,4,5,56,74,7,6,8,7,464,46,3,23,4,2,5,3,5,2,35,3,35,5,3]
new_array.length
```

```
new_array.pop()
new_array.push("Gurudutt")
new_array.shift()
new_array.unshift("Horse");
console.log(new_array.toString())
console.log(new_array.sort())
console.log(new_array);
/*For more Array functions visit: https://developer.mozilla.org/en-
 US/docs/Web/JavaScript/Reference/Global_Objects/Array */



//String Functions
var good_str = "Gurudutt Goswami is a good programmer good"
good_str.length
console.log(good_str.indexOf("good"))
console.log(good_str.lastIndexOf("good"))
console.log(good_str.slice(9,16))
d = good_str.replace("programmer","Artist")
console.log(d,good_str)


//Date/Date Functions
var date = new Date()
console.log(date)
console.log(date.getDay())
console.log(date.getHours())
console.log(date.getMilliseconds())
console.log(date.getMonth())
console.log(date.getSeconds())


//===============DOM Manipulation Methods ====================
var l = document.getElementById("click")
console.log(l)

var l1 = document.getElementsByClassName("container")
console.log(l1);
// l1[0].style.background = "yellow"
l1[0].classList.add("bg-primary")
l1[0].classList.add("text-success")
l1[0].classList.remove("text-success")
console.log(l1[0].innerHTML)
console.log(l1[0].innerText)

var l2= document.getElementsByTagName("div")
console.log(l2)

//Note 0 means l2 first div if I write 1 then it means l2 second div
createdElement = document.createElement('p');
createdElement.innerText = "This is a new paragraph by using JavaScript Only"
l2[0].appendChild(createdElement)

createdElement2 = document.createElement('b');
```

```
createdElement2.innerText = "This is a new paragraph by using JavaScript Only
 bold statement"
l2[0].replaceChild(createdElement2, createdElement)



//======================Instant Element ====================

console.log(document.location)
console.log(document.title)
console.log(document.URL)
console.log(document.scripts)
console.log(document.forms)
console.log(document.links)
console.log(document.domain)
console.log(document.images)

sel = document.querySelector('.container')
console.log(sel)

sel1 = document.querySelectorAll('.container')
console.log(sel1)


//==================== Function Syntax =====================
function sum(a,b)
{ console.log(a+b)
return a+b}
sum(4,5)

//Arrow Function
summ = (a,b) => {
console.log(a+b)
return a+b}
summ(56,34)


//====================== Events ============================
function Clicked()
{console.log("The button was clicked !")}

window.onload = function()
{ console.log("The document was loaded successfully !")}



firstContainer.addEventListener('click',function()
{
    document.querySelectorAll('.container')[1].innerHTML = "<b> We have cliked
 this container "
    console.log("Clicked on Container !")
})

firstContainer.addEventListener('mouseover',function()
{console.log("mouse over on Container !")
```

```
})

previous_html = document.querySelectorAll('.container')[1].innerHTML
firstContainer.addEventListener('mouseup',function()
{
    document.querySelectorAll('.container')[1].innerHTML = previous_html
    console.log("mouse up on Container !")
})

firstContainer.addEventListener('mousedown',function()
{
    document.querySelectorAll('.container')[1].innerHTML = "<b> We have cliked
 this container "
    console.log("mouse down on Container !")
})



//SetTimeout & SetInterval
funny = () => {
    document.querySelectorAll('.container')[1].innerHTML = "Set Time out Invoked
 "
    console.log("Triggering SetTimeOut")
}
//SetTimeOut is used when you want to invoke a function after certain time
//To stop its execution one can write clearTimeout(clr) in console
clr = setTimeout(funny,2000)

//Set Interval is going to run continuosly after each 2 sec
//To stop its execution you can write clearInterval(clr1) in console
clr1 = setInterval(funny,2000)


//====================== Local Storage ======================
//Try not to store secure information on localstorages as it can be seen from
 Application tab
console.log(localStorage.setItem('Age','28'))
console.log(localStorage.getItem('Name'))
console.log(localStorage.removeItem('Name'))
localStorage.clear()
console.log(localStorage)

//======================== JSON ============================
//The JSON standard requires double quotes and will not accept single quotes, nor
 will the parser.
obj1 = {name : "Guru",length: 97,a:{fun:"this is funny"}}
str_equi = JSON.stringify(obj1)
console.log(typeof str_equi)
console.log(str_equi)
json_equi = JSON.parse(`{"name":"Guru","length":97,"a":{"fun":"this is funny"}}`)
console.log(json_equi)
//Template Literals
a1 = 546
console.log(`The value of a is ${a1}`)
</script>
```